

KY 1159 Scoping Study

Brooksville - KY 9 (AA Highway)

Bracken County

Item No. 6-154.00



Exploring solutions together

MARCH 2002

*Prepared for: Kentucky Transportation Cabinet
Division of Planning*



Prepared by: HNTB Corporation

HNTB

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EXECUTIVE SUMMARY

The KY 1159 Scoping Study has been prepared to assist the Kentucky Transportation Cabinet in defining the scope and extent of improvements that would best suit the immediate as well as the future needs of this facility. The identification of these needs was based on three primary concerns. First and foremost, there was an apparent need to enhance safety along KY 1159. The facility has experienced an unusually high number of accidents, when compared to other similar facilities in the State Maintained System. Second, it was apparent from the outset of the study that KY 1159 is critical to the mobility of the local residents with destinations in northern Kentucky and the Greater Cincinnati area. This linkage, therefore, plays an important role in terms of economic development in the region, and affords access to emergency services, jobs, and other opportunities in the region. Finally, Bladeston, a small community located along KY 1159 at KY 1011, contains valuable historic and community resources that would face potential adverse impacts with major roadway improvements in that area. It was clear that collaboration between the community and the Cabinet would be required to avoid or to minimize impacts to these irreplaceable community assets. Collectively, the above concerns formed the framework within which project goals were established.

Establishment of the goals for the project included an active public involvement process. This involved inclusion of a variety of project stakeholders, such as local public officials, residents, Transportation Cabinet staff from both Central Office and District 6, and planning personnel from the Buffalo Trace Area Development District. **Jointly, they formulated the following project goals:**

- **Improve roadway geometry through enhanced design features**
- **Improve roadway safety**
- **Provide improved connectivity from Brooksville to KY 9**

A review of the existing conditions confirmed a relatively high level of accidents along KY 1159. Existing roadway features offered few options for enhanced safety measures that would avoid substantial environmental impact, especially on historic community assets that include a church and a cemetery in Bladeston. The traffic capacity of the route was not a major concern. Traffic forecasts and analyses were made to assure that the facility would keep pace with growth and meet capacity requirements in the year 2025.

Two other projects in the area affect the viability and nature of this project. They are the reconstruction of KY 1159 from KY 19 to just south of Fronks Lane and the reconstruction of KY 19 from Brooksville to KY 9. Both are roadway improvement projects scheduled for completion in 2002.

Based upon project goals established by the project stakeholders, several alternative actions were considered. **The alternates were divided into three categories:**

- **Do Nothing**
- **Operational Improvements**
- **Reconstruction of KY 1159**



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- The Do Nothing alternate was rejected because it did not address the project goals.
- Operational Improvements are relatively low-cost (when compared to major reconstruction of the route) improvements that can be implemented through maintenance-type activities. They typically include installation of traffic signs, trimming shrubbery at intersections to improve visibility, and other similar activities.
- The reconstruction Alternate would involve rebuilding KY 1159, basically within its existing corridor, to improve the roadway geometry. Options to avoid the community of Bladeston were also examined. Design standards for 45 MPH and 55 MPH were considered in the development of reconstruction alternates. All options considered a two-lane facility with shoulders.

Recommendations

The alternate that considers rebuilding KY 1159 with 55 MPH design standards was recommended by the Project Team offering an enhanced facility with minimum impact on historic, cultural, and environmental resources. Approaching Bladeston, the facility follows a new eastern alignment to avoid impacts on cultural and historic properties. A planning level cost estimate indicates \$ 22,721,000 for this project. The cost breakdown is as follow:

Section 1: From Milepost 0.700 (0.065 miles south of Fronks Lane) to Milepost 2.269 (0.448 miles north of Badger Road) - \$13,089,000

Section 2: From Milepost 2.269 (0.448 miles north of Badger Road) to Milepost 3.773 (0.415 miles south of KY 9/AA Highway) - \$8,176,000

Section 3: From Milepost 3.773 (0.415 miles south of KY 9/AA Highway) to Milepost 4.188 (KY 9/AA Highway) - \$1,456,000

Operational improvements discussed above were also recommended for immediate implementation as a maintenance activity. The estimated cost for these improvements is \$30,000.

The 2000-2002 Biennial Highway Construction Program and Identified Pre-construction Program for FY 2003 through FY 2006 (2000 Six Year Highway Plan) has funds available for the study phase of the project only. No funding has been provided for the right of way construction, utility, or design phase for the preferred reconstruction alternative.





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1.0 INTRODUCTION

The KY 1159 Scoping Study, sponsored by the Kentucky Transportation Cabinet, was undertaken to determine improvement strategies to address both the current and future needs of the facility. Located in the northeastern part of the state, KY 1159 passes through a rural setting, connecting the community of Brooksville and other areas of Bracken County to destinations in northern Kentucky and Greater Cincinnati.

Recognizing the need to improve the route, the Cabinet identified funds for a Scoping Study in the approved 2000-2002 Biennial Highway Construction Program and identified pre-construction program for FY 2003 through FY 2006 (2000 Six Year Highway Plan). In April of 2001, the study was initiated with an assessment of existing conditions. This included a review of existing reports and plans, an analysis of the existing and future year 2025 traffic conditions, and an analysis of the accident history of the road. Additionally, an environmental review/footprint was developed highlighting known environmentally sensitive areas and places.

After the existing conditions were studied, on April 30, 2001, a meeting with local officials and a separate meeting with local stakeholders were held. Both groups were of the opinion that improvement was needed, since this section of the roadway was experiencing safety problems and since it provided a vital connection to Northern Kentucky that was important to economic development. A Public Informational meeting was held on June 5, 2001, to determine public opinion concerning potential improvements. The landowners along KY 1159 were well represented among the 24 attendees at the meeting. The comments received from the public supported those of local officials and stakeholders. All three groups expressed a desire to see improvements made to the existing roadway to ensure safe travel on KY 1159. Finally, each group also stressed the importance of KY 1159 to the mobility of area residents. The public meetings notes are included in Appendix (B).

1.1 Purpose of the Study

The purpose of this Scoping Study is to identify and gather critical information about the project corridor prior to the initiation of the Design Phase, and to help define the location of possible roadway improvements that might better serve the residents of Bracken County. It will also aid the Kentucky Transportation Cabinet in addressing the Federal requirements regarding consideration of environmental issues, as defined in the National Environmental Policy Act (NEPA). **The ultimate objectives of this study include:**

- **Defining project needs and goals**
- **Identifying the beginning and ending points of the project, as well as potential project locations and design concepts**
- **Discussing project needs and issues with public officials, government agencies, concerned citizens, and other groups with interest in the project**
- **Identifying known environmental concerns**
- **Exchanging information with the public**

Achievement of the objectives stated above, combined with a public involvement process, will assist KYTC in making decisions regarding the need for improvement and selection of preferred alternate(s) for implementation.





1.2 Public Involvement

Two Public information meetings were conducted as part of the public involvement process. These meetings were held on June 5, 2001 and August 2, 2001. The meetings were hosted by the Kentucky Transportation Cabinet-Division of Planning, District 6 (Covington), and HNTB Corporation. **The intent of these meetings were:**

- **To let the community know about the project**
- **To identify and address community concerns and issues**
- **To identify sensitive areas that should be avoided**
- **To explore alternates and discuss impacts**
- **To create a project that benefits the community and gains its support**

Both meetings were well attended by local officials and residents. The groups participated in the study development process by discussing options with the Project Team and by submitting comment forms provided to them at the meeting. Their efforts included confirmation of existing conditions at the first meeting and participation in the development of several enhancement options at the second meeting. These enhancement options ranged from simple, low-cost improvements, such as better signs or trimming vegetation for improved sight distance, to more elaborate schemes that called for the reconstruction of the facility to modern design standards. A summary of the public meetings notes are included in Appendix (B).

1.3 Corridor Issues

Problems currently identified along the existing KY 1159 corridor include both safety and the need for connectivity. Some of the most evident safety issues are narrow lanes and shoulders, steep grades and restricted sight distances. There is a high ratio of injury accidents to total accidents. Most of the accidents are the result of vehicles running off the road or being sideswiped by another vehicle. **Other issues along the corridor are:**

- **The existing road follows a ridge that makes improvement options throughout the corridor difficult and very costly. Complete reconstruction of the road could require large amounts of fill and acquisition of properties.**
- **KY 1159 is the main link between Brooksville and KY 9 for people with destinations to the north and west of Brooksville.**
- **The portion of KY 1159 immediately south of Fronks Lane is under construction this year. This improvement may mislead drivers in their expectations on the remaining portion of the road.**
- **Intersection turn lanes may be required at some locations.**
- **Historical properties along some portions of the corridor may make widening difficult, since the Cabinet must make efforts to avoid these properties when an improvement is made.**

1.4 Statement of Project Goals

Discussions with Transportation Cabinet officials, meetings with the local officials and stakeholders, and comments received from local residents during the public meetings led to the development of goals for improvement to KY 1159. The following were formulated as the project goals:



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- Provide adequate sight distance by improving roadway geometry.
- Reduce the number of accidents along the route by improving shoulder and lane widths, and by providing recovery areas for vehicles that may leave the roadway.
- Provide improved connectivity from Brooksville to KY 9.

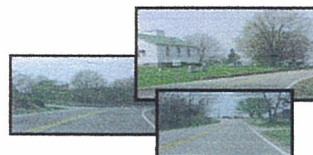
2.0 EXISTING CONDITIONS

KY 1159 is a Rural Secondary road in the State Maintained Highway System, linking Brooksville and residents along it to KY 9 (AA Highway). The study area is shown in **Figure 1**. The project limits are from Fronks Lane, just outside of Brooksville, to KY 9, approximately 3.5 miles in length. The road is situated along a ridge through primarily rolling terrain. Several sharp curves in the road combined with rolling terrain, restrict sight distance. The road currently carries approximately 2,700 vehicles per day. Two other projects in the area affect the viability and possibly the nature of this project. These projects are: the reconstruction of KY 1159 from KY 19 to just south of Fronks Lane and the reconstruction of KY 19 from Brooksville to KY 9. Users will typically expect similar improved conditions to continue on KY 1159 immediately beyond these two projects.

2.1 Roadway Characteristics

The following table illustrates existing roadway characteristics.

Roadway Characteristics		
Type of Roadway	Functional Classification	Rural Major Collector
	State System Class	Rural Secondary
	Type Road	Undivided Highway
	Scenic Byway System	No
	National Highway System	No
	National Truck Network	No
	Defense Highway	No
	Truck Weight System	None
	Extended Weight System	No
Geometrics	Average Right-of-Way Width (Feet)	50
	Lane Width (Feet)	10
	Driving Lanes	2
	Shoulder Width (Feet)	0
	Percent Passing Sight Distance	0
	Number of Bridges	0
	Type of Terrain	Rolling
Volumes	Year 2000-Volume (Vehicles per Day)	1,680-2,740
Speeds	Speed Limit (Miles per Hour)	25-55
Pavement	Surface Type	High Flexible
	Last Year Surfaced	1996



2.2 Accident Analysis

One of the primary goals of any highway improvement process is to provide a safe and efficient roadway. A look at the recent accident history (1996-2000) of KY 1159 indicates that the accident rate is higher than the statewide average for a similar facility. There were a total of 50 accidents reported in the survey period. A closer study of the accidents revealed a high percentage of injury accidents (48%) compared to total accidents. To gain a better understanding of these accidents, analysis of Critical Rate Factors (CRF) was done to determine the types and possible causes of these incidents. The segment from Wagel Road to Augusta-Berlin Road had a CRF of 1.47. The CRF of over 1.0 indicates that the roadway segment may contain features that are contributing to the accident rate.

