EXECUTIVE SUMMARY
SCOPING STUDY
CLAY/LESLIE COUNTY REGIONAL INDUSTRIAL PARK ACCESS ROAD
ITEM #11-8002.00

The proposed highway project is located in Clay County, near Manchester, Kentucky. It was identified in the Kentucky Transportation Cabinet's (KYTC) *Approved 2000-2002 Biennial Highway Construction Program and Identified Preconstruction Program Plan for FY 2003 through FY 2006* (generally referred to as the FY 2001 Six Year Highway Plan) as Item No. 11-8002.00. The project involves construction of a new road that would begin at a new interchange with the Daniel Boone Parkway and extend south to the Clay/Leslie County Regional Industrial Park (generally referred to in this study as the Industrial Park).

Study Purpose and Goals

The purposes of this study are 1) to identify locations for an Access Road to the Industrial Park along with a connecting interchange to the Daniel Boone Parkway and 2) to recommend a preferred location. The project goals identified during this study include:

- Provide a new Access Road from the Daniel Boone Parkway to the Industrial Park;
- Improve statewide and regional access; and,
- Improve economic opportunities as well as tourism development.

Corridor Development

Initially, a total of seventeen (17) potential corridors were identified for consideration, in addition to the no-build alternate. A first-level screening of the 17 corridors identified issues related to interchange locations, sight distance, residential areas, elevation differences, mining sites and other issues. Due to the similarities between some corridors and preliminary issues identified for others, four (4) corridors were selected for more in-depth analysis in a second-level screening. Through the public involvement efforts related to this study, one additional corridor was identified for further analysis, making the number of corridors five (5). These are identified as corridors A, A-1, C, E and F.

Public Involvement Efforts

Throughout the course of this study, local officials, interest groups, community members and resource agencies provided input on the study for the Access Road. Comments were solicited through local meetings, survey questionnaires and informative mailers. Issues identified through this outreach included the following:

- Local officials indicated that the proposed project would increase safety along existing routes, provide improved truck access to the Industrial Park and increase opportunities for economic development in the area. A local property owner may be willing to donate land for a new interchange on the Daniel Boone Parkway; therefore Corridor A-1 was included in the second-level screening.
- Daniel Boone National Forest representatives indicated that the selection of Corridors A or A-1 would necessitate the purchase and exchange of the entire 500 acres of forest land within the project corridors. The selection of Corridors C, E or F would require replacement of all Forest Service property within the selected corridor's right-of-way. Property purchased for replacement of the Forest Service land would likely be located on the north side of the Daniel Boone Parkway.
- The local community generally supports the project, regardless of the selected corridor. The community and the residents that live along KY 149 generally support the need for the Industrial Park Access Road as a means of gaining safer access and of reducing travel time to the Daniel Boone Parkway and outside service areas.
- KYTC Division offices identified issues related to strip mines, geological conditions, cemeteries, stream/channel impacts, and the potential for archaeological sites. The KYTC Division of

Materials indicated that Corridor E avoids the most adverse geological conditions. (Subsequent discussion of this issue led to the conclusion that Corridor E or Corridor F could be constructed, but that Corridor F may present more geotechnical costs).

- Other Kentucky agencies identified issues related to economic development, farmland preservation, prevention of airborne materials, monitored species, traffic and safety, and water quality.
- Federal agencies identified issues related to 1) soil series known for farming, erosion and sediment control and 2) construction heights that eliminate aviation impacts.

Corridor Analysis

Environmental issues, social and economic considerations, geotechnical concerns, traffic issues, interchange locations, costs and constructability were examined for the five (5) build corridors identified for the second-level screening (Corridors A, A-1, C, E and F) and for the no-build alternative.

<u>Environmental Issues</u>

- All build corridors have the potential to impact blue-line streams in the project area.
- Corridors A or A-1:
  - would necessitate the purchase and exchange of about 500 acres of Daniel Boone National Forest (DBNF) land, and
  - contain small wetland areas.
- Corridors C and E:
  - each have the potential to affect about 25 acres of the DBNF, and
  - highway noise levels may be a consideration in the residential portions of the corridors.
- Corridor F:
  - has the least potential for impacts to the DBNF of the build options, about 0.8 acres, and
  - could potentially include riverine type wetlands along Hayes Fork.
- Environmental impacts are not anticipated with the no-build alternative.

<u>Social and Economic Considerations</u>

- All build corridors:
  - include one cemetery located between the two parcels of the Industrial Park property, and
  - may have environmental justice impacts related to low-income populations in the study area tract and block group.
- Corridors A and A-1 have the potential to impact up to 15 primary residential structures.
- Corridors C and E:
  - have the potential to impact up to 15 primary residential structures, and
  - may have potential environmental justice and community impact issues related to low-income populations and a small church serving these populations.
- Of the build corridors, Corridor F represents the least potential impact with respect to these issues.
- The no-build alternative:
  - would not address the access needs of large trucks that may help promote economic development in this area, and
  - would not provide improved access for residents along KY 149.

