

**I-66 CORRIDOR STUDY  
WESTERN KENTUCKY TO MISSOURI  
BALLARD / McCRACKEN COUNTY - ITEM # 1-23.00**

**APPENDIX 8 – LEVEL 3 SCREENING**

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## **TABLE OF CONTENTS**

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<b>1.0</b>	<b>INTRODUCTION</b> .....	<b>1</b>
<b>2.0</b>	<b>LEVEL 1 &amp; 2 SUMMARIES</b> .....	<b>2</b>
2.1	Level 1 Summary .....	2
2.2	Level 2 Summary .....	4
<b>3.0</b>	<b>LEVEL 3 EVALUATION</b> .....	<b>4</b>
3.1	Level 3 Criteria.....	4
3.2	Level 3 Screening Analysis .....	7
<b>4.0</b>	<b>AGENCY COORDINATION</b> .....	<b>21</b>
4.1	Mississippi River Navigation Impacts.....	21
4.2	Birds Point-New Madrid Floodway Impacts.....	22
4.3	Ballard County Wildlife Management Areas.....	23
<b>5.0</b>	<b>CONCLUSIONS</b> .....	<b>25</b>
5.1	Conclusions – Level 3 Analysis / Recommendation.....	25

## 1.0 INTRODUCTION

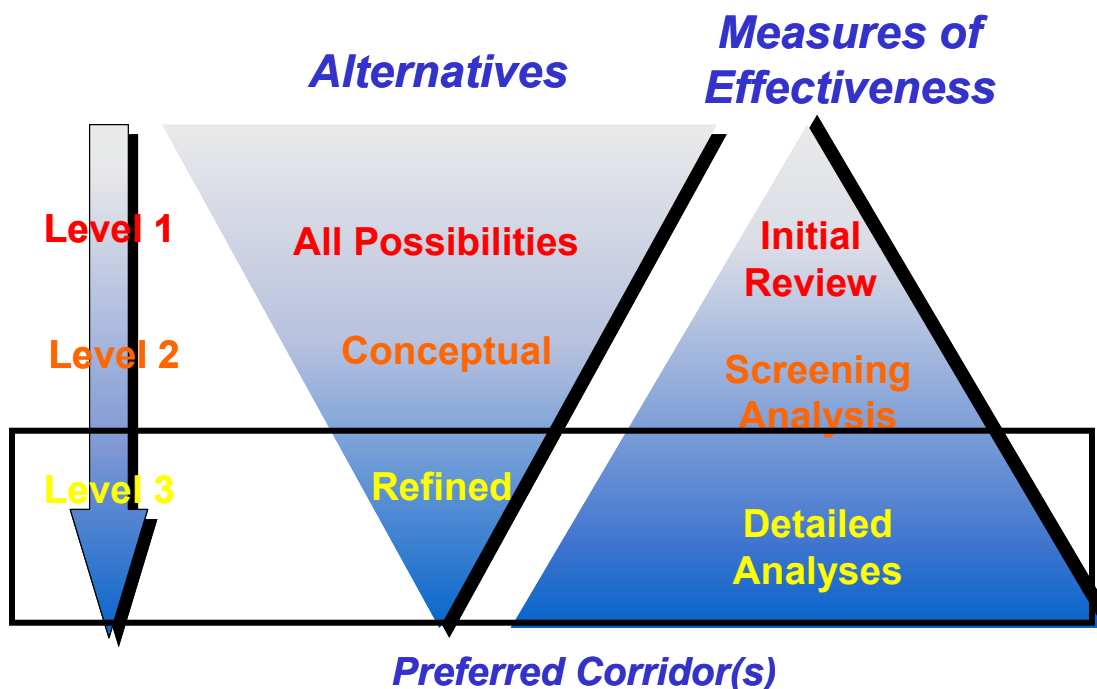
This working paper presents the Level 3 Evaluation methodology, screening analysis and summary for the I-66 Western Kentucky to Missouri Corridor Study. It is the third in a three-step alternative corridors evaluation and screening process analyzing possible corridors for a new limited access type highway facility connecting western Kentucky to Missouri. Figure 1.1 demonstrates graphically the scope and nature of the three levels of analysis and outlines the relationship of the Level 3 evaluation relative to the other two levels of screening and analysis.

The first level presented the full range of alternatives and used primarily qualitative criteria to compare and screen the initial group of 22+ alternative corridors to a narrower set. In Level 2, additional and more complex data was used to develop a more quantitative evaluation of the remaining alternative corridors. Finally, the last stage of analysis, the Level 3 evaluation, focused on the most detailed analysis including:

- Refined travel demand forecasting model
- Refined environmental analysis
- Refined cost estimating
- Examination of river crossing location vis a vis confluence of the Mississippi and Ohio Rivers and the impacts associated with the authorized operation of the Birds Point – New Madrid Floodway with the US Coast Guard and the US Army Corps of Engineers, respectively
- Examination of connector roadway(s) from Cape Girardeau bridge to I-55
- Examination of the need for, and time frame of, widening(s) of I-24 in the vicinity of Paducah
- Coordination / cooperation with the Illinois Department of Transportation.

The screening and evaluation process used for this project is being undertaken collaboratively by the Project Team: representatives of the KYTC Central Office Planning staff, KYTC District 1 and Missouri DOT staffs, the consultant team, the I-66 Project Work Group, and the public who has attended the eight open-house workshops (4 meetings each in Missouri and Kentucky) to date. All input from these individuals, along with the objective screening results were put into the evaluation and analysis process.

Figure 1.1: Three-Level Evaluation Procedure



## 2.0 LEVEL 1 & 2 SUMMARIES

### 2.1 Level 1 Summary

The purpose of the Level 1 Screening was to review the alternative corridors developed and to perform an initial screening by applying comparative, qualitative measures to all alternative corridors. The goal of the Level 1 Screening was to identify only the feasible alternative corridors that best met the project's goals, objectives, and issues. These corridors would warrant additional study during the project. Similarly, those alternatives that were not worthy of future study – those that did not meet the goals, objectives and identified issues or those that had consequences that were not commensurate with their benefits, were not considered further. The Level 1 screening produced alternatives that were recommended for further evaluation. Among them were: Alternative 5, 6, / 7 (combined corridor), Alternative 8, Alternative 9 / 10 (combined corridor), Alternative 11 / 12 / 13 / 14 / 15 / 21 (combined corridor), Alternative 19, and Alternative 20. Also, an Alternative 0 or No Build alternative is part of the analysis as a base line for comparison and as a possible stand alone alternative. These corridors were subsequently refined to accommodate a new interstate type facility and to minimize environmental and other impacts. These revised corridors are described in more detail below -

Corridor 0 (No Build) - This represents a “do nothing” but does include those existing and committed projects that are being planned for the western Kentucky / southeastern Missouri regions respectively by the Kentucky Transportation Cabinet (KYTC) as identified in the current Six Year Plan and the Missouri Department of Transportation (MoDOT) as identified in the short range planning documents. The existing and committed projects include: US 60 improvements west to LaCenter, the Paducah Outer Loop project, and an assumed north – south I-69 project largely following existing routes. There are no major short term projects planned for the study for this alternative in Missouri.

Corridor 5 - From I-24 at Paducah generally following the existing US 60 corridor to Wickliffe, Kentucky over the Mississippi River on a new bridge through lowland/floodway in Missouri connecting to I-57 in Missouri north east of Charleston.

Corridor 6 / 7 - From existing US 60 east of Kevil, Kentucky go southwest on a new corridor towards Wickliffe, Kentucky over the Mississippi River on a new bridge through lowland/floodway in Missouri connecting to I-57 in Missouri north east of Charleston

Corridor 8 - From I-24 at Paducah, generally following the existing US 60 corridor (similar to 5 above) to just south of Barlow, Kentucky; proceed northwest on new route across the wetland and floodplain area of the Barlow Flats over a new bridge across the Ohio River to I-57 in Illinois north of Cairo

Corridor 9 / 10 - From I-24 near Paducah, Kentucky follow new route southwesterly to Wickliffe, Kentucky (parallel to, but north of KY 286) across the Mississippi River on a new bridge at Wickliffe to I-57 north east of Charleston

Corridor 11 / 12 / 13 / 14 / 15 / and 21 - From I-24 south of Paducah follow new route southwest and largely parallel to existing KY 286 to Wickliffe, Kentucky then over the Mississippi River on a new bridge to I-57 north east of Charleston

Corridor 19 - From existing US 60 bridge across Tennessee River in Kentucky proceed south west across I-24 to new route south of KY 339 westerly along new route south of study area across the Mississippi River on a new bridge in Carlisle County to I-57 north east of Charleston

Corridor 20 - Re-badge existing interstate I-24 in Kentucky as I-66. This corridor would also include constructing I-66 across southern Illinois along an unspecified route from a point along I-24 north of Metropolis connecting to the Bill Emerson Memorial Bridge at East Cape Girardeau, Illinois / Cape Girardeau, Missouri.