The analysis indicated that the majority of the accidents on KY 1159 involve drivers running off the road. Additionally, many accidents have involved collisions with utility poles and sideswipes. The above findings tend to indicate that roadway conditions, including lane width, lack of adequate shoulders, and excessive vehicle speeds could be contributing factors to accidents. The frequency of accidents at different segments of the roadway and types of accidents are shown on **Figure 2**.

2.3 Traffic and Level of Service

KY 1159 was divided into several segments for the purpose of evaluating existing and future year (2025) traffic volumes and for performing Level of Service (LOS) analysis. Several data sources were used, including actual traffic counts that were taken at these three segments to verify existing traffic conditions along KY 1159.

The table below shows the results of the travel forecasting process used for the segment of KY 1159 between KY 19 and KY 9.

Segment	1995 Actual (KYTC)	1997 Actual (KYTC)	2000 Estimate (KYTC)	2001 Actual (KYTC)	2025 Forecast HNTB
KY 19 – Fronks Lane	1,970		2,070	3,300*	5,000
Fronks Lane – Wagel Road		1,940	2,030	2,740	4,120
Wagel Road – KY 1011	1,440		1,570	1,850	2,810
KY 1011 – KY 9	1,270		1,350	1,680	2,610

(*) Estimated

The methodology involved the use of a “weighted”, or “discounted” linear regression technique to determine the 2025 forecasts. Regression is a statistical procedure that relies on observed historical data for a set of variables to predict future values for the same or other variables. In this case, historic traffic count data and the years in which the data were observed were used to predict 2025 traffic volumes for KY 1159.

The highest 2025 traffic levels on KY 1159 are expected for the segments between KY 19 and Wagel Road. This figure is expected to be 5000 cars per day immediately north of Brooksville at KY 19. Using the 2001 counts as a baseline, the 2001-2025 annual growth rates for these segments range from 1.71 percent to 1.75 percent.



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For the Wagel Road-KY 1011 and KY 1011-KY 9 segments, 2025 traffic is forecast to be 2,810 and 2,610 vehicles per day, respectively. The 2001-2025 annual growth rates on these segments range from 1.76 percent to 1.85 percent.

The 2025 forecasts listed in the table take into account the most recent traffic counts observed for KY 1159. For the segments between Fronks Lane and KY 9, these counts were taken in May and June of 2001. For the segment between KY 19 and Fronks Lane, the 2001 count was estimated based on the 1997-2001 annual growth rate for the Fronks Lane-Wagel Road segment.

Level of service analysis was performed using the Highway Capacity Software on existing traffic conditions and the future year (2025) traffic forecasts discussed above. Existing LOS values are in the range of C and D, indicating KY 1159 has enough capacity to carry traffic. The future year traffic conditions are expected to increase, resulting in LOS values of D for most of the corridor, and LOS E between Fronks Lane and Wagel Road. LOS E designation typically describes roadways that are approaching capacity accompanied with occasional delays. **Figure 3** shows traffic volumes and LOS values at various segments of KY 1159 for both existing and future year 2025.

2.4 Resource Agency Coordination

The Division of Planning sent letters to 57 agencies, included in Appendix (C), asking for input and comments on the KY 1159 Scoping Study in order to address their concerns early in the project development process. Eight agencies responded and their responses are included in the Appendix (C). The agencies responding to this request were:

- Commonwealth of Kentucky Natural Resources and Environmental Protection Cabinet
 - Division of Water
 - Division of Conservation
 - Division of Waste Management
 - Division of Air Quality
 - Department of Fish and Wildlife Resources
- U.S. Department of Fish and Wildlife Service
- Kentucky Transportation Cabinet
 - Division of Construction
 - Division of Environmental Analysis
- U.S. Department of Housing and Urban Development
- Kentucky State Police
- U.S. Department of Transportation - U.S. Coast Guard

Listed below are summary of responses received from the above agencies:

Commonwealth of Kentucky Natural Resources and Environmental Protection Cabinet

- **Division of Water:** Water quality certification (401) might be required. The determination will be made based on consultation with the U.S. Army Corps of Engineers. This will consider impacts on streams and wetlands.



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- **Division of Conservation:** The agency pointed out that the area north of Brooksville is in the Bracken County's Agricultural District. Agricultural districts are established in order to conserve, protect, develop, and improve agricultural land. Comments were also made to utilize best management practices (BMPs) to control erosion and sedimentation during and after earth-disturbing activities as well as preventing non-point source water pollution.
- **Division of Waste Management:** All solid wastes generated by this project will need to be disposed at a permitted facility. In addition, tanks or any other contamination encountered during the project must be reported and remediated.
- **Division for Air Quality:** There is no requirement for the issuance of an air quality permit for this project. Regulation 401 KAR 63:010 however applies. This regulation assures taking reasonable precaution to prevent particulate matter from becoming airborne.
- **Department of Fish and Wildlife Resources:** The Kentucky Fish and Wildlife Information System indicates that no federally threatened or endangered species are known to occur in the Brooksville 7.5 minute USGS quadrangle(s).

U.S. Department of Fish and Wildlife Service: No significant adverse impacts to wetlands or federally listed endangered or threatened species are anticipated from the proposed project.

Kentucky Transportation Cabinet

- **Division of Construction:** Division of Construction has no concern about the proposed project.
- **Division of Environmental Analysis:** The design must avoid or minimize any channel changes. In addition, there are prehistoric sites located in the Goose Creek flood plain as well as historic properties that would need to be evaluated if impacted. UST/hazmat will need to be addressed as the project advances to design phase.

U.S. Department of Housing and Urban Development: There is a potential impact on a HUD-funded multi-family property, the Brooksville Court Apartments. The improvements will affect the access to the property.

Kentucky State Police: Supports the proposed improvement plan.

U.S. Department of Transportation - U. S. Coast Guard: The U.S. Coast Guard had no comments since the project does not cross waterways which the Coast guard exercises jurisdiction for bridge administration purposes.

Division of Multimodal Programs: CR 1005 and KY 1011 are part of the designated bicycle route Rambling River Tour.



2.5 Environmental Overview

An environmental overview was completed to compile a general overview of the social, economic and environmental framework of the project. The findings were used in evaluating and selecting improvement options that will have no impact or minimal impact on the environmental resources in the study area. The limit of environmental review includes an area generally 1000 feet on each side of the existing centerline of KY 1159 beginning north of Brooksville and extending to the intersection with KY 9 (approximately 4.1 miles). A detailed Environmental Overview Report dated June 2001, which includes resource agency letters and contacts, has been prepared and was submitted under separate cover.

Environmental Justice

Along with discussing environmental justice at the project team, local officials, stakeholder and public information meetings, resource agencies and other involved contacts were asked to report to the Cabinet if any environmental justice concerns exist in the project area. There does not appear to be any neighborhoods or community units within the corridor which have a cohesive structure or display the type of characteristics represented by similarities, in design, style, age, ethnicity, race, culture, incomes, family composition, education, religion or usage.

A detailed Environmental Justice Overview was prepared, and is provided in Appendix (D).

Socioeconomics

The project area is rural in nature, predominantly farmland, with scattered residences located along KY 1159. The number and intensity of relocations is dependent on the alternate chosen, in addition to the design requirements of vertical and horizontal alignments. Relocation activities would be limited to the 50 residents and 3 businesses located along the east and west sides of KY 1159.

Bracken County High School, Concord United Methodist Church and Concord United Methodist Church Cemetery are all environmentally sensitive resources located within the project area. A slave cemetery associated with the Walcott Area is reportedly located at the southwest corner of KY 9 (AA Highway) and KY 1159. The majority of these resources are not anticipated to experience impacts. Their locations, however, are noted for use in determining improvement options and possible modifications to the roadway alignment.

Air Quality

Bracken County has been designated as an Attainment Area for all transportation-related pollutants as per 1990 Clean Air Act Amendments. As a result, KY 1159 improvement plans will not require transportation control measures, nor will they require adherence to the Conformity Guidelines issued by the U.S. Environmental Protection Agency and the U.S. Department of Transportation. The project is listed in the Kentucky Statewide Transportation Improvement Program (STIP) FY 2001-2006. With the location of the corridor being in an Attainment Area and with the relatively low traffic volume projections for the design year 2025, it is anticipated that a microscale analysis specified in Air Quality Guidance for Project Level Analysis will be required for this project.





Highway Noise

Given the rural context of the area, highway noise levels are not expected to be a major concern on this project. The majority of the adjacent land is undeveloped farmland.

Aquatic and Terrestrial Ecology

No perennial springs exist in the corridor, but several unnamed, intermittent headwater tributaries of Goose Creek and Locust Creek are in the project area and may be impacted. Twenty-two (22) National Wetland Inventory (NWI) sites were mapped within the study area. Twenty-one (21) were impounded or diked ponds that are part of farming operations, and the other one was palustrine, forested, broad-leaved, temporarily flooded wetland. No hydric soils were identified in the project area.

The project falls within the range of several federally-listed endangered and threatened species. The bald eagle has been reported in Bracken County. Suitable habitat for the Indiana bat is located near the northeastern end of the project corridor along Locust Creek. In addition, suitable habitat for Running Buffalo Clover occurs in at least two places within the project corridor. These sites must be further examined to determine any adverse impacts.

Cultural Historic Resources Evaluation

A Kentucky Heritage Council file search identified 13 properties located within the project corridor that had been previously documented. A windshield survey of the project corridor located 48 additional cultural historic properties, and one cemetery cited fifty years of age or older. Seven sites appear to be potentially significant and eligible for inclusion in the National Register of Historic Places. These include a magnificent oak tree and old rock fencing at the Concord Methodist United Church and cemetery, and the Bladeston School in Bladeston. A final determination of eligibility and National Register boundaries can not be determined until each site has been examined more closely and site-specific archival research has been completed. This process should be initiated soon if this project to advance to design phase.

Archaeological Resources Evaluation

One previously recorded archaeological site was located within the study area. Any unrecorded sites would most likely be prehistoric open habitation sites without mounds on historic farms or sites. Extensive development has occurred between Elizabeth Street, in Brooksville, and Franks Road. Bladeston has experienced less extensive residential and commercial development, but impacts may have occurred to archaeological and historical deposits. It is likely that intact historic and prehistoric deposits that will qualify for listing in the National Register are present outside the communities of Bladeston and Brooksville.

UST/Hazmat Considerations

Government records search and a preliminary screening/windshield survey were done to locate any sites or facilities that may harbor substances or underground storage tanks. The data confirms one former underground storage tank site within the project corridor. However, the potential impact of this site appears to be negligible. No other underground storage tank locations or above ground storage/heating oil tanks were encountered during the initial survey of





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the project corridor. In addition, no significant hazardous materials or underground storage tank issues are anticipated for this project regardless of the selected alternate.

A map highlighting key environmental features is shown in **Figure 4**.

2.6 Geotechnical Overview

The Kentucky Transportation Cabinet's Division of Materials prepared a Geotechnical Overview for the KY 1159 corridor. Their report, dated July 12, 2001, is included in Appendix (E). According to the report, the project area is located within the eastern portion of the Eden Shale Belt Subsection and is predominantly steep slopes and sinuous ridges separated by closely spaced narrow valleys. Limestone and shale underlie the majority of the soils within the project corridor. The dominant soil association is the Lowell-Faywood-Nicholson that is found on limestone and shale ridges and is composed of soils that are deep to moderately deep, well drained and have clayey sub-soils.