<u>Geotechnical Issues</u>

- All of the proposed corridors cross a hollow fill at the north end of the Industrial Park property, where both contour and strip mining have occurred.
- Corridors A and A-1:
  - include an additional area of contour mining,

  - would require a bridge structure with ramp access over KY 149, and
  - include residential areas that may be impacted by construction blasting.
- Corridor C:
  - would require a bridge structure with ramp access over KY 149,
  - includes residential areas that may be impacted by construction blasting, and
  - would require longer haul distances for excess cut material.
- Corridor E:
  - includes residential areas that may be impacted by construction blasting,
  - would require longer haul distances for excess cut material, and
  - is preferred from a geotechnical standpoint.
- Corridor F is also considered to be a feasible option, although stabilization of mine spoil and saturated soils could potentially increase costs.
- The no-build alternative is not expected to involve any geotechnical issues.

Traffic Service Analysis

- For the build corridors:
  - Year 2025 levels of service for existing roads remain unchanged with the addition of the generated traffic to the roadway network, and
  - operational levels of service do not vary to a great degree between alternatives.
- In the no-build alternative:
  - much of the additional future traffic generated by the Industrial Park is likely to utilize US 421 south of Manchester,
  - Year 2025 levels of service along US 421 are expected to reach LOS D, E and F, and
  - the additional Industrial Park trips could result in increased congestion and increased crashes along this portion of the US 421 route.

Interchange Considerations

- Corridors A and A-1:
  - have the potential for sight distance problems,
  - may present community impact issues related to an access ramp connection from KY 149,
  - could result in major rock cuts and/or generation of excess waste materials.
- Corridor C:
  - has the potential to affect the DBNF,
  - may present community impact issues,
  - may require residential relocations near the Daniel Boone Parkway interchange location, and
  - could result in major rock cuts and/or generation of excess waste materials.
- Corridor E:
  - has the potential to affect the DBNF,
  - may require residential relocations near the Daniel Boone Parkway interchange location, and
  - could result in major rock cuts and/or generation of excess waste materials.
- Of the build options, Corridor F presents the least number of engineering issues at its interchange location with the Daniel Boone Parkway.
- Engineering issues are not anticipated with the no-build alternative.

Estimated Costs

- Corridors A ($52.2 million), A-1 ($61.4 million), and C ($43.6 million), have the highest costs, mainly due to the construction of a major bridge structure over KY 149.

- Of the build options, Corridor E has the lowest estimated cost of $37.1 million, mainly due to its length and lack of a major bridge structure with KY 149.
- Corridor F has the second lowest estimated cost of $39.0 million.
- There are no costs anticipated with the no-build alternative.

Corridor Recommendations

Based on a comparison of impacts and benefits, the project team recommended Corridor F. Corridor F begins just south of the Hayes Fork bridge over the Daniel Boone Parkway near milepoint 27.1. In this section of the Daniel Boone Parkway, there is a west-to-east downhill grade and horizontal curve that provides excellent sight distance. Corridor F follows the western hillside of Hayes Fork to the existing Industrial Park access road, avoiding the lower portions of Hayes Fork. The corridor crosses the edge of the existing hollow fill at the northern end of the Industrial Park. Corridor F has the potential to impact only a small piece of the Daniel Boone Forest land.

Other Issues

A number of issues are important to the study analyses and recommendations, and these should be considered as the project moves into subsequent phases:

- One endangered plant (soft-haired thermopsis), one threatened plant (wrinkled button), and one species of special concern (Appalachian rosinweed) could potentially be located within the project area. The Indiana bat is also known to inhabit this region during nesting season.
- There are potential environmental justice and community impact issues related to low-income populations and an associated church within the KY 149/Daniel Boone Parkway area.
- If a corridor is selected that impacts the DBNF, it may require as much as two years of evaluation time for the environmental review process to meet guidelines.
- The cemetery located between the two parcels of Industrial Park property should be avoided.
- There is a significant difference in elevation from the Daniel Boone Parkway to the Industrial Park, which could cause design issues for reducing vertical grades on the Access Road.
- Along Corridor F, the existing hollow fill and saturated soil conditions on the west side of hollows could create a problem with underground water buildup; however, major excavation and earthwork expected during construction could provide fill material for these areas. Geotechnical issues should be addressed further in Phase I design.
- An investigation of the potential wetland areas and boundaries along Hayes Fork is encouraged early in the Preliminary Engineering Phase. Wetland avoidance is highly recommended.
- The United States Army Corps of Engineers should be consulted during the Environmental Assessment phases of this project to determine if water quality certification or dredge of fill material permits are required.
- Continued planning of this project should include: 1) a Baseline study for Cultural/Historic Resources including cemeteries, and 2) a full Phase I archaeological survey for the final alternate since the project will require Federal Permits.

Funding

The Planning Phase of the project addressed in this study was scheduled in the FY 2001 Six Year Highway Plan, with committed funds of $250,000. Design funding commitments include $1,874,866 for FY 2002. The FY 2003 Six Year Highway Plan includes $3.5 million for right-of-way activities and $1.5 million for utilities. Construction funds have yet to be scheduled for this project.

The Clay/Leslie County Industrial Authority has obtained nearly $6 million in special grants, including $1.8 million in Transportation and Community and System Preservation (TCSP) grant funding from the Federal Highway Administration (FHWA). It is expected that the TCSP funds will be used, in part, to finance the Environmental Assessment phase of the project, potentially including preliminary design activities.