## 2.2 Level 2 Summary

The more detailed analysis performed in this Level 2 screening / evaluation further reduced the alternatives from nine (9) build alternatives plus the No Build to four (4) total alternatives that were recommended for further evaluation. Those alternatives included:

- Alternative 0 – (No Build) – Only existing and committed projects in KYTC Six Year Plan and MoDOT improvement program.
- Alternative 8B – (US 60 improvements from Paducah to Wickliffe with a new Mississippi River crossing)
- Alternative 11/12/13/14/15 & 21 – new interstate corridor parallel to US 62 and KY 286 with a new Mississippi River crossing
- Alternative 20 – unspecified corridor connecting I-24 north of Paducah to I-55 near Cape Girardeau, Missouri with no new river crossing either over the Mississippi or Ohio rivers.

In addition, the KYTC / Consultant Project Team also chose to re-evaluate Alternative Corridor 8A - US 60 planned highway improvements per KYTC 6 Year Plan and Long Range Plan from Paducah to Wickliffe. Includes new connector road and new bridge over the Ohio River connecting US 60 southwest of Barlow, Kentucky to I-57 in Illinois.

All other alternatives previously under consideration were not carried forward past this point. This was due to one or more of the impacts preventing the alternative from being a viable corridor or that there were other alternatives still under consideration that were better at satisfying the goals, objectives, and issues of the study, had less impacts or had lower capital costs.

## 3.0 LEVEL 3 EVALUATION

### 3.1 Level 3 Criteria

The analysis for this level is the most extensive and quantitative to date. Although no new evaluation categories were introduced for Level 3, the analysis was to a greater level of detail than previous. In addition, more coordination with other agencies (US Army Corps of Engineers, US Coast Guard, and Illinois Department of Transportation) took place. The evaluation categories and subcategories for Level 3 included:

- **Traffic Operations** – general criteria to evaluate mobility and accessibility improvements including: level of service (LOS), improvements to travel time,

number of users (volume / ADT), truck percentages, safety, security, etc., based on travel demand forecasting model runs and manual adjustments / interpolation. Four (4) screen line locations were used to estimate the various measures. The locations are common points in the study area, and are generally described as: (1) Paducah, KY (2) Western McCracken County, KY, (3) Ballard County, KY, and (4) a Mississippi or Ohio River crossing. Specific measures examined in this category for the base year 2003 and the future year 2030 included:

1. Average Daily Traffic (ADT) – How many vehicles per day will use the new highway corridor at a “screen line”. (Note that for this analysis, a screenline was defined as a specific point for that corridor or alternative only. It is not an additive measure of all volumes for all alternatives at a certain point.)
2. Average Daily Truck Traffic – How many trucks per day will use the new highway corridor at a “screen line”.
3. Level of Service (LOS)
4. Vehicle Miles of Travel (VMT) – measure of total miles of travel across the model area of travel for all vehicles
5. Vehicle Hours of Travel (VHT) – measure of total hours of travel across the model area for all vehicles
6. Travel Time / Travel Time Savings (note: travel time and travel time savings are derived for two trips (1) from I-24 to I-55 south – essentially from Paducah, KY to Sikeston, MO and (2) from I-24 to I-55 north – essentially Paducah, KY to Cape Girardeau, MO. Travel time savings are expressed as a comparison of each alternative corridor as compared to the No Build (Alternative 0)
7. Safety / Security
8. Connectivity / Access

To facilitate the analysis, the Kentucky statewide I-66 model was used as the basis for coding and running the analysis of the corridors under evaluation.

- **Support** – likelihood that one or more alternatives will be supported / is supported by the local community, including citizens, political leaders, business / industry and other stakeholders, derived from all public comments, letters, emails, etc., to date. Also contains description of relevant criteria or issues to be scrutinized. Specific measures include:
  1. Corridor - Based on input from public meetings, project work group, and stakeholder meetings, what percentage of the community favors an alternative corridor

2. Issues - Based on input from public meetings, project work groups, and stakeholder meetings, what community issues are addressed or will need to be addressed by the corridor and the analysis
- **Community Impacts** – compatibility with adjacent and proposed land uses and the affects and impacts on those land uses (separate impacts to type of property: farmland, commercial / business, parks / recreation, residential, etc., calculated by miles and acres of adjacent property. Also included was an environmental justice analysis. Specific impacts include those to:
    1. Farmland
    2. Kentucky Agricultural Districts
    3. State / Federal Forest – Parks / Recreation lands
    4. Urban areas
    5. Environmental Justice Communities
  - **Property Impacts** – specific new right-of-way quantified in acres
  - **Environmental Impacts** – impacts on known historic and archeological sites / structures, acres of natural resource / wildlife areas, habitat areas, number of HAZMAT sites, number of stream crossings, floodplain / floodway impacts, and acres of wetlands. Specific measures include:
    1. Number of Listed National Historic Register Sites
    2. Nature / Wildlife Preserves / Conservation Lands
    3. Number of Stream Crossings
    4. Bird’s Point Floodway Impacts
    5. Floodplain / Floodway – expressed in miles and acres
    6. Wetlands
  - **Capital cost considerations** – order of magnitude capital costs for proposed alternative corridors derived on a cost build up basis from typical sections for roadway (at-grade and elevated) and bridge improvements, also includes typical costs for interchanges, and appropriate costs for engineering, contingencies, etc. Specific costs include:
    1. Roadway
    2. Bridge
    3. Right-of-way
    4. Engineering / Mobilization / Demobilization
    5. Total



Note that although seemingly detailed estimates of impacts and costs are provided, the analysis was NOT to an engineering level. Assumptions are for analysis purposes, and include a 180-foot wide typical section for current year 2003 cost estimating and a 600-foot section for right-of-way purposes calculated on an average cost per acre basis. For environmental analysis, a bandwidth of 2,000 feet from an imaginary centerline of the corridor was used for analysis purposes with all data assumed available from the project's mapping databases. Comparisons should only be made to other alternatives within the context of this study.