The east side of the corridor would be preferred for construction of an alternate due to lesser cut/fill volume requirements.

3.0 STUDY ALTERNATES/IMPROVEMENT OPTIONS

The following alternates have been developed to address the goals and objectives established through the study process.

3.1 Alternate One - Do Nothing/No Build

This alternative involves no action to improve the facility other than routine maintenance, such as resurfacing and restriping the roadway. It was presented to and discussed among the project stakeholders, and was rejected because it did not address the project goals.

3.2 Alternate Two - Operational Improvements

KY 1159 in the study area is dominated by sharp turns and rolling grades. This alternate looks at possible low-cost safety and improvement measures, some of which are maintenance-related activities.

One key observation along the road was the lack of posted speed limit signs. The lack of such signs makes the default speed limit 55 MPH. However, traversing most of the road at 40 MPH provides a much safer journey, particularly when used in conjunction with the advisory speed signs posted prior to a few of the curves. One initial recommendation would be to provide curve signs and accompanying advisory speed signs prior to each and every curve not meeting 55 MPH design standards. By driving the route multiple times and by using a ball bank indicator, as many as 20 curves or curve segments (for both the northbound and southbound travel lanes) either require installation of, or adjustment to, a curve advisory speed sign. The following subsections address suggested operational improvements at several locations along KY 1159.



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Fronks Lane (MP 0.765)

Heading north from Brooksville, Fronks Lane is the first intersection along the corridor and the only one with active commercial development. There are no intersection signs on either KY 1159 or Fronks Lane. There is no stop bar, and the only STOP sign is located on the south (left) side of the intersection. A yellow double arrow sign is not provided on KY 1159 across from this intersection. Stopping sight distance to the south is blocked by a portable restaurant sign and by a utility pole. It is strongly recommended that the restaurant sign be relocated.



Stopping sight distance to the north is blocked by trees and shrubbery. Both should be trimmed. KY 1159 widens slightly in this area to 21 feet. The shoulders throughout the corridor are provided with rumble strips. But, given that many of the shoulders are much less than a foot wide, the benefits are questionable. Across the road from Fronks Lane is an embankment that should be protected with a guardrail and/or delineators.

All of the accidents in this area appear to be related to the intersection or to parking maneuvers at the two commercial properties on either side of Fronks Lane as well as the turning movement just south of the intersection into the Dollar General Store. Some accidents were listed as occurring at Frank Ridge Road, but that intersection no longer exists.

Recommendation(s):

- Add intersection sign on KY 1159
- Add stop bar to Fronks Lane
- Add STOP sign on right side of Fronks Lane
- Add yellow double arrow sign across from Fronks Lane
- Relocate/remove restaurant sign
- Trim trees and shrubbery to north
- Add guardrail and delineators across from Fronks Lane
- Provide adequate curve advisory speed signs throughout area

Mini Farm Road (MP 1.05)

The next intersection is Mini Farm Road. There are no intersection signs on either KY 1159 or Mini Farm Road. Mini Farm Road is also lacking a STOP sign and stop bar. A yellow double arrow sign is not provided on KY 1159 across from this intersection. The crossroad has good sight distance to the south but poor sight distance to the north. Turn lanes would improve this intersection, but that is beyond the scope of this alternate. Cars approaching the



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intersection from the north do not have adequate stopping sight distance to react to vehicles waiting to turn left onto Mini Farm Road. Only two accidents have been reported in this area in the last four years, but both appeared to be the result of turning operations at the intersection.

Recommendation(s):

- Add intersection sign on KY 1159
- Add STOP sign and bar on Mini Farm Road
- Add double arrow sign across from Mini Farm Road
- Provide adequate curve advisory speed signs throughout area

Wagel Road Area (MP 1.511)

Wagel Road is the next intersection along the corridor. There is no stop bar, intersection sign or STOP AHEAD sign on Wagel Road. Intersection signs are not present on KY 1159. A yellow double arrow sign is not provided on KY 1159 across from this intersection. In this section of KY 1159, the road narrows to 20 feet in width with less than one-foot shoulders. Poor sight distance exists to the south from Wagel Road.



Some of the accidents in this area are attributable to the lack of access control near intersection and the poor stopping sight distance to the south. Several accidents have likely occurred from vehicles maneuvering from the parking area in front of the garage on the northeast corner of the intersection. However, this area has also experienced several accidents involving vehicles crossing the centerline. To improve this situation, improvements to the curves in this area must be made. These improvements would be beyond the scope of this alternate.

Recommendation(s):

- Add intersection sign on KY 1159
- Add STOP AHEAD sign on Wagel Road
- Add stop bar on Wagel Road
- Add double arrow sign across from Wagel Road
- Provide adequate curve advisory speed signs throughout area

Anderson Lane Area (MP1.75)

Anderson Lane is marked with a street sign, but is a gravel road and appears to be a private entrance. Therefore, it was not considered further in this analysis. The curve just past Anderson Lane is impacted by sight distance problems due to a tree on the east side of the road. This tree should be trimmed or removed.



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Recommendation(s):

- Trim or remove tree south of Anderson Lane

Badger Road Area (MP 1.821)

The next area is centered around the intersection of Badger Road and KY 1159. This intersection is not marked with any intersection signs on KY 1159. It is also poorly visible from KY 1159. KY 1159 is 21 feet wide in this area with shoulders less than one foot wide. Badger Road has no stop bar or any STOP sign. It is only 12.5 feet wide and has a narrow approach. Trees and the curve of the road limit sight distance to the north. A bush on the southwest corner of the intersection and a tree on the east side of the road block sight distance to the north. A yellow double arrow sign is not provided on KY 1159 across from this intersection. This area should be reviewed for a possible realignment of the roadway with turn lanes, although that is beyond the scope of operational improvements.



The types of accidents experienced in this area have been rather severe, including one head-on collision, several sideswipes, accidents with turning vehicles and vehicles running off the road. The types of improvements needed in this area are realignment of some curves and improved sight distance at the intersection, which are beyond the scope of this alternate.

Recommendation(s):

- Add intersection sign on KY 1159
- Provide STOP sign/bar on Badger Road
- Improve Badger approach to facilitate faster turning operations
- Remove/trim trees and shrubs to improve sight distance from Badger Road
- Add yellow double arrow sign across from Badger Road
- Provide adequate curve advisory speed signs throughout area

South of the Concord United Methodist Church (MP 2.22)

The section just south of the church is marked by a series of curves and hills. The first curve should be properly signed. The second curve is signed, but the sign is turned at an angle to the road and should be realigned. Overall, this area is experiencing a low accident rate in comparison with the rest of the corridor despite these problem areas. A set of intersection signs is present in this corridor for a road that does not exist. These signs should be removed.



KY 1159 Scoping Study: Brooksville to KY 9 (AA Highway)

Recommendation(s):

- Provide adequate curved advisory speed signs throughout area
- Remove intersection signs for road that does not exist
- Adjust curve sign to properly face drivers

South Bladeston Area (MP 2.68)

Just south of the KY 1011/Augusta-Berlin Road intersection is the Concord United Methodist Church and adjacent cemetery. This area has other commercial drives and several entrances to parking areas north of the church. This section of road is 22 feet wide with less than one foot wide shoulders. Directly across from the church, guardrail could lessen the severity of accidents in this area by reducing the number of vehicles running off into the embankment. Adjacent to the church and cemetery are an old white oak tree and a rock fence. Both have likely been the sites of accidents, but, given their historical significance and proximity to the road, cannot easily be considered for removal to provide safety improvements.



Recommendation(s):

- Provide guardrail across from the cemetery on KY 1159

Bladeston Area (MP 3.249)

The road next passes through the community of Bladeston. Approaching KY 1011/Augusta-Berlin Road, a reduced speed zone sign as well as double speed limit signs are posted. All four legs of the intersection are posted with STOP signs, although stop bars are not present. Intersection signs are not posted on KY 1159, although a route sign is posted. Neither an intersection sign nor a STOP AHEAD sign is posted on Augusta-Berlin Road. The STOP sign on KY 1011 is placed at an odd angle, making it less visible than desired, and there is poor sight distance to the south from both KY 1011 and Augusta-Berlin Road. The location would benefit from CONGESTED AREA signs.

Throughout this area, it is not possible to determine an accident trend. The congestion in the area, the parking maneuvers near the church as well as at the business establishments, and the stopping action at the intersection are all likely activities leading to accidents in this area. The approach from KY 1011 should be realigned with KY 1159, and the building on the southwest corner should be removed to improve sight distance.



KY 1159 Scoping Study: *Brooksville to KY 9 (AA Highway)*

and allow for improved bus turning operations. This realignment, however, is beyond the scope of the operational improvements.

Recommendation(s):

- Add CONGESTED AREA signs on KY 1159
- Add stop bars to all approaches
- Post intersection sign on KY 1159
- Post STOP AHEAD sign on Augusta-Berlin as well as a route sign
- Realign STOP sign on KY 1011
- Post STOP AHEAD signs on KY 1159

Old KY 1159/Swan Song Lane area (MP 3.58)

Old KY 1159 has poor sight distance in both directions. There also exists a tight turning radius to the north. It does not have a STOP sign or stop bar. It appears to serve only one residence.

Swan Song Lane has poor sight distance to the south and has no STOP sign or stop bar. It appears to serve only two residences



Recommendation(s):

- Add STOP sign on both streets
- Provide curve advisory speed signs throughout area

Swan Song Lane to KY 9

The first section of road from KY 9 to the top of the hill is a relatively new section of road. The lanes are 12 feet wide, with three-foot shoulders. The section is well marked and signed. It also has guardrail and rumble strips on the shoulders. Typical of the region, no steep grade warning signs are posted. The section is signed at 55 MPH. At the southern portion of this section are two roads, Swan Song Lane and Old KY 1159. Neither of these intersections is noted on KY 1159 by T (intersection) symbol signs. No accidents have been reported in the past four years in this area. Local officials and stakeholders have expressed a desire for additional lanes on KY 1159 in this area to assist with driving operations and minimize potential accidents during wet or icy weather conditions. This lane addition is, however, beyond the scope of the operational improvements.



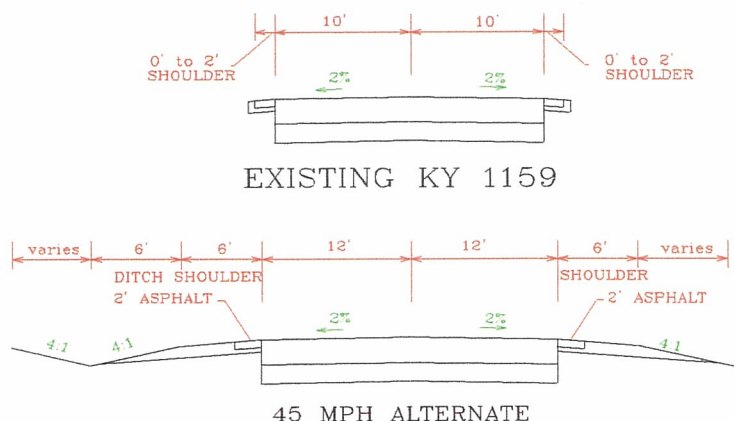
Recommendation(s):

- Post double intersection sign on KY 1159 prior to Swan Song Lane/Old KY 1159

All recommended Operational Improvements are shown on **Figure 5**.

3.3 Alternate Three - Rebuild KY 1159 at 45 MPH (passes through Bladeston)

In 1989, the Transportation Cabinet retained the services of H.E. Rudy to develop preliminary design plans for KY 1159. Those plans were used as a basis for starting the alternatives development for this scoping study. This first step in the alternatives development was to modify the older plans with horizontal and vertical curvature for a 45 MPH corridor, and to provide improved grades at intersections. In the first section from Fronks Lane to south of Bladeston, the alternate rebuilds the facility along or near its existing alignment. The new cross section includes 12-foot lanes, 6-foot shoulders, improved drainage and improved pavement markings.



The subject alternate begins at Fronks Lane and follows existing KY 1159 through the town of Bladeston, approximately 2.38 miles in total length. Through the town of Bladeston, the proposed cross section would include curbs and gutters to minimize impacts on historical properties and reduce relocations. Additionally, the alternate calls for the realignment of KY 1011 as it intersects KY 1159 in Bladeston. Intersection sight distance and turning operations are severely impaired by roadway geometry and by the building located on the southwest corner of the intersection. Relocation impacts are likely, up to eight (8) homes and seven (7) barns could be removed. Utility relocations, including major gas transmission lines, will be required. Several sites with potential historical and archaeological features have been identified that could be impacted as a result of this alternate. These include the Concord United Methodist Church and Cemetery and areas on the northern edge of Bladeston that may contain historic sites. Several wetlands have been identified that could be impacted with this alternate. This Alternate is shown in **Figure 6**.



3.4 Alternate Four - Rebuild KY 1159 at 45 MPH (with a bypass connector west of Bladeston)

In this alternate, sections south and north of the Bladeston community remain the same. However, the alignment approaching Bladeston follows a corridor located west of the town to avoid Concord United Methodist Church and Cemetery. The typical section remains the same throughout the length of the alternate. Relocation impacts are likely, up to eight (8) homes and seven (7) barns would be removed. Running Buffalo Clover could also be encountered with this alternate. Utility relocations, including major gas transmission lines, will be necessary. Major cut and fill slopes will be required due to the topography along the corridor. This Alternate is shown in **Figure 6**.

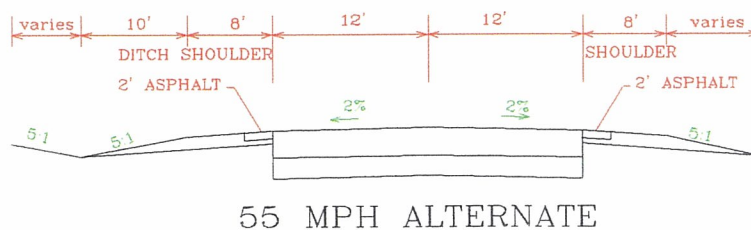
3.5 Alternative Five - Rebuild KY 1159 at 45 MPH (with a bypass connector east of Bladeston)

In this alternate, sections south and north of Bladeston remain the same as in Alternate Four. The alignment approaching Bladeston follows a corridor located east of Bladeston to avoid the church and cemetery. The typical section remains constant throughout the corridor. The eastern connector offers more favorable topography than that on the western connector, thus, reducing the geotechnical impacts. This Alternate is also shown in **Figure 6**.

3.6 Alternates Six, Seven and Eight - Rebuild KY 1159 at 55 MPH

Discussions with local officials, stakeholders and the public revealed that many motorists on KY 1159 are driving the road at 55 MPH, despite the substandard curvature, narrow lanes, and sight distance restrictions. For this reason, the three alternates explained above in sections **3.3**, **3.4**, and **3.5** were also developed according to 55 MPH standards.

Alternates Six, Seven, and Eight are identical in scope and intent, respectively, to Alternates Three, Four and Five discussed earlier, with only a few exceptions. They all have slightly higher design standards for 55 MPH. As a result, geotechnical impacts are expanded, affecting additional areas that may contain archeological and historic sites. In addition, relocation impacts are slightly higher, which may require up to ten homes and nine barns to be relocated. The proposed cross section for the 55 MPH alternate is shown below. **Figure 7** shows Alternates Six, Seven and Eight.



The table on the following page shows a comparison of the alternates.



KY 1159 Scoping Study: Brooksville to KY 9 (AA Highway)

	Alternates							
	1	2	3	4	5	6	7	8
Length (miles)	3.42	3.42	2.38	2.98	2.81	2.41	3.43	3.51
Description	Do Nothing/ No Build	Operational Improvements	Rebuild KY 1159 at 45 MPH (passes through Bladeston)	Rebuild KY 1159 at 45 MPH (with a bypass connector west of Bladeston)	Rebuild KY 1159 at 45 MPH (with a bypass connector east of Bladeston)	Rebuild KY 1159 at 55 MPH (passes through Bladeston)	Rebuild KY 1159 at 55 MPH (with a bypass connector west of Bladeston)	Rebuild KY 1159 at 55 MPH (with a bypass connector east of Bladeston)
Potential Relocation Impacts	None	None	Up to 8 homes and 7 barns	Up to 8 homes and 7 barns	Up to 8 homes and 7 barns	Up to 10 homes and 9 barns	Up to 10 homes and 9 barns	Up to 10 homes and 9 barns
Potential Geotechnical Impacts	None	None	Minimal with 2:1 cut slopes and 3:1 fill slopes	Major cut and fill quantities anticipated to meet 2:1 cut slopes and 3:1 fill slopes	Major cut and fill quantities anticipated to meet 2:1 cut slopes and 3:1 fill slopes but preferable over western alignment.	Minimal with 2:1 cut slopes and 3:1 fill slopes	Major cut and fill quantities anticipated to meet 2:1 cut slopes and 3:1 fill slopes	Major cut and fill quantities anticipated to meet 2:1 cut slopes and 3:1 fill slopes but preferable over western alignment.
Potential Environmental Impacts	None	None	Impacts potential archeological sites, wetlands and Columbia Gas Transmission Station	Impacts potential archeological sites, potential cultural-historic site, wetlands and Columbia Gas Transmission Station	Impacts potential archeological sites, wetlands and Columbia Gas Transmission Station	Impacts potential archeological sites, wetlands and Columbia Gas Transmission Station. Stronger potential impacts on archeological sites than Alt. 3.	Impacts potential archeological sites, potential cultural-historic site, wetlands and Columbia Gas Transmission Station. Stronger potential impacts on archeological sites than Alt. 4.	Impacts potential archeological sites, wetlands and Columbia Gas Transmission Station. Stronger potential impacts on archeological sites than Alt. 5.
Future Level of Service By Segment(*)								
Segment 1	E	E	D	D	D	D	D	D
Segment 2	D	D	C	C	C	C	C	C
Segment 3	D	D	C	C	C	C	C	C
Conceptual Cost Estimate	\$0	\$30,000	\$17,891,000	\$22,000,000	\$20,847,000	\$18,082,000	\$22,199,000	\$22,721,000
Relation to Project Goals	Meets None	May reduce accidents	Meets all, but at a lower design standard than Alt. 6.	Meets all, but at a lower design standard than Alt. 7.	Meets all, but at a lower design standard than Alt. 8.	Meets all	Meets all	Meets all

(*) See Figure 3.



4.0 Recommendations

The above alternates were presented to the project stakeholders through the public involvement process. A public meeting was held on August 2, 2001, at the Bracken County High School concerning study alternates for the possible improvements to KY 1159. A summary of the public meeting notes is included in Appendix (B). Both local officials and residents expressed their preference to improve KY 1159 pursuant to the goals established for this project. They also indicated the importance of community assets, and suggested that the Concord United Methodist Church and Cemetery not be disturbed.

It was decided at the Project Team Meeting that some of the operational improvements should be implemented as short-term measures. The majority of the recommendations are relatively low-cost, safety and improvement measures and can be implemented through existing maintenance-related activities.

Alternate 8 was recommended by the Project Team as the preferred alternate meeting all project goals. It offers an enhanced facility with minimum impact on historic, cultural, and environmental resources. The alternate through Bladestone was excluded from further consideration as it would have impacts on historical properties. Finally, the eastern bypass connector was chosen because it offered more favorable topography than the western connector.

The recommended alternate involves rebuilding KY 1159 to accommodate probable operating speeds of 55 MPH, and constructing an eastern connector to bypass Bladeston. This alternate includes adding a truck lane up the hill at KY 9. The acquisition of property and the number of relocations required are similar to other alternates, and may require purchase of as many as ten (10) homes and nine (9) barns. This alternate will be consistent with the segment of KY 1159 approaching KY 9 (AA Highway) that was recently reconstructed, as well as with the project currently under construction north of Brooksville.

Due to the need that has been determined through the course of this study, it is recommended that the subject alternate be constructed in its entirety as soon as practicable. However, funding availability may necessitate this project be done in various priority sections. Based on discussions with the Transportation Cabinet, the priority sections are as follows:

Section 1: From Milepost 0.700 (0.065 miles south of Fronks Lane) to Milepost 2.269 (0.448 miles north of Badger Road)

Section 2: From Milepost 2.269 (0.448 miles north of Badger Road) to Milepost 3.773 (0.415 miles south of KY 9/AA Highway)

Section 3: From Milepost 3.773 (0.415 miles south of KY 9/AA Highway) to Milepost 4.188 (KY 9/AA Highway)

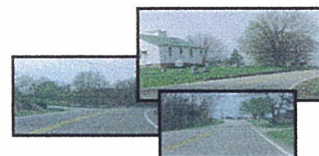


KY 1159 Scoping Study: Brooksville to KY 9 (AA Highway)

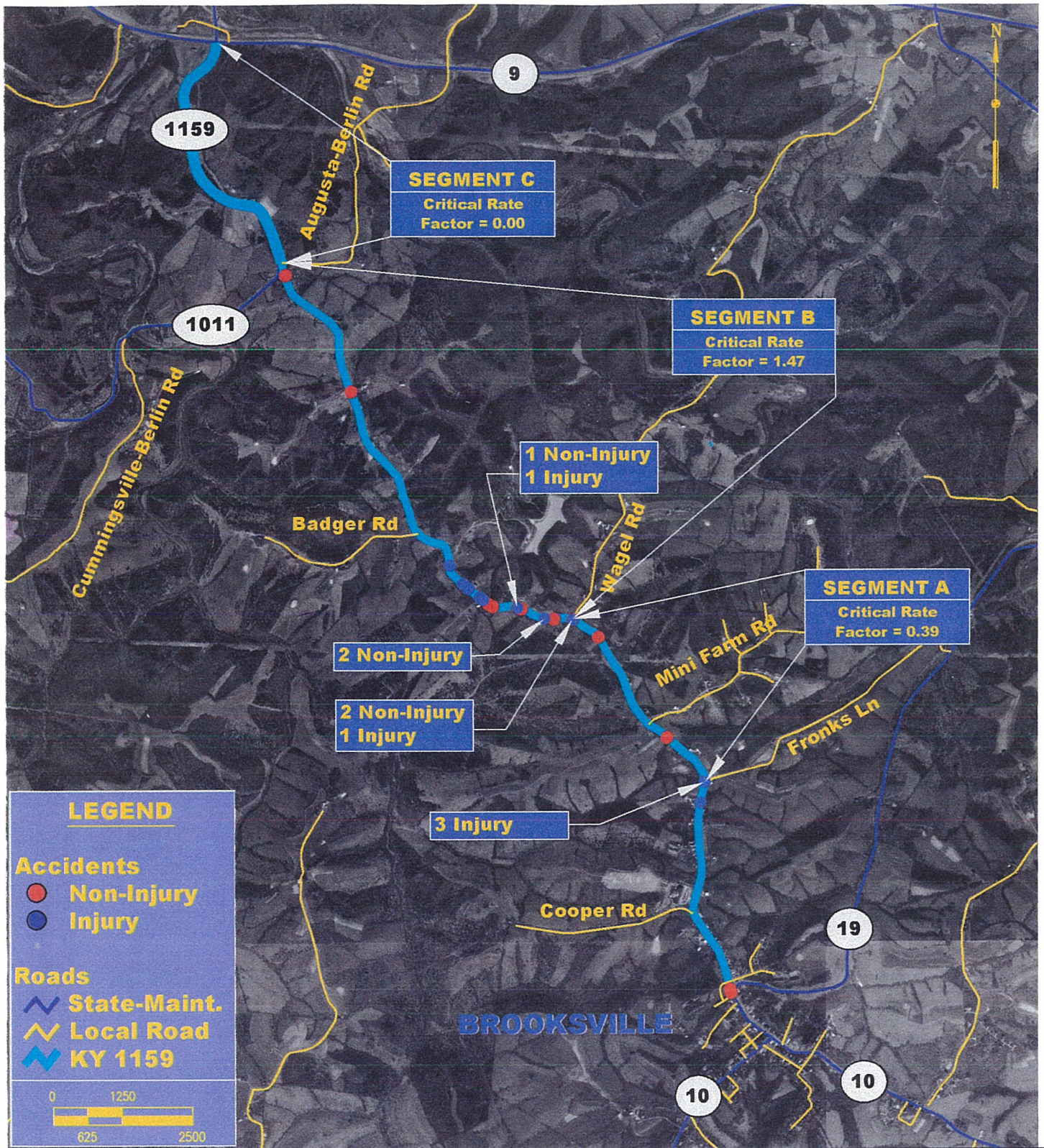
The estimated cost for the recommended alternate with division into priority sections and phases is as follows:

Priority Section of Road	Length in Feet	Length in Miles	Construction	Right of Way	Utilities	Phase I Design & Environmental	Phase II Design	Total
1	10,026.25	1.90	\$11,395,000	\$951,000	\$238,000	\$202,000	\$303,000	\$13,089,000
2	6263.32	1.19	\$7,118,000	\$594,000	\$149,000	\$126,000	\$189,000	\$8,176,000
3	2227.28	0.42	\$1,266,000	\$106,000	\$27,000	\$23,000	\$34,000	\$1,456,000
Total	18516.85	3.51	\$19,779,000	\$1,651,000	\$414,000	\$351,000	\$526,000	\$22,721,000

The current Six-Year Highway Plan does not include funding for any phase beyond this study. Additional funding would need to be identified in the Six-Year Plan for right-of-way, utilities, construction and design phase costs for the recommended alternate. State funds have already been allocated to accomplish many of the Operational Improvements recommended in this study.



APPENDIX (A) – FIGURES



Accident Locations

KY 1159
Brooksville to KY 9

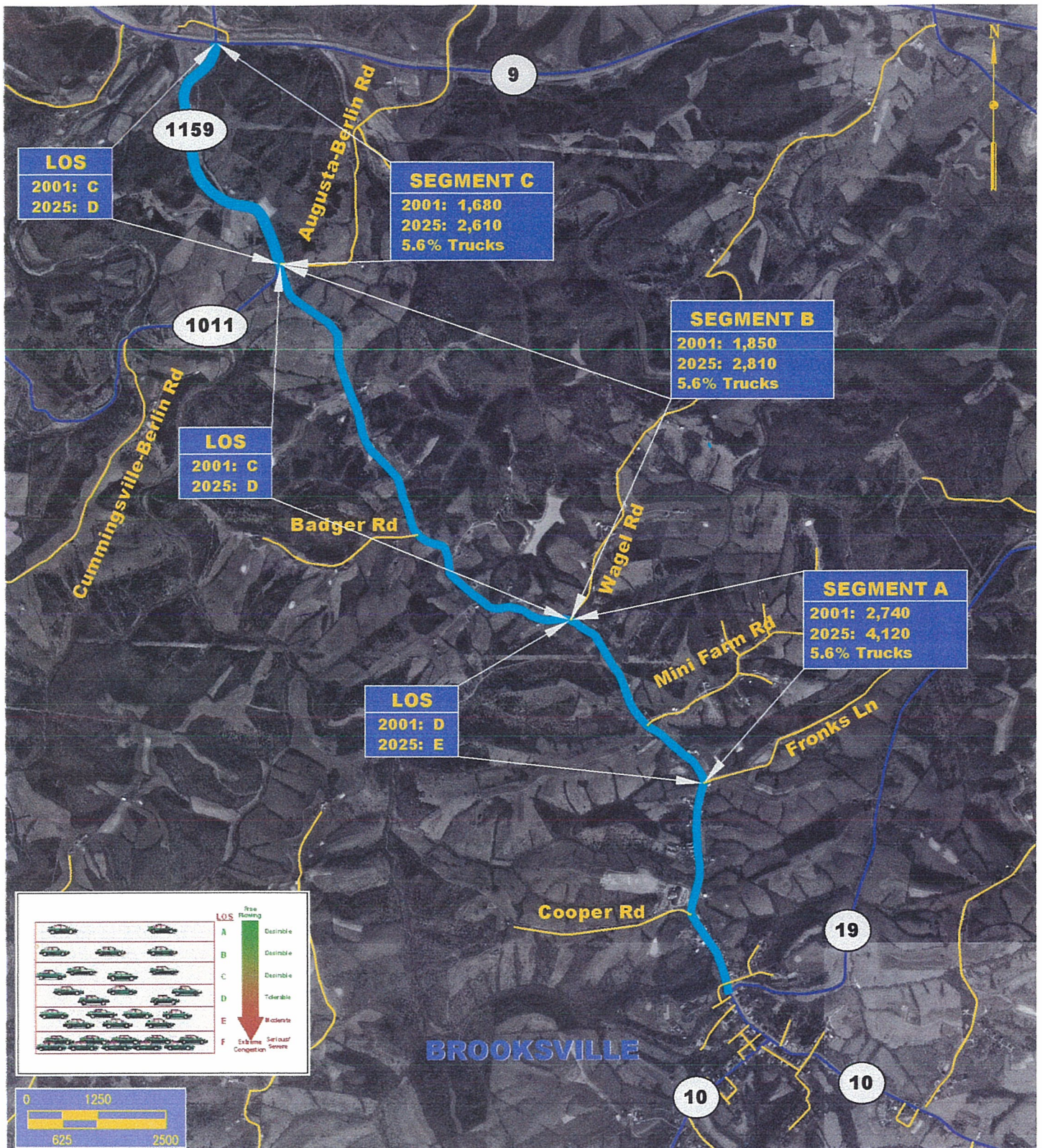
Bracken County
Item No. 6-154.00



FIGURE 2



HNTB



Traffic Volume & Level of Service, (LOS)

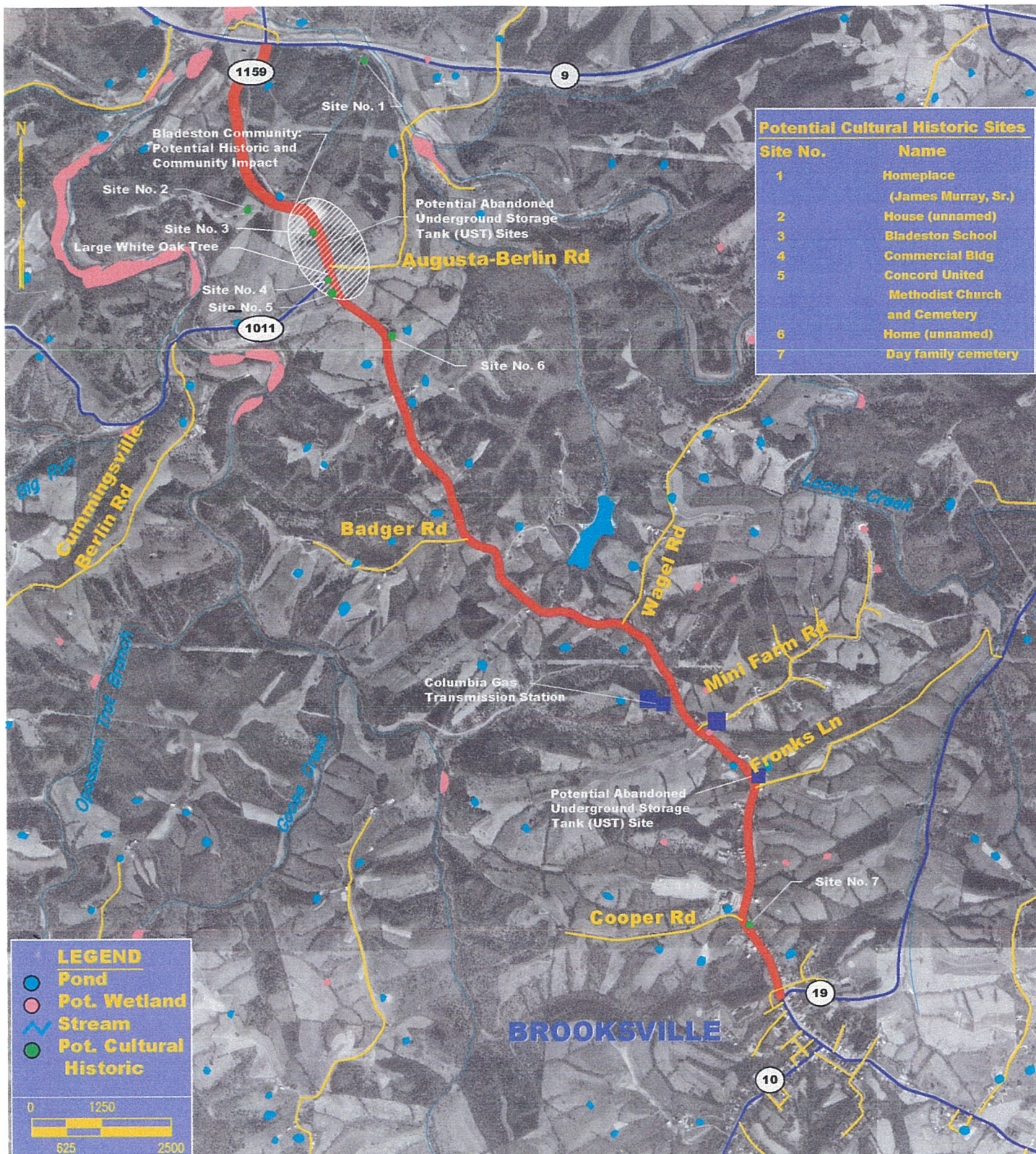
KY 1159
Brooksville to KY 9
Bracken County
Item No. 6-154.00