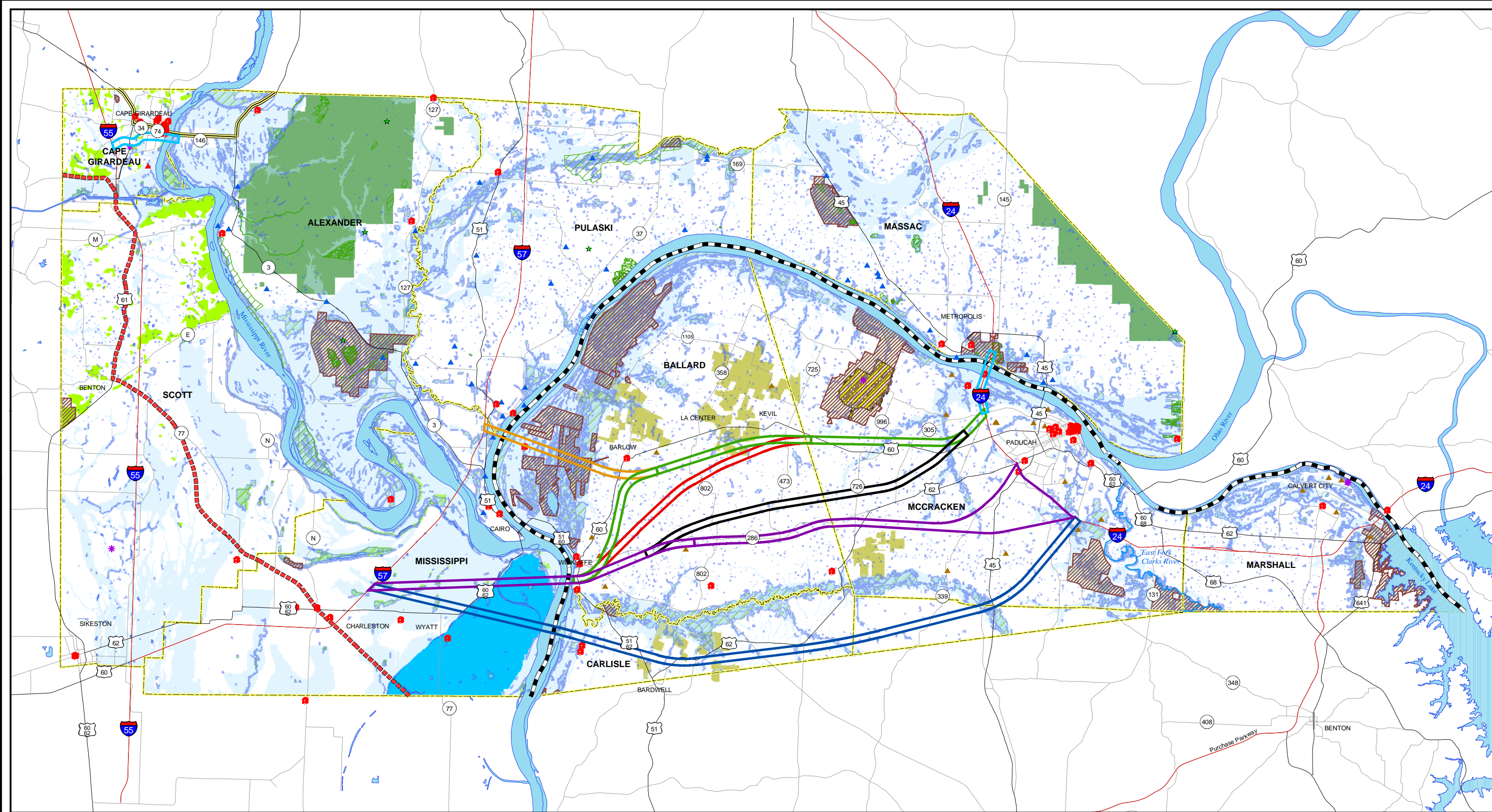
## **3.2 Level 3 Screening Analysis**

### **Alternative 0**

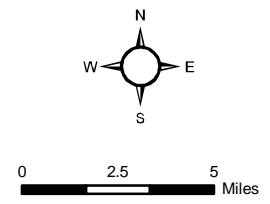
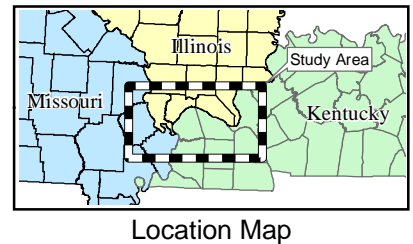
Traffic Operations - Alternative 0 is the No Build alternative. It does, however include all projects that are "existing and committed" – those with funding in place for at least the initial project phases, and includes projects to widen US 60 to 4 lanes in Ballard and McCracken counties. Essentially, it involves widening US 60 from west of Paducah (KY 1154) to just west of LaCenter, Kentucky with bypasses around Kevil and LaCenter. Within the analysis, this alternative has an unadjusted model output volume ADT ranging from 43,000 near Paducah at screen line #1 to 9,000 in Ballard County at screen line #3. (Note that the ADTs are projected for the horizon year 2030.) ADTs Screen lines 2 and 4 respectively have ADTs of 11,000 each at W. McCracken County and the bridge over the Mississippi River. In terms of truck traffic, Alternative 0 has truck traffic of 7% to 17%, which represents an ADT of 900 to 3,300 depending upon segment. The most trucks in terms of number are nearest Paducah while the most trucks in terms of percentages are crossing the Mississippi River. In terms of LOS, the segment with the highest ADT (the segment nearest Paducah) conversely has the lowest LOS of E (4-lanes). The LOS E continues along screen lines 3 and 4 respectively. The only improvement is at screen line 2 because the section is 4 lanes and has more moderate volumes.

The travel time for the No Build serves as the baseline for comparison to other alternatives. For the two trips, from Paducah to Sikeston and Paducah to Cape Girardeau, the travel times are 76 and 94 minutes respectively.

The No Build option includes those improvements to US 60 programmed in the KYTC's Six Year Plan. Implementation of these improvements will have some very tangible benefits in the near term with regard to safety, including an upgraded route and increased access to points west of Paducah. It does not however provide for a new bridge over the Mississippi River which would provide additional connectivity (east – west connections) and access for the transportation system in western Kentucky / southeastern Missouri.



- |                              |                                 |  |
|------------------------------|---------------------------------|--|
| <b>Alternative Corridors</b> | National Historic Register Site | Agricultural District                    |
| 5                            | Illinois Natural Area Location  | Wildlife Preserve/Conservation Area/Park |
| 6/7                          | NPL Sites                       | Forested Area (MO)                       |
| 8                            | Active/Permitted Landfills (MO) | Shawnee National Forest                  |
| 9/10                         | Landfills (KY)                  | Wetland                                  |
| 11,12,13,14,15 & 21          | Landfills (IL)                  | 100 Year Floodplain                      |
| 19                           | Trail of Tears - Auto route     | New Madrid Floodway                      |
| 20                           | Trail of Tears - Bengé's Route  | Superfund Site (KY)                      |
|                              | Trail of Tears - Water Route    | PROJECT STUDY AREA                       |



**Figure 12**  
**LEVEL 2**  
**ALTERNATIVES**  
 I-66 CORRIDOR STUDY  
 Western Kentucky to Missouri  
 KYTC Item No. 1-23.00

**Support** - There is some minimal support for the No Build option in both Kentucky and Missouri. Most of those who are interested in the No Build option want more improvements than those that are currently programmed. These same individuals also tend to be concerned with the anticipated impacts of the US 60 improvements on adjacent communities including nearby residences, businesses, farms, etc.

**Community Impacts** - Community impacts have been documented in previous studies. The no-build alternative for the I-66 project also does not recommend further improvements beyond those existing and committed, therefore no anticipated incremental impacts are anticipated. Also, there are no adverse potential environmental justice (EJ) issues.

**Property Impacts** - Property impacts have been detailed in previous studies. The no-build alternative also does not recommend further improvements beyond those existing and committed, therefore no new property impacts are anticipated.

**Environmental Impacts** - Environmental impacts have been discussed in previous studies. The no-build alternative also does not recommend further improvements beyond those existing and committed, therefore no additional environmental impacts are anticipated.

**Capital Costs** - Capital costs have been documented in previous studies and are programmed in the KYTC's Six Year Plan. The current total for projects in the study area is \$26.3 million dollars. In Ballard / McCracken County, US 60 will be widened to 4-lanes from 1 mile east of Denis Jones Road to Bethel Church Road (includes Kevil Bypass). Total costs (design and right-of-way) are \$10.25 million. In Ballard County, US 60 will be widened to 4-lanes from the proposed southern bypass of LaCenter to 1 mile east of Denis Jones Road. Total cost (design) is \$800,000. In McCracken County, the project includes upgrading US 60 to 4-lanes from Bethel Church Road to KY 1154. Total costs (Right-of-way, utilities, and construction) are \$15.3 million.

## **Alternative 8**

Alternative 8, which is essentially Corridor 11, is a highway in/along existing KY 286, US 60 or US 62 corridors. It takes off from a point southwest of Barlow, proceeding northwest on new route, with a new bridge across the Ohio River to I-57 in Illinois. This alternative was re-examined in the Level 3 Screening after being designated in Level 1 for no further analysis. Although examined in detail for environmental and other impacts, the traffic operations analysis for this re-introduced alternative was only partially done. Subsequent discussions with Kentucky resource agencies, namely the KY Nature Preserves Commission and the KY Department of Fish and Wildlife revealed that Alternative 8 was fatally flawed from an environmental standpoint. Therefore, no additional analysis was performed on this alternative.

**Traffic Operations** – Alternative 8 is approximately 33.33 miles in length and is a new corridor from Paducah to Wickliffe, Kentucky with a connection to I-57 in Missouri. It

shows improvements in terms of operations over the No Build for the segments analyzed that are near screen lines one and two. The analysis for Alternative 8 reveals that this alternative has an ADT at screen line #1 of 30,000 and 18,000 at screen line #2. Truck ADT is 4,400, and 3,000 at screen lines 1 and 2 respectively. This represents 14% and 16% of ADT respectively. In terms of LOS, this alternative makes an improvement near Paducah at screen line 1 with LOS C. The segment for screen line 2 has only slight improvements depending upon exact ADT #s.

Support – There has been some modest vocal support for alternative 8. Although there is support for the roadway corridor, the bridge location is not preferred by the majority of study participants. Issues of concern include impacts to areas such as wetlands and wildlife habitat areas.