HNTB



FIGURE 3



Environmental Overview

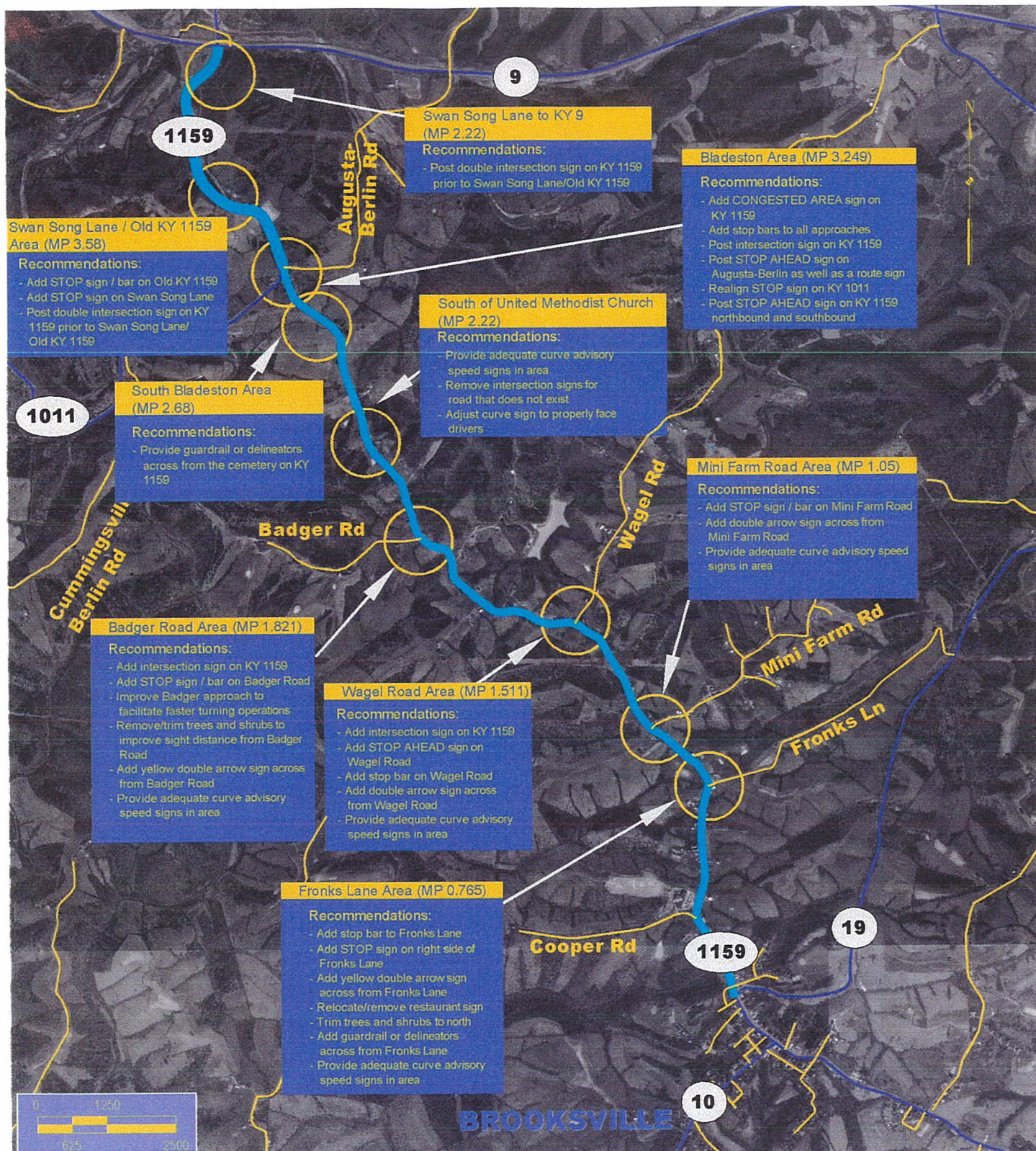
KY 1159
 Brooksville to KY 9
 Bracken County
 Item No. 6-154.00



HNTB



FIGURE 4



Operational Improvements

**KY 1159
 Brooksville to KY 9**

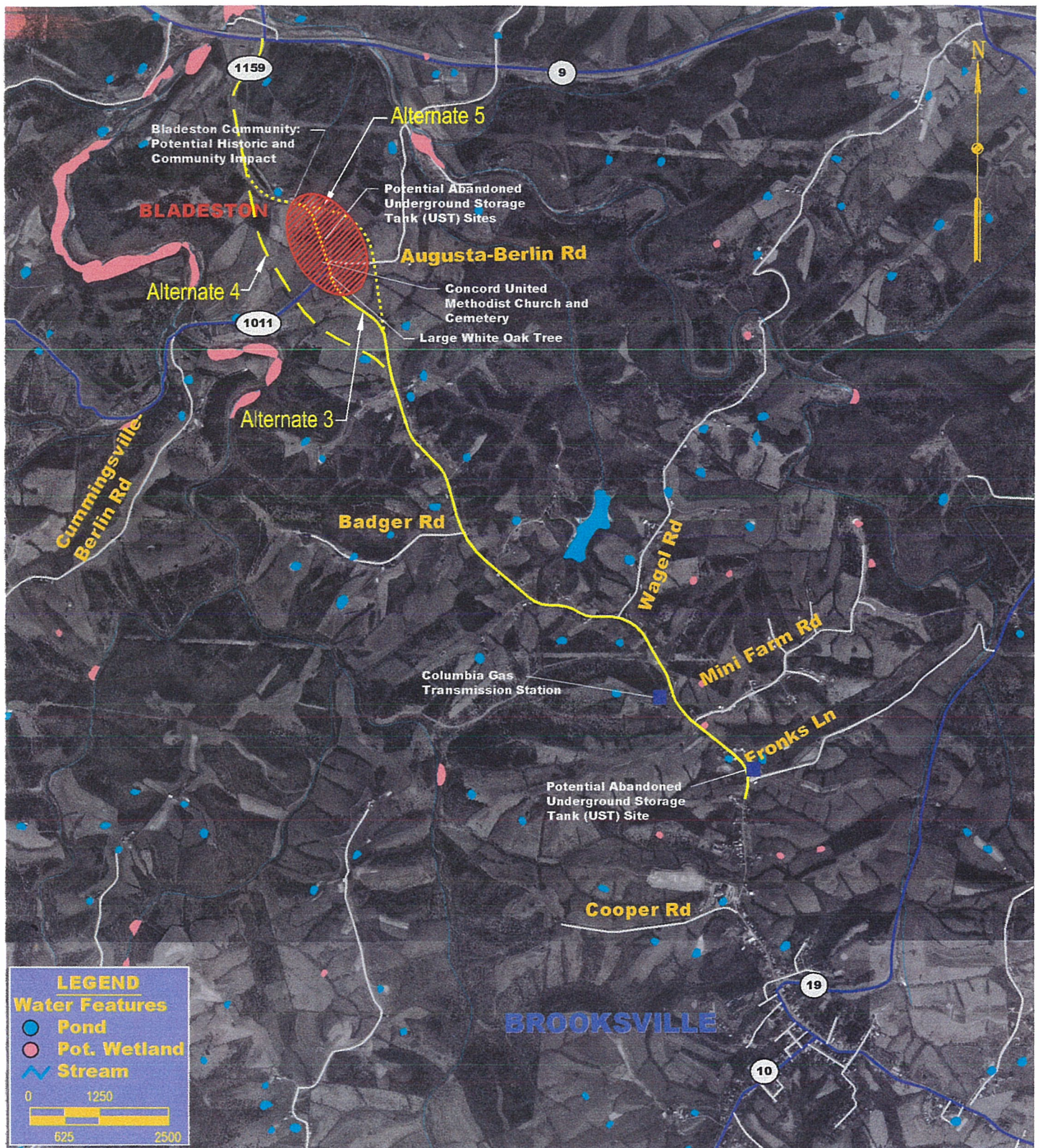
**Bracken County
 Item No. 6-154.00**



HNTB



FIGURE 5



Alternates 3, 4 and 5

(45 MPH)

KY 1159

Brooksville to KY 9

Bracken County

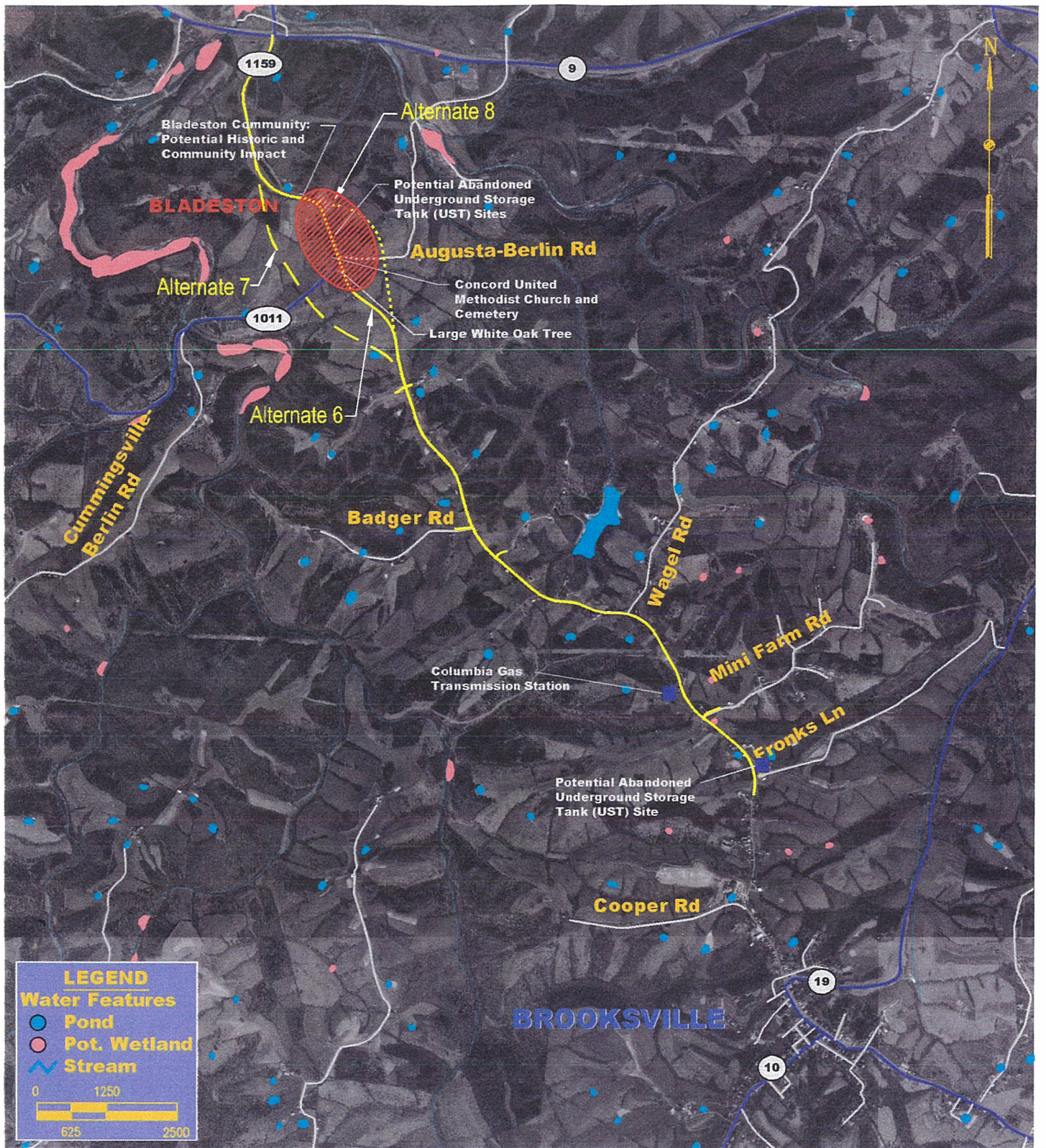
Item No. 6-154.00



HNTB



FIGURE 6



Alternates 6, 7 and 8

(55 MPH)

KY 1159

Brooksville to KY 9

Bracken County

Item No. 6-154.00

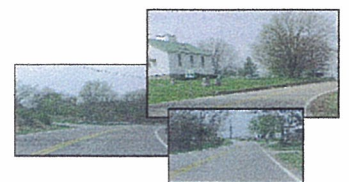


FIGURE 7



HNTB

APPENDIX (B) – PROJECT MEETING MINUTES

STATEWIDE CORRIDOR PLANNING SERVICES
KY 1159 TEAM MEETING #1 MINUTES

TO: Annette Coffey, P.E.
Director
KYTC Division of Planning

FROM: Larry D. Chaney, P.E., L.S.
Transportation Department Manager
HNTB-Louisville

DATE: April 17, 2001

SUBJECT: Statewide Corridor Planning

A meeting was held April 16, 2001 in the District 6 Conference Room to discuss the scope and schedule for the KY 1159 project. Those in attendance were:

Jim Wilson	Division of Planning
Robert Woodrum	Division of Planning
Bruce Siria	Division of Planning
Bob Yeager	District 6 Planning
Bob Hill	District 6 Planning
Amy Kennedy	Buffalo Trace ADD
Earl Wright	Division of Materials/Geotechnical Branch
Richard Wilson	Division of Materials/Geotechnical Branch
Bill Reis	District 6 Maintenance
Mike Bezold	District 6 Design
Bill Madden	District 6 Traffic
Doug Lambert	Palmer Engineering - Environmental
Larry Chaney	HNTB Corporation
Karen Mohammadi	HNTB Corporation

1) Introductions and 2) Project Overview

Jim Wilson began the meeting by giving a brief description of the project and explaining that the scoping study would be similar to an Intermediate Planning Study. After introductions, Larry Chaney proceeded to go over the agenda and project maps. (See attached.)