Community Impacts – There are community impacts for Alternative 8 to farmlands, Kentucky Agricultural Districts, urban areas, property impacts and some low level potential EJ impacts. Farmland impacts are anticipated along 21 miles of adjacent roadway throughout the corridor. This translates to an impact area of approximately 7,222 acres. There are also impacts to the agricultural districts in Kentucky. There are 1.3 miles of impacts adjacent to the corridor, which translates to 343 acres. There are no anticipated impacts to state / Federal forests, parks, and/or recreation land. Impacts to urban areas are to 1 mile for 135 acres. The probability that there are adverse and/or disproportional impacts to EJ communities (minorities, low income, and/or elderly) along the corridor is rated low.

Property Impacts - Property impacts are anticipated mostly near the urbanized areas near Barlow, Kentucky and at the location of the bridge crossing over the Ohio River. There is a need for 2,113 acres for right-of-way purposes.

Environmental Impacts - The anticipated environmental impacts of Alternative 8 are to National Register of Historic Sites, stream crossings, other floodplains, and floodways and to wetlands and habitat areas. There are impacts to 1 National Register Site, the Trail of Tears that is impacted for 4/10 of a mile. There are also impacts to the nature preserves / wildlife management areas in Ballard County. This accounts for 2 miles and 455 acres of impacts. There are 49 stream crossings throughout the corridor. There are no impacts to the Bird's Point New Madrid Floodway in Missouri. For floodplains, there are impacts along 7.20 miles of the corridor which translates to 1,001 acres. Additionally, there are a total of 1,001 acres along a 4.0 mile segment of the corridor of wetland impacts. These are impacts to sensitive wildlife / waterfowl habitat area in the Wildlife Management Areas in north west Ballard County.

Capital Costs - The total capital costs for Alternative 8 are \$767 million. \$265 million is for construction of the roadway, \$266 million is for construction of a bridge over the Ohio River, \$128 million for right-of-way and utilities and \$108 million for contingencies, design, engineering and mobilization / demobilization of construction.

## **Alternative 8B**

Traffic Operations - Alternative 8B is approximately 38.5 miles in total length and is a new connector from US 60 to I-57 in Missouri and includes a new bridge over the Mississippi River. It is similar in terms of traffic operations to Alternatives 8 and 8A. The analysis for Alternative 8B reveals that this alternative has an ADT on US 60 ranging from 40,000 near Paducah at screen line #1 to 5,500 at screen line #3 in Ballard County. This is a decrease from the No Build because some traffic shifts from US 60 to KY 286 with the construction of a bridge over the Mississippi, south of Wickliffe. KY 286 provides a more direct route from I-24 to the new bridge. Average daily traffic volumes on US 60 at screen lines 2 and 4 are 9,000 (W. McCracken County) and 7,000 (Mississippi River crossing) respectively.

Alternative 8B truck traffic volumes on US 60 are also somewhat lower compared to Alternative 0 for the same reason discussed above. Alternative 8B has truck traffic of 7% to 14%, which represents an ADT of 400 to 2,000 depending upon segment. The most trucks in terms of number are nearest Paducah while the most trucks in terms of percentages are at screenlines 2 in western McCracken County at over the Mississippi River at screenline 4. In terms of LOS, the screen line with the highest ADT has the worst level of service E – which is the same as the No Build. LOS at screen line 2 is unchanged from the No Build, while the LOS for screen lines 3 and 4 improve from E to A with the addition of two (2) traffic lanes.

The total Vehicle Miles of Travel (VMT) increase from the no build to 942 million total miles. There is little discernable change from the No Build for total vehicle hours of travel (VHT) which is 18.7 million hours of total travel.

The travel time for Alternative 8B represents very slight improvements from the No Build. The travel time for the Paducah to Sikeston trip decreases by approximately 2 minutes from just over 76 in the baseline to approximately 74 for 8B. The travel time for the Paducah to Cape Girardeau trip represents no decrease from the No Build.

Alternative 8B provides a new bridge connector from US 60 in Kentucky to I-57 in Missouri. These new facilities would add to the safety of the system and provide a new river crossing link from Kentucky directly to Missouri. This bridge location just south of Wickliffe is less preferable in terms of the Coast Guard's analysis of affects on river traffic. Likewise, Alternative 8B also improves system connectivity and access.

Support - Support exists for continuing US 60 improvements and for upgrading the corridor. There is also support for a new bridge over the Mississippi River near Wickliffe, Kentucky. Issue of concern include impacts to areas adjacent to US 60 as well as wetland impacts and concerns over the river crossing location, especially impacts to river traffic and impacts to the Bird's Point New Madrid Floodway in Missouri.

Community Impacts - Community impacts for Alternative 8B are similar in scope to those for similar alternatives, namely the No Build (Alternate 0) but for a longer stretch

of US 60. There are impacts to farmlands, Kentucky Agricultural Districts, “urban” areas (Paducah, Kevil LaCenter, Barlow, etc.), property impacts and some low level potential EJ impacts. Farmland impacts are anticipated along just over 30 miles of adjacent roadway throughout the corridor. This translates to an impact area of approximately 10,665 acres. There are also impacts to the agricultural districts in Kentucky. There are 2.58 miles of impacts adjacent to the corridor, which translates to 623 acres. There are no anticipated impacts to state / Federal forests, parks, and/or recreation land. Impacts to urban areas are medium as they account for 468 acres. The probability that there are adverse and/or disproportional impacts to EJ communities (minorities, low income, and/or elderly) along the corridor is rated low.

**Property Impacts** - Property impacts are documented in US 60 improvement projects. Additional impacts are anticipated west of LaCenter, Kentucky and at the location of the bridge crossing over the Mississippi River. There is a need for 1,100 acres for right-of-way purposes.

**Environmental Impacts** - The anticipated environmental impacts of Alternative 8B are to National Register of Historic Sites, stream crossings, the Bird’s Point New Madrid Floodway, other floodplains, and floodways and to wetlands. There are impacts to 1 National Register Site, the Trail of Tears that is impacted for 4/10 of a mile. There are also 82 stream crossings throughout the corridor. There are also 3 miles of adjacent corridor impacts to the Bird’s Point New Madrid Floodway in Missouri. Specifically, this represents 723 acres. For floodplains, there are 11.74 miles of impacts which translates to 2,970 acres. Additionally, there are 1.56 miles of adjacent wetlands impacts for a total of 441 acres.

**Capital Costs** - The total capital costs for Alternative 8B are \$691 million. \$254 million is for construction of the roadway, \$297 million is for construction of a bridge over the Mississippi River, \$29 million for right-of-way and utilities and \$111 million for contingencies, design, engineering and mobilization / demobilization of construction.

### **Alternative 11 / 12/ 13/ 14 / 15/ and 21**

**Traffic Operations** - Alternative 11/12/13/14/15 and 21 is approximately 40.93 miles in length and is a new corridor from Paducah to Wickliffe, Kentucky with a connection to I-57 in Missouri. It shows improvements in terms of operations over the No Build for many segments and screen lines. The analysis for Alternative 11/12/13/14/15 and 21 reveals that this alternative has an ADT ranging from 30,000 near Paducah at screen line #1 to 7,000 at screen line #3 in Ballard County. This represents change from the No Build for some of the screen lines. Screen lines 1, 3, and 4 all decrease in terms of ADT at the locations while screen line 2 increases by 7,000 ADT. Respective ADTs are 30,000 at screen line #1, 18,000 at screen line #2, 12,500 at screen line #3 and 7,500 at screen line #4. Alternative 11/12/13/14/15 and 21 also shows modest increases in truck traffic when compared to Alternative 0 at all screen line locations. Truck ADT is 4,400, 3,000, 2,500, and 2,200 at screen lines 1 to 4 respectively. This represents a truck

traffic percentage of 14 to 35%. The most trucks in terms of number are nearest Paducah while the most trucks in terms of percentages are again at screen line 3 in Ballard County. In terms of LOS, this alternative makes an improvement near Paducah at screen line 1 with LOS C. All other segments are also improved over the No Build and are similar in performance to the others under consideration.

The total Vehicle Miles of Travel (VMT) increase from the no build to 942 million total miles. There is little discernable change for total vehicle hours of travel (VHT) which is 18.7 million hours of total travel.

The travel time for Alternative 11/12/13/14/15/ & 21 represents improvement from the No Build. The travel time for the Paducah to Sikeston trip decreases by over 18 minutes from 76 to 58. The travel time for the Paducah to Cape Girardeau trip also decreases by almost 9 minutes from 94 in the No Build to almost 86 minutes for this alternative. In both instances, this is due to the fact that the new corridor for the alternative provides a higher speed, limited access facility versus the existing US 60 or another route with the No Build.

Alternative 11/12/13/14/15 & 21 provides a new bridge connector along the new interstate from Kentucky to I-57 in Missouri. These new facilities would add to the safety of the system and provide a new river crossing link in Carlisle County from Kentucky directly to Missouri for security purposes. This alternative would also improve system connectivity and access.

Support - Support is strong for Alternative 11/12/13/14/15/ & 21. The river crossing location is supported by the US Coast Guard as it minimizes disruptions to river traffic as opposed to bridge locations further north along the river. This location also minimizes impacts to the operation of the Bird's Point New Madrid Floodway in Missouri. Here, the only issues of concern include farmland impacts and river crossing location.

Community Impacts - Community impacts for Alternative 11/12/13/14/15 & 21 are impacts to farmlands, Kentucky Agricultural Districts, urban areas, property impacts, and potential EJ impacts. Farmland impacts are anticipated along approximately 29 miles of adjacent roadway throughout the corridor. This translates to an impact area of approximately 8,324 acres. There are also impacts to the agricultural districts in Kentucky. There are 2.3 miles of impacts adjacent to the corridor, which translates to 870 acres. There are no anticipated impacts to state / Federal forests, parks, and/or recreation land. Impacts to urban areas are low as they only account for .17 miles and 74 acres. The probability that there are adverse and/or disproportional impacts to EJ communities (minorities, low income, and/or elderly) along the corridor is rated low. Property Impacts - Total property impacts for right-of-way purposes are anticipated to be 2,325 acres. The needed right-of-way is a mixture of farmlands, urban areas and some other land uses.

**Environmental Impacts** - The anticipated environmental impacts of Alternative 11/12/13/14/15 & 21 are to National Historic Register Sites, stream crossings, the Bird's Point New Madrid Floodway, other floodplains, and floodways and to wetlands. There is one impact to the Trail of Tears Nation Historic Register Site accounting for four-tenths of a mile. There are also 87 stream crossings throughout the corridor. There are 3 miles of adjacent corridor impacts to the Bird's Point New Madrid Floodway in Missouri. Specifically, this represents 723 acres. For floodplains, there are 12.38 miles of impacts which translates to 3,323 acres respectively. Additionally, there are 1.17 miles of adjacent wetlands impacts for a total of 509 acres.

**Capital Costs** - The total capital costs for Alternative 11/12/13/14/15 & 21 are \$895 million. \$328 million is for the construction of a new bridge, \$292 million is for the roadway construction, \$151 million for right-of-way and utilities and \$124 million for contingencies, design, engineering and mobilization / demobilization of construction.

## **Alternative 20**

**Traffic Operations** - Alternative 20 is approximately 48.32 miles in length and is a new unspecified corridor from I-24 north of Paducah to I-55 near Cape Girardeau Missouri, largely across southern Illinois. A corridor was assumed in southern Illinois for analysis purposes, as no "official" corridor was determined. Alternative 20 shows improvements in terms of operations over the No Build for all segments and screen lines. The analysis for Alternative 20 reveals that this alternative has an ADT ranging from 15,000 near Paducah and Western McCracken County at screen line 1 to 17,000 at screen line # over the Mississippi River near Cape Girardeau, Missouri. This represents changes from the No Build for all screen lines. Screen line 1 decreases significantly while counts at screen lines 2, 3 and 4 respectively increase. Alternative 20 shows little change in terms of truck traffic from Alternative 0. At screen line 1, the volume of trucks decreases, perhaps showing that these vehicles stick to existing routes. The truck volumes increase at screen lines 2, 3 and 4 respectively; representing a truck traffic % of 10% to 12%. The most trucks in terms of number and percentage are crossing the Mississippi River at screen line #4. In terms of LOS, this alternative makes an improvement at all screen line locations with LOS A. Again, this improvement is similar in performance to the other alternatives under consideration.

The total Vehicle Miles of Travel (VMT) increase from the no build to 942 million total miles. There is little discernable change for total vehicle hours of travel (VHT) which is 18.7 million hours of total travel.

The travel time for Alternative 20 represent very slight improvements for the Paducah to Sikeston trip, which decreases by just over 3 minutes from 76 in the baseline to 73. However, the travel time for the Paducah to Cape Girardeau trip represents a large travel time savings of 25.5 minutes as the trip goes from 94 in the No Build to approximately 69 minutes for Alternative 20.



Alternative 20 provides a new interstate from I-24 to I-55 across southern Illinois. It may also require some widening of I-24 in Kentucky and the need for a connector roadway of improved quality (interstate or limited access highway) from the new bridge at Cape Girardeau to I-55. These new facilities would add to safety of the system and add benefits for security purposes. This alternative provides good access and connectivity benefits for southern Illinois and the Cape Girardeau Missouri areas. It provides no benefit for Western Kentucky because the new route is located in Illinois.

Support - There is strong vocal support for Alternative 20 mainly from constituencies in the Cape Girardeau area and southern Illinois area. There has been almost an equal amount of opposition to Alternative 20 from study participants who reside in Kentucky. Issues associated with this corridor include impacts to the Shawnee National Forest and other sensitive areas in Illinois. The Mississippi River crossing at Cape Girardeau would make use of the Bill Emerson Bridge recently opened to traffic. However, the planned connection to the bridge from I-55 may not be limited access highway / interstate quality.

Community Impacts - Community impacts for Alternative 20 include impacts to farmlands, State / Federal / Forests – Parks and Recreation lands, urban area impacts, property impacts and potential EJ impacts. Farmland impacts are anticipated along 35 miles of adjacent roadway throughout the corridor. This translates to an impact area of approximately 8,511 acres. There are no impacts to Kentucky Agricultural Districts. There are anticipated impacts to state / Federal forests, parks, and/or recreation land, namely the Shawnee National Forest. Impacts in this category are along 8.67 miles and account for 2,102 acres. There are impacts to urban areas anticipated along the corridor, which account for 3.88 miles and 504 acres respectively. The probability that there are adverse and/or disproportional impacts to EJ communities (minorities, low income, and/or elderly) along the corridor is rated high primarily to the location of the corridor near EJ communities for elderly, low income, and minority individuals near Cape Girardeau.

Property Impacts - Total property impacts are anticipated to be 2,930 acres, largely for right-of-way purposes. The needed right-of-way is a mixture of farmlands, forests / recreation areas, urban areas, and other land uses.

Environmental Impacts - The anticipated environmental impacts of Alternative 20 are to NHR sites, to stream crossings, other floodplains, and floodways (100 and 500 year) and to wetlands. There are two anticipated impacts to NHR sites – both to the Trail of Tears accounting for an impact of 2.9-miles of the trail in 2 separate locations. One crossing is in Illinois in Alexander County and the other crossing is on the Kentucky-Illinois border at Massac and McCracken Counties. There are some impacts to nature / wildlife preserves and conservation lands accounting for .03 miles and 64 acres. In addition, there are 51 stream crossings throughout the corridor. There are no impacts to the Bird's Point New Madrid Floodway. For floodplains, there are 12.78 miles of impacts to floodplains which translates to 3,113 acres respectively. Additionally, there are 2.78 miles of wetland impacts for a total of 843 acres.

Capital Costs - The total capital costs for Alternative 20 are \$586 million. \$363 million is for construction of the roadway, \$128 million for right-of-way and utilities and \$77 million for contingencies, design, engineering, and mobilization / demobilization of construction. There are anticipated additional costs assumed for the bridge along I-24 in Kentucky to carry additional traffic.