Most of the data for the project has either been collected or has been requested. Using the preliminary information it is apparent that the accident rates along the corridor are high for this facility type and low volumes. The current level of service of the road is a C. The group was questioned as to whether additional data, reports or development plans were available for this project area. Any information should be sent to Bob Woodrum. The environmental justice information needs to be identified early in the project in order to get representatives from those groups to the meetings. The group was unaware of any such groups in the area. Palmer will be responsible for collecting the environmental justice data.

The main issues and benefits of this project will likely center around geometrics, safety and connectivity. This will be further refined with the local officials and stakeholders meetings.

3) Preliminary Alternatives

The types of improvements will be HES spot improvements as well as looking at the HE Rudy alignment. Mike Bezold explained briefly that HE Rudy was asked to prepare spot improvements for the corridor in the late 1980's. It was quickly realized that the "spots" would actually need to be long lengths of roadway.

Some discussion was held regarding the posted speed limits and the accident rates. The Cabinet has not received any requests to reduce the speed limit in the corridor. It was agreed that reducing the speed limit would not reduce driving speeds significantly.

The group did not feel that the corridor warranted a system upgrade. For spot improvements HNTB should use design criteria for a 45-mph rural collector. For the reconstruction of the full route HNTB should assume design criteria for a 55-mph rural collector.

The geotechnical overview will consist of paper research followed by a day of field research. HNTB should provide the Division of Planning with the project limits so they may pass them on to the geotechnical branch. Richard Wilson explained to the group that the existing road is already at the most feasible location since it runs atop the ridge. He strongly discouraged any alternatives that move the alignment off of the ridge due to the concerns with cut and fill and the high costs of those alternatives.

The environmental overview will look at a 2000' corridor along the existing alignment. It was noted that older homes and the Concord Church at KY 1011 might be historical properties. The overview will not identify community impacts but only community issues. The HE Rudy alignment will be reconsidered in light of the environmental overview.

The local officials meeting has been set for April 30th at 10:00 AM at the Bracken County Library. The Mayor and County Judge Executive have accepted and Amy Kennedy is waiting to hear whether the representative and senator are available. At 11:00 at the same location the Stakeholders meeting will be held. Ms. Kennedy has built the stakeholders group from the I-74 Bracken County Committee. Additional stakeholders to be invited include the Chamber of Commerce, the School Board, emergency responders and builders/neighborhood association representatives from the new subdivisions. The local and regional newspapers have been invited to the stakeholders meeting as well. A date for the public meeting will be set after the stakeholders meeting. The most probable location will be the high school.

Bob Yeager should be copied on all meeting minutes and he will distribute as appropriate to District 6 staff.

The next team meeting will occur within a month of the public meeting.

STATEWIDE CORRIDOR PLANNING SERVICES
LOCAL OFFICIALS MEETING #1

TO: Annette Coffey, P.E.
Director
KYTC Division of Planning

FROM: Karen L. Mohammadi, P.E., AICP
Transportation Project Manager
HNTB-Louisville

DATE: May 9, 2001

SUBJECT: Statewide Corridor Planning
Item No. 6-0154.00
KY 1159

A meeting with local elected officials was held April 30, 2001 at 10:00 a.m. in the Conference Room of the Bracken County Library to discuss the KY 1159 Scoping Study. Those in attendance were:

Ed Miller	State Senator
Mike Denham	State Representative
Dwayne "Pie" Jett	Bracken County Judge/Executive
John Corlis	Mayor of Brooksville
Steve Miller	Buffalo Trace ADD
Amy Kennedy	Buffalo Trace ADD
Jim Wilson	KYTC Division of Planning
Robert Woodrum	KYTC Division of Planning
Larry Chaney	HNTB Corporation
Karen Mohammadi	HNTB Corporation

Jim Wilson began the meeting with introductions. Robert Woodrum explained that only the study was funded, and that the study will be looking at improvements for which funding may be programmed in the next Six-Year Highway Plan. The current Unscheduled Needs List indicates an estimate of \$12 million for a complete reconstruction of KY 1159.

Questions came up regarding the project on KY 1159 currently under construction. There were concerns over placement of sidewalks and turning lanes, and it was suggested that the officials should direct those concerns to District 6 Staff.

Larry Chaney then began discussion of the agenda and the handouts. He indicated that HNTB is currently in the data collection phase of the project, and that this meeting was an integral part of that process. He stated that the study would begin by looking at the existing alignment to determine deficiencies and possible improvement alternatives. Spot improvements may be initial considerations in addressing conflicts relating to accidents, widening for sight distance, and adding turning lanes.

From a traffic standpoint, even the 2025 projections are low and no requirements for additional capacity is expected. From an environmental standpoint, the environmental investigation will focus on things to avoid. The impact the improvements may have on the resources identified will be determined, and if necessary, avoidance alternatives and/or mitigation will be examined.

The elected officials were asked to provide their individual perspectives concerning the project, as well as any feedback they may have gotten from their constituents. Mr. Wilson then asked if there were any other goals that should be added to the list presented in the handout. The officials did not feel that any additional goals were needed.

Mr. Woodrum asked if KY 19 and KY 1159 were included in the Six-Year Plan with the goal of giving Brooksville better access to the A-A Highway. Judge/Executive Jett said they were, but that pressure from Augusta resulted in KY 19 being built first.

Mr. Woodrum asked the officials for their assessment on whether most people are headed east or west from KY 1159 when they reach KY 9. Both Judge/Executive Jett and Mayor Corlis estimated that approximately 200 citizens of Brooksville work in the Cincinnati area, and that about 200 people are employed by the Limestone Mining Company on KY 8. Therefore, relatively heavy traffic occurs between 5:30 a.m. and 6:00 a.m. on KY 1159A similar heavy flow of traffic occurs in the evening hours. Three years ago, according to Judge/Executive Jett, KY 1159 was the heaviest travelled local route in Bracken County. Recently, many people have moved to the area from Northern Kentucky, and he feels that it is travelled even more today.

Mr. Woodrum asked whether emergency personnel have reported any problems along the route. The group stated that the majority of the ambulance runs go to hospitals in Northern Kentucky, and only a few to Maysville.

Representative Denham asked if the Cabinet was looking at building either KY 19 or KY 1159. Mr. Woodrum replied that they were not. The Division of Planning staff felt that KY 19 was a priority simply because it was programmed first, and subsequently went to construction contract first. They also thought that the traffic split between KY 19 and KY 1159 was relatively equal, although KY 19 will be classified as a higher level facility. Steve Miller stated that former Representative Pete Worthington was pushing KY 19 attempting the focus the flow back into the Maysville region. .

Senator Miller expressed some concerns over the intersection with KY 9 and KY 19. He feels that KY 1159 is more important to the area than KY 19, and that what needed to be fixed on KY 19 had already been completed.

Representative Denham also strongly supported rebuilding KY 1159. He sees it as an economic corridor, and has recently been contacted by the Tourism Cabinet about it. Many people are moving to the Brooksville area, and the Walcott Bridge will soon be a new tourist attraction. The quadrant that contains KY 1159 is the fastest growing area in the County. Mr. Miller added that KY 1159 would also help provide a better link for people in Robertson County to the AA Highway.

Mr. Wilson then asked if the group was aware of any environmental data that was not shown on the map provided in the handout. The group noted that the Bladeston Cemetery was missing from the map. Mayor Corlis added that the Columbus Gas Station is very close to road, and will likely be impacted by any widening. Mr. Woodrum informed the group that the KYTC Geotechnical Branch indicated that it would be preferable that any improvements be made close to the existing alignment.

Mr. Woodrum then asked if there were any new developments planned for the area. The group explained that the new Industrial Park is east of KY 19, and that people travelling to Maysville do so via KY 10. Jim asked if there were any environmental justice concerns or any minority or low-income groups in the area. The officials said that they were not aware of any such groups.

Judge/Executive Jett supports total reconstruction and is wary of the politics that often surfaces with spot improvements. Mr. Woodrum explained that another concern with spot improvements comes from a false sense of security, and driver confusion, due to the lack of road continuity.

STATEWIDE CORRIDOR PLANNING SERVICES
STAKEHOLDERS MEETING #1

TO: Annette Coffey, P.E.
Director
KYTC Division of Planning

FROM: Karen L. Mohammadi, P.E., AICP
Transportation Project Manager
HNTB-Louisville

DATE: May 9, 2001

SUBJECT: Statewide Corridor Planning
Item No. 6-0154.00
KY 1159

A meeting with project stakeholders was held April 30, 2001 at 11:00 a.m. in the Conference Room of the Bracken County Library to discuss the KY 1159 Scoping Study. Those in attendance were:

Ed Miller	State Senator
Dwayne "Pie" Jett	Bracken County Judge/Executive
John Corlis	Mayor of Brooksville
Amy Kennedy	Buffalo Trace ADD
David Appleman	Industrial Authority Board
Greg Mains	Industrial Authority Board
Robert Woodrum	KYTC Division of Planning
Jim Wilson	KYTC Division of Planning
Bob Hill	KYTC District 6 Planning
Bob Yeager	KYTC District 6 Planning
Karen Mohammadi	HNTB Corporation
Larry Chaney	HNTB Corporation

Jim Wilson began the meeting with introductions, and then discussed funding available for the study. He explained that a meeting with local elected officials had been held earlier, and that the Cabinet wanted to get other community leaders involved in the process to discuss project goals and issues. HNTB will examine a range of alternatives, beginning with relatively low-investment spot improvements and extending to a possible reconstruction of the entire route. The study of KY 1159 will be completed by the end this year, and any future phases of the project must be identified in the next Six-Year Highway Plan for the project to move forward. Mr. Wilson then asked Bob Yeager to discuss the limits of the project currently under construction.

The handouts were distributed, and the data thus far examined by HNTB was explained to the attendees. The group was asked for input on commuting patterns, development along the corridor, and other things that might be critical in the development of alternatives. They were encouraged to voice their comments at the meeting or to provide them later by way of the survey forms, adding sheets if needed.