**I-66 Corridor Study  
Western Kentucky to Missouri  
Level 3 Screening Summary**

Alt. / Corridor No.	Description	Length of Route - Total Miles / New Roadway	Traffic Operations <sup>1</sup>											
			Screen Line #1: Paducah			Screen Line #2: W. McCracken Co.			Screen Line #3: Ballard County			Screen Line #4: Mississippi River		
			Average Daily Traffic	Average Daily Truck Traffic (%)	Level of Service	Average Daily Traffic	Average Daily Truck Traffic (%)	Level of Service	Average Daily Traffic	Average Daily Truck Traffic (%)	Level of Service	Average Daily Traffic	Average Daily Truck Traffic (%)	Level of Service
0	No Build (serves as basis for comparison to other alternatives) - Includes projects currently programmed in the KYTC's Six Year Plan	0 mi / 0 mi	43,000 (US 60)	3,300 (7%)	E (4 lanes)	11,000 (US 60)	1,500 (13%)	A (4 lanes)	9,000 (US 60)	900 (10%)	E (2 lanes)	11,000 (Bridge Over Ohio River)	1,900 (17%)	E (2 lanes)
8	From I-24 at Paducah in/along existing KY 286, US 60 or US 62 corridors to a point east of Wickliffe, proceed north west on new route across the Ohio River on a new bridge to I-57 in Illinois	33.33 mi / 33.33 mi	30,000	4,400 (14%)	C	18,000	3,000 (16%)	A-B	See Note 5 Below					
8B	US 60 planned highway improvements per KYTC 6 Year Plan and Long Range Plan from Paducah to Wickliffe. Includes new connector road and new bridge over the Mississippi River south of Wickliffe US 60 to I-57 in Missouri.	38.50 mi / 15 mi	40,000 (US 60)	2,000 (7%)	E (4 lanes)	9,000 (US 60)	1,300 (14%)	A (4 lanes)	5,500 (US 60)	400 (7%)	A (4 lanes)	7,000	1,000 (14%)	A (4 lanes)
11 / 12 / 13 / 14 / 15 / 21	From I-24 south of Paducah follow new route southwest parallel to KY 286 to point south of Wickliffe over Mississippi River on new bridge to US 60 / US 62 to I-57	40.93 mi / 40.93 mi	30,000	4,400 (14%)	C	18,000	3,000 (16%)	A-B	7,000	2,500 (35%)	A	9,000	2,200 (20%)	A
20	Rebadge existing interstate I-24 as I-66 in KY and build connector in southern Illinois and rebadge I-55 or I-57 as I-66 in Missouri	48.32 mi / 48.32 mi	15,000	1,600 (10%)	A	16,000	1,600 (10%)	A	16,000	1,600 (10%)	A	17,000	2,100 (12%)	A

(1) Future Year = 2030 (2) Due to conditions near Cape Girardeau, MO (3) Based on Environmental Constraints Map (4) In Millions of 2003 Constant Dollars (5) Limited Traffic Operations Analysis Were Performed Due To Environmental Constraints

**I-66 Corridor Study  
Western Kentucky to Missouri  
Level 3 Screening Summary**

Alt. / Corridor No.	Description	Traffic Operations <sup>1</sup>						Support	
		Total Vehicle Miles of Travel (VMT in Millions)	Total Vehicle Hours of Travel (VHT in Millions)	Travel Time in Minutes Paducah to Sikeston (Savings from No-Build)	Travel Time in Minutes Paducah to Cape Girardeau (Savings from No-Build)	Safety / Security	Connectivity / Access	Corridor	Issues
0	No Build (serves as basis for comparison to other alternatives) - Includes projects currently programmed in the KYTC's Six Year Plan	935	18.7	76.5 mins	94.4 mins	Improves US 60 in place improvements largely to safety, little for security	Keeps existing connectivity and access	There is minimal support for continuing with current plans. Especially noted are the plans to improve Hwy 60.	Impacts to adjacent development on US 60
8	From I-24 at Paducah in/along existing KY 286, US 60 or US 62 corridors to a point east of Wickliffe, proceed north west on new route across the Ohio River on a new bridge to I-57 in Illinois	See Note 5 Below				Provides improvement - connects I-24 to I-57 in Illinois	Provides new river crossing location over Ohio River	There has been no vocal support for Alternative 8 during public workshops	Wetland, floodplain and potential wildlife refuge impacts, Corps of Engineers preferred river crossing
8B	US 60 planned highway improvements per KYTC 6 Year Plan and Long Range Plan from Paducah to Wickliffe. Includes new connector road and new bridge over the Mississippi River south of Wickliffe US 60 to I-57 in Missouri.	942	18.7	73.7 mins (2.8 mins)	95.7 mins (N/A)	Provides some level of improvement - New bridge over Mississippi River	Keeps existing connectivity and access, provides for new river crossing	Support exists for US 60 improvements and support has been expressed for a new bridge near Wickliffe, KY	Impacts to adjacent development on US 60 plus wetland and floodplain impacts at preferred river crossing
11 / 12 / 13 / 14 / 15 / 21	From I-24 south of Paducah follow new route southwest parallel to KY 286 to point south of Wickliffe over Mississippi River on new bridge to US 60 / US 62 to I-57	942	18.7	57.9 mins (18.6 mins)	85.8 mins (8.6 mins)	Provides improvement - New bridge over Mississippi River	Provides new river crossing location over Mississippi River	Support is strong for Alternative 11/12/13/14/15/21.	Farmland impacts, uses least favorable river crossing
20	Rebadge existing interstate I-24 as I-66 in KY and build connector in southern Illinois and rebadge I-55 or I-57 as I-66 in Missouri	942	18.7	73.3 mins (3.2 mins)	68.9 mins (25.5 mins)	Provides improvement - New roadway connecting I-24 and I-55 / I-57	Good connections for southern Illinois, little benefit for KY	There has been strong support for Alternative 20 in Illinois. Likewise, there is no support for Alternative 20 from residents of Kentucky.	Some economic benefits to southern Illinois, little economic benefit for KY, impacts to Shawnee National Forest, use of Bill Emerson bridge

(1) Future Year = 2030 (2) Due to conditions near Cape Girardeau, MO (3) Based on Environmental Constraints Map (4) In Millions of 2003 Constant Dollars (5) Limited Traffic Operations Analysis Were Performed Due To Environmental Constraints

**I-66 Corridor Study  
Western Kentucky to Missouri  
Level 3 Screening Summary**

Alt. / Corridor No.	Description	Community Impacts					
		Farmland (miles/acres)	Kentucky Agriculture Districts (miles/acres)	State / Federal Forest - Parks / Recreation (miles/acres)	Urban (miles/acres)	Probable Environmental Justice Impacts	Property Impacts (in acres)
0	No Build (serves as basis for comparison to other alternatives) - Includes projects currently programmed in the KYTC's Six Year Plan	Community impacts documented in US 60 improvement project - no additional impacts anticipated					
8	From I-24 at Paducah in/along existing KY 286, US 60 or US 62 corridors to a point east of Wickliffe, proceed north west on new route across the Ohio River on a new bridge to I-57 in Illinois	21 mi/7,222 ac	1.3 mi/343 ac	0 mi/0 ac	1 mi/135 ac	Medium	2,113
8B	US 60 planned highway improvements per KYTC 6 Year Plan and Long Range Plan from Paducah to Wickliffe. Includes new connector road and new bridge over the Mississippi River south of Wickliffe US 60 to I-57 in Missouri.	30.54 mi/10,665 ac	2.58 mi/623 ac	0 mi/0 ac	1.88 mi/468 ac	Low	1,100
11 / 12 / 13 / 14 / 15 / 21	From I-24 south of Paducah follow new route southwest parallel to KY 286 to point south of Wickliffe over Mississippi River on new bridge to US 60 / US 62 to I-57	28.87 mi/8,324 ac	2.30 mi/870 ac	0 mi/0 ac	0.17 mi/74 ac	Low	2,325
20	Rebadge existing interstate I-24 as I-66 in KY and build connector in southern Illinois and rebadge I-55 or I-57 as I-66 in Missouri	35.23 mi/8,511 ac	N/A	8.67 mi/2,102 ac	3.88 mi/504 ac	High <sup>2</sup>	2,930

(1) Future Year = 2030 (2) Due to conditions near Cape Girardeau, MO (3) Based on Environmental Constraints Map (4) In Millions of 2003 Constant Dollars (5) Limited Traffic Operations Analysis Were Performed Due To Environmental Constraints

**I-66 Corridor Study  
Western Kentucky to Missouri  
Level 3 Screening Summary**

Alt. / Corridor No.	Description	Environmental Impacts <sup>3</sup>						Capital Costs <sup>4</sup>				
		No. of Listed Natl. Historic Registry Sites	Nature / Wildlife Preserves / Conservation Lands (miles/acres)	No. of Stream Crossings	Birds Point - New Madrid Floodway (miles/acres)	Floodplain / Floodway (miles/acres)	Wetlands (miles/acres)	Roadway	Bridge	Right-of-Way / Utilities	Contingency / Engineering / Mobil. / Demobil.	Total
0	No Build (serves as basis for comparison to other alternatives) - Includes projects currently programmed in the KYTC's Six Year Plan	Community impacts documented in US 60 improvement project - no additional impacts anticipated						No incremental capital costs anticipated over those programmed in 6 Year Plan Total Costs in 6 Year Plan are \$26.3 million				
8	From I-24 at Paducah in/along existing KY 286, US 60 or US 62 corridors to a point east of Wickliffe, proceed north west on new route across the Ohio River on a new bridge to I-57 in Illinois	1 (0.4 miles of Trail of Tears NHT)	2 mi/455 ac	49	None	7.20 mi / 1,001 ac	4.0 mi/1,001ac	\$265	\$266	\$128	\$108	\$767
8B	US 60 planned highway improvements per KYTC 6 Year Plan and Long Range Plan from Paducah to Wickliffe. Includes new connector road and new bridge over the Mississippi River south of Wickliffe US 60 to I-57 in Missouri.	1 (0.4 mi of Trail of Tears)	0 mi/0 ac	82	3 mi/723 ac	11.74 mi/2,970 ac	1.56 mi/441 ac	\$254	\$297	\$29	\$111	\$691
11 / 12 / 13 / 14 / 15 / 21	From I-24 south of Paducah follow new route southwest parallel to KY 286 to point south of Wickliffe over Mississippi River on new bridge to US 60 / US 62 to I-57	1 (0.4 mi of Trail of Tears)	0 mi/0 ac	87	3 mi/723 ac	12.38 mi/3,323 ac	1.17 mi/509 ac	\$328	\$292	\$151	\$124	\$895
20	Rebadge existing interstate I-24 as I-66 in KY and build connector in southern Illinois and rebadge I-55 or I-57 as I-66 in Missouri	2 (2.9 mi of Trail of Tears)	0.03 mi/64 ac	51	0 mi/ 0 ac	12.78 mi/3,113 ac	2.78 mi/843 ac	\$363	\$18	\$128	\$77	\$586

(1) Future Year = 2030 (2) Due to conditions near Cape Girardeau, MO (3) Based on Environmental Constraints Map (4) In Millions of 2003 Constant Dollars (5) Limited Traffic Operations Analysis Were Performed Due To Environmental Constraints

## **4.0 AGENCY COORDINATION**

The Project Team discussed several issues relative to the alternatives under consideration in more detail with various Federal and state agencies, especially the river crossing locations and their potential impacts. During the study process, both a north Mississippi River crossing near Wickliffe, Kentucky and a south Mississippi River location in Carlisle County, Kentucky were identified. Issues discussed included the Mississippi River crossing locations and their navigation impacts with the US Coast Guard, and the impacts on the Birds Point New Madrid Floodway with the US Army Corps of Engineers, Memphis District.

In addition, the KYTC also discussed the potential impacts to the wildlife management areas in northwest Ballard County with the Kentucky Department of Fish and Wildlife and the Kentucky Nature Preserves Commission.

### **4.1 Mississippi River Navigation Impacts**

Upon discussing the proposed Mississippi River crossing locations – one just south of Wickliffe, Kentucky and one in Carlisle County, Kentucky with the US Coast Guard, it was learned that the north Mississippi River crossing location (roughly near mile marker 951 just south of Wickliffe) is close enough to the confluence of the Ohio and Mississippi rivers that it effectively would interfere with safe river navigation. In fact, the affects of a bridge location, including piers, anywhere between mile makers 951 and 949.5 (nearer Wickliffe) would have negative impacts on safe river navigation and thus any bridge location in this area is problematic from that standpoint.

The Coast Guard is more comfortable with and accepting of a river crossing south of mile marker 949 in Carlisle County. This is far enough south of the confluence area of the rivers and would allow for barge tows to have adequate time to maintain a proper and safe course to avoid the bridge piers and other obstructions. Possibly at this point, the right descending pier would be located on the Missouri bank with the left descending pier being placed behind a dikefield. A 1,500+ foot horizontal clearance would be required to safely meet the need of waterway navigation traffic below the bridge. Pier protection, including the use of dolphins would need to be examined during further project stages.

These conclusions were reached based upon advice and consultation given in written correspondence from the Coast Guard dated February 13, 2003 from Mr. Roger Wiebusch, Bridge Administrator for the St. Louis district and detailed discussions during a conference call with the Project Team and Mr. Wiebusch held on June 25, 2003. The subject letter and the conference call also indicated that the Ohio River crossing location (Alternative Corridor 8) is also acceptable with the 1,500+ span. Therefore, it is concluded that any Mississippi River bridge location that is should be no further north than LMR mile marker 949 in Carlisle County, Kentucky.

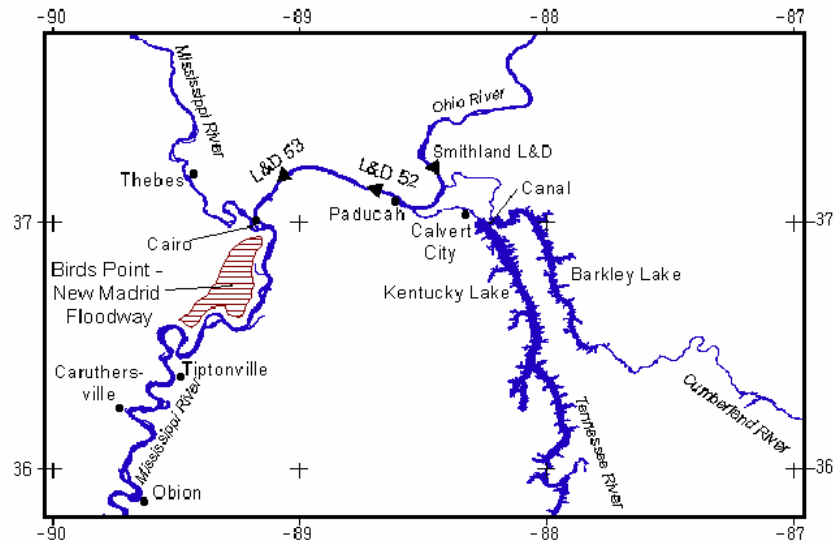
## **4.2 Birds Point-New Madrid Floodway Impacts**

The Project Team also coordinated the bridge location's impacts on the Birds Point-New Madrid Floodway with US Army Corps of Engineers, Memphis District. The Birds Point-New Madrid Floodway is a component of the Mississippi River and Tributaries (MR&T) Project, and is located on the west bank of the Mississippi River in southeast Missouri just below the confluence of the Ohio and Mississippi Rivers. The construction and operation of the floodway was authorized by the 1928 Flood Control Act and later modified by the 1965 Flood Control Act. The purpose of the floodway is to lower flood stages upstream and adjacent to the floodway during major flood events. The Floodway is roughly 35 miles in length and varies from 4 to 12 miles in width. It comprises about 205 square miles of alluvial valley land. The primary features of the floodway are the setback (mainline) levee, which extends from Birds Point, Missouri, to New Madrid, Missouri, and the frontline levee which is located on the west bank of the river and generally follows its alignment. Within the frontline levee, there are two fuse plug sections. These sections were designed and built 2 feet lower than the remaining portions of the frontline levee. The upper fuse plug section is 11 miles in length and is located in the northernmost reach of the frontline levee. The lower fuse plug is 5 miles in length and is located in the extreme lower end of the frontline levee. In addition, there is an existing 1,500-foot gap, which is located between the setback levee and the end of the frontline levee. This opening currently provides a drainage outlet for interior run-off and allows flood backwaters to enter the floodway.

(Note: The Corps has recently proposed a project to fill the 1,500 gap and replace it with a pumping station. To date, the project has not yet begun.)

The existing Plan of Operation for the Floodway, which was reviewed by Missouri state officials in November 1985 and approved by the President, Mississippi River Commission, in January 1986, calls for crevassing the levees to allow excess water into the floodway. There are three crevasse locations designated as Inflow, Inflow/Outflow No. 1, and Inflow/Outflow No. 2. In order to assure adequate water access to the crevasse sites access lanes are required from the Mississippi River to and along the designated crevasses. With a project design flood rate of rise, approximately 2 feet per day, initial preparation of floodway is required when the stage at the Cairo, IL, gage is approximately 59 feet; completion of preparation of the Inflow Crevasse at 60 feet; and operation of the floodway begins upon order of the President, MRC. See diagram of the Bird's Point New Madrid Floodway on the following page. Again, it is concluded that the bridge location that should be pursued is no further north than LMR mile marker 949 in Carlisle County, Kentucky.





Source: US Army Corps of Engineers

### 4.3 Ballard County Wildlife Management Areas

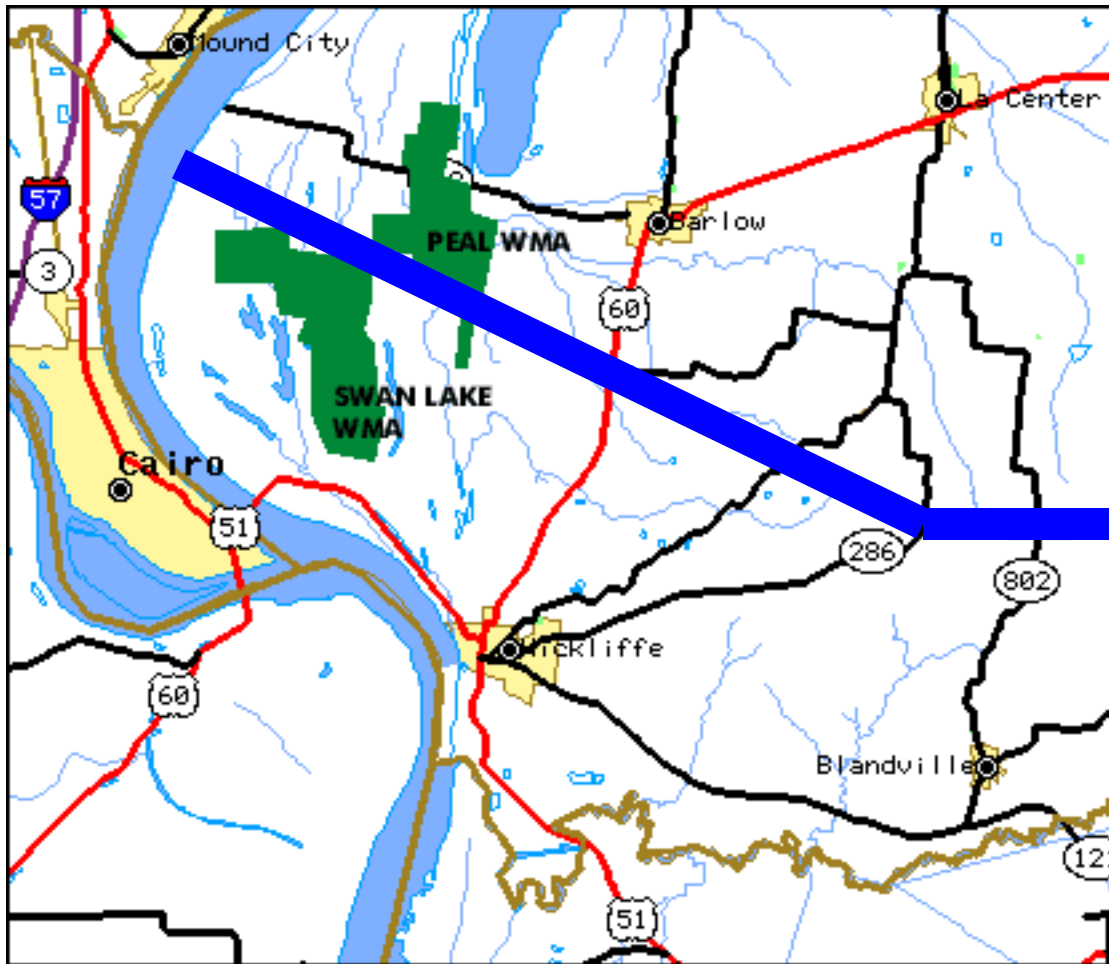
Alternative 8 traverses northwest Ballard County and comes in close proximity to the Barlow Bottoms Wildlife Management Area (WMA) controlled by the Kentucky Department of Fish and Wildlife Resources. The area is composed of seven (7) individual tracts of land. However, only two (2) tracts are impacted by Alternative 8. Those tracts are:

- Swan Lake – a 2,100 acre tract, 6 miles northwest of Wickliffe on US 51/US60 has the state's largest natural lake and an observation tower for wildlife viewing. The habitat is primarily bottomland and flood plain area of the Ohio River, with several lakes and some interior gravel roads. Several migratory species winter here each year, including ring-billed and herring gulls, double-crested cormorants, waterfowl, and bald eagles.
- Peal – a 2,219 acre tract, 4 miles west of Barlow on Mounds City Landing Road. This area is composed of Ohio River bottomland with marshlands and cypress swamps. It has two roads which provide access to three oxbow lakes. Bird watching, camping, hiking, fishing, and hunting activities are permissible.

Alternative 8 (in blue) on the figure on the next page and its location to the Peal and Swan Lake WMAs are shown.

Alternative 8 would impact the northwestern edges of the Swan Lake WMA and would essentially bisect the Peal WMA. The WMAs have been identified as a known and worthwhile resource through the project's public involvement activities.

### Location of Alternative 8 in Relation to Wildlife Management Areas



Coordination efforts between the KYTC and the Kentucky Department of Fish and Wildlife and the Kentucky Nature Preserves Commission have taken place. The KYTC had a briefing with the agencies and discussed the project with them. The agencies in turn discussed their concerns and agreed to detail them in writing. Essentially, each agency has serious concerns about the impacts of a bisecting roadway corridor on the WMAs and the wildlife that inhabit the areas. They have documented their concerns and essentially view Alternative 8's impacts on the WMAs, associated lands, and wildlife as a "fatal flaw". The WMAs are home to several species that inhabit the area and need it for winter migration. Impacts to these parts of the WMAs could NOT be mitigated. In addition, some portions of the WMAs were purchased with federal funds.

## 5.0 CONCLUSIONS

### 5.1 Conclusions – Level 3 Analysis

The more detailed technical analysis performed in this Level 3 screening / evaluation further evaluated the remaining five (5) alternatives. Those alternatives included:

- Alternative 0 – (No Build) – Only existing and committed projects in KYTC Six Year Plan and MoDOT improvement program.
- Alternative 8 – essentially Corridor 11 in/along existing KY 286, US 60 or US 62 corridors to a point east of Wickliffe, proceeding north west on new route across the Ohio River on a new bridge to I-57 in Illinois.
- Alternative 8B – US 60 improvements from Paducah to Wickliffe with a new Mississippi River crossing
- Alternative 11/12/13/14/15 & 21 – new interstate corridor parallel to US 62 and KY 286 with a new Mississippi River crossing
- Alternative 20 – unspecified corridor connecting I-24 north of Paducah to I-55 near Cape Girardeau, Missouri with no new river crossing either over the Mississippi or Ohio rivers.

Based on the analysis, the following can be concluded:

- Alternative 0 (No Build) is sufficient to meet the needs of the region in the near future but not in the project's horizon year of 2030. It narrowly and minimally addresses the study's goals, objectives, and issues and has minimal support. Therefore, although Alternative 0 will likely meet the needs of the region in the short term, it is not sufficient for longer term needs.
- Alternative 8 can meet the needs of the project and address some of the goals, objectives, and issues of the study. It does provide a new route and a river crossing. However, the impacts caused by this alternative to sensitive natural resource and wildlife management areas are too great to make the corridor feasible. These impacts, coupled with the fact that there are other alternatives with less impacts, make Alternative 8 not practical. Therefore, Alternative 8 should not proceed into the next stage(s) of project development by the KYTC.
- Alternative 8B can meet the needs of the project, address the goals, objectives and issues of the study and provide a new upgraded US 60 (partially controlled access facility) in the long term with a new bridge crossing the Mississippi River south of Wickliffe, Kentucky, (no further north than Lower Mississippi River Mile marker 949) in a fiscally responsible manner. Alternative 8B is a viable option for satisfying the short and long term transportation needs of western Kentucky.

- Alternative 11 / 12 / 13/ 14/ 15/ and 21, can also meet the needs of the project, address the goals, objectives, and issues of the study, and provides a long term new limited access highway with a new bridge crossing the Mississippi River near Wickliffe, Kentucky. However, given the need for additional right-of-way and the higher costs of this alternative, it is unlikely to be funded for construction in the time horizon of the study.
- Alternative 20, although unspecified as to the route through southern Illinois, does meet the needs of the project, address some of the goals, objectives, and issues of the study, and provides a new highway through southern Illinois. However, it does not provide for benefits to western Kentucky. Therefore, Alternative 20 is not recommended for further development by the KYTC.

## **5.2 Recommendation**

The technical analysis reveals that it is feasible and beneficial to develop a project to improve the transportation system in western Kentucky in the shorter term, (i.e. improve US 60). However, a project to locate a limited access highway facility and to plan for the construction of a new Mississippi River crossing are longer term projects and are needed closer to the horizon year of the project - 2030.

Given this, and coupled with the current fiscal constraints in the Commonwealth, the KYTC has chosen as a policy decision, not to pursue a build project option at this time.