Mr. Wilson then reviewed the project goals. These included the need to improve geometrics, to increase safety, to provide a better connection to the AA Highway, and to determine economic feasibility of corridor improvements. He noted that an earlier meeting with local officials revealed that KY 1159 is of great importance to commuters bound for Cincinnati, as well as to emergency services.

Robert Woodrum asked about how the property owners might view this project. Greg Mains said it would be typical. They want a new road, but do not want to lose property and do not want to deal with the construction. Mr. Woodrum then asked if the group was aware of any particular problems at intersections or other areas. Mr. Mains stated that sight distance at Mini Farms Road is poor. David Appleman asked whether the existing hill on KY 1159 coming off the AA Highway would remain as currently configured, and was told it would not likely change.

The group was asked about a decorated cross found next to the roadway. A fatal accident occurred there in 1999, after several vehicles were forced off the road by the victim. It seemed to be unanimous that the fatality was not related to roadway geometry.

Mr. Wilson informed the group that HNTB will be looking at community impacts, as well as impacts to the natural environment, as part of the environmental overview process. He asked what other items they felt should be added to the map provided in the handout. The group responded that there are storage tanks located across the road from the church in Bladeston, and possibly at two other locations near that intersection. There are no historical homes, wetlands or unnamed cemeteries currently identified in the corridor. There is a rock wall along the roadway in front of the church in Bladeston.

Mr. Woodrum then asked how they felt the Cabinet could advertise the public meeting to maximize participation. The group informed him that the Bracken County News is delivered to almost every household. In addition to the standard meeting notice, an article describing the project should be placed in the paper as well. Additionally, flyers announcing the meeting could be placed at the Library, the Courthouse, and other community buildings. Mr. Woodrum added that it is very desirable to get participation not just from those who live along the route, but also from other users as well. It was agreed that the public meeting should be held from 6 p.m. to 9 p.m., and that the meeting could take place in late May or early June.

Karen Mohammadi questioned the group as to the age of the high school. The school was built in 1997, most likely after the latest traffic counts were made on KY 1159. This means that the traffic volume data available in the KYTC database may greatly under-estimate the current conditions. The Cabinet was asked if new counts could be taken before the end of the school year.

Mr. Wilson asked about any disproportionate impacts this project may have on minorities, low-income, or elderly groups. Amy Kennedy answered that the census tract data do not indicate the presence of these groups in the project area.

STATEWIDE CORRIDOR PLANNING SERVICES
PUBLIC MEETING #1

TO: Annette Coffey, P.E.
Director
KYTC Division of Planning

FROM: Larry D. Chaney, P.E.
Director of Transportation
HNTB-Louisville

DATE: June 11, 2001

SUBJECT: Statewide Corridor Planning
Item No. 6-0154.00
KY 1159

The first public meeting was held Tuesday, June 5, at the Bracken County High School concerning a study of possible improvements to KY 1159. A list of those in attendance is attached.

The purpose of the meeting was to let the community know about the project; to identify and address community concerns and issues; to identify sensitive areas that should be considered; and to create a project that would benefit the community and gain its support.

The meeting began at 6:00 p.m., and included a presentation at 6:15 p.m. by Jim Wilson and Larry Chaney. The presentation began with a discussion of the road building process. Mr. Chaney explained that the Cabinet has identified over \$50 billion dollars worth of projects on their unscheduled needs list. With an anticipated annual budget of approximately \$800 million, it is evident that many projects must wait a number of years to be implemented. Funding has been identified in the State's current Six Year Highway Plan to conduct the study of KY 1159 to determine costs and priority sections for possible improvements from the area currently under construction in Brooksville to the AA Highway.

Mr. Wilson explained that specific improvements have not yet been identified, and that there is currently no other funding earmarked for the project beyond the study phase. The schedule for completing a major reconstruction project, when funding is available for all phases of that project, is an average of approximately 10 years - from the planning stage until construction is complete. Smaller scale projects are generally finished in a shorter timeframe, and conversely, more complicated projects often take longer to complete.

Preliminary goals for the KY 1159 study include: 1) Improving the horizontal (curves) and vertical (grades) alignment, 2) Reducing the number of accidents along the route through safety improvements, and 3) Improving connectivity from Brooksville to the AA Highway.

Safety is one of the primary issues to be addressed with this study, given that the accident rate for this section of KY 1159 is approximately twice what should be expected on a road of this type. Many of the accidents involve vehicles leaving the road and striking fixed objects, such as utility

poles and trees. Traffic is increasing as the area grows, and that accident rate may worsen as the traffic volume increases.

Mr. Chaney pointed out that a completely new alignment for the existing road could prove difficult and costly, given that the existing road is built primarily along a ridge. Complete reconstruction could require substantial amounts of fill and the acquisition of much property. Areas in Bladeston that are either historic or sensitive in nature may restrict options for improvements to the existing road in that area.

Following the presentation, attendees were directed to an open exhibit area, where maps of the project area and potential environmental issues were on display. Representatives of both the Cabinet and HNTB were on hand to answer questions and to receive input from the 24 people who attended the meeting. According to Magistrate Leslie Newman, the meeting was attended by many of the residents along the corridor.

**Comments from Flip Charts at KY 1159 Public
Meeting June 5, 2001**

- Water Pump Station Adjacent to Columbia Gas
- Poor passing sight distance/reckless passing
- Need Spot Improvements half way between Badger Lane and Bladeston
at Gravel Lane (left) leading to Rich Badger Trailer
- Bad curve just south of Badger Road – lot of people run off road
- Needed
- Area just south of Bladeston, high accident area
- UST site at Fronks to south has been cleaned out
- Mile markers on KY 9 Advance notice for cross roads for Brooksville exits
- Need to be turning lanes from KY 9 to S 1159

STATEWIDE CORRIDOR PLANNING SERVICES
KY 1159 TEAM MEETING #2 MINUTES

TO: Annette Coffey, P.E.
Director
KYTC Division of Planning

FROM: Larry D. Chaney, P.E., L.S.
Transportation Department Manager
HNTB-Louisville

DATE: July 11, 2001

SUBJECT: Statewide Corridor Planning
Item No. 6-0154.00
KY 1159

A meeting was held June 22, 2001 at the KYTC District 6 Office to discuss the Preliminary Alternatives tasks for the KY 1159 project. Those in attendance were:

Carl Dixon	Division of Planning
Robert Woodrum	Division of Planning
Bob Yeager	District 6 Planning
Mike Bezold	District 6 Design
Richard Guidi	District 6 Pre-Construction
Bill Reis	District 6 Maintenance
Richard Wilson	Division of Materials, Geotechnical Branch
Larry Roberts	District 6, Public Relations
Karen Mohammadi	HNTB Corporation
John Moss	HNTB Corporation
Susan Rich	HNTB Corporation
Larry Chaney	HNTB Corporation

Bob Woodrum began the meeting by explaining that the team had completed the initial round of meetings. HNTB has identified preliminary alternatives, and this meeting was called to review those alternatives and to decide if any others should be considered. Data collection has basically been completed, and analysis of the alternatives is underway at this time. However, it was not expected that a preferred alternative would be selected at the meeting.

An earlier study by the Division of Planning had recommended several alternatives off the existing alignment. It was discussed at the first team meeting that alternatives off the existing alignment would not be practical, and the Geotechnical Branch indicated that those alternatives would involve high earthwork costs due to the terrain. The planning report included alternatives to the east of the existing road, which are diminished in utility due to the improvement of KY 19, a basically parallel route.

HNTB has reviewed plans developed by H. E. Rudy for this corridor. Their plans provide spot improvements that would involve about two-thirds of the route. The plans generally provide a 50-mph design speed, although some curves are below a 50-mph design radius. Options that we are evaluating include using a 55-mph design throughout (with 11-foot lanes and four (4) foot shoulders), using a 45-mph

design (with the same typical section), and developing an option that is based on a lower operating speed. A consideration in this issue is that Bracken County may not have resources to patrol this section and to enforce a lowered speed limit. It was noted that KY 1159 may be changed to State Secondary route status, depending on the level of the improvements.

The next item discussed was the inclination of the project team to divide the improvement project into priority sections. It can be problematic for drivers if spot improvements are made using a 55-mph design speed and the remaining pieces of the corridor remain substantially below this design speed. HNTB also proposes a "Do-nothing alternative", which actually will include recommendations for signage and other maintenance-type improvements, but no high-cost capital construction projects.

A map was presented depicting the alternatives examined thus far in the study, and the color-coding of the various alternatives was explained. The cultural-historic and archaeological portions of the environmental overview have been completed, identifying numerous sites possibly eligible for inclusion in the historic register and about 25 archeological sites.

Carl Dixon expressed concern that the team was not looking at a full alignment alternative off of the existing right of way. He recommended that the team consider the western alignment(s) from the study prepared by the Division of Planning, and update cost information from that report. A narrative in the report should explain that the alignment(s) was found in the previous study report.

Mr. Woodrum then explained that funding beyond the study was not available for the project, and that he was hoping some portion of the recommendations could be submitted for possible HES funding. The group felt that meeting criteria for HES funding was unlikely, since it probably would not meet the required benefit-cost ratios for that funding program.

The project team decided that HNTB should develop an alternative with spot improvements using 45-mph design criteria, so that improvements along the route would be more compatible with the remainder of the road. HNTB should use a right-of-way cost per mile of \$350,000 in developing estimates.

The next Local Officials and Stakeholders meetings should be held during the last week of July at the library. The final public meeting can then be held, possibly on Thursday, August 2nd, at the Bracken County High School. The specific date and time will be arranged by Bob Yeager.

**STATEWIDE CORRIDOR PLANNING SERVICES
LOCAL OFFICIALS & STAKEHOLDERS MEETING #2**

TO: Annette Coffey, P.E.
Director
KYTC Division of Planning

FROM: Karen L. Mohammadi, P.E., AICP
Transportation Project Manager
HNTB-Louisville

DATE: July 27, 2001

SUBJECT: Statewide Corridor Planning
Item No. 6-0154.00
KY 1159

A meeting with local elected officials and stakeholders was held July 23, 2001 at 10:00 a.m. in the Conference Room of the Bracken County Library to discuss the KY 1159 Scoping Study. Those in attendance were:

Dwayne "Pie" Jett	Bracken County Judge/Executive
John Corlis	Mayor of Brooksville
David Barnett	Bracken County Schools Superintendent
Perry Poe	Bracken County Chamber of Commerce
Leslie Newman	Bracken County Court
Mike Nelson	Bracken County Sheriff
Amy Kennedy	Buffalo Trace ADD
Jim Wilson	KYTC Division of Planning
Robert Woodrum	KYTC Division of Planning
Bob Yeager	KYTC District 6
Larry Chaney	HNTB Corporation
Karen Mohammadi	HNTB Corporation

Robert Woodrum started the meeting by stating that the KY 1159 Scoping Study is moving faster than expected. The purpose of the meeting was to present the information that will be distributed at the Second Public Meeting on August 2, 2001, from 4:00 PM to 7:00 PM at the Bracken County High School. Funding for further phases of this project have not been identified and it is still uncertain whether anything will be programmed in the next Six-Year Highway Plan. The fact that the study will soon be complete increases the chances that the project may be included in the next biennium budget.

The handouts were then reviewed. This began with a discussion of the draft project goals and how well they coincided with the information obtained at the First Public Meeting. Next the traffic and accidents exhibits were reviewed. Some concern was expressed over the changes in volumes from one segment to the next. It was explained that the lower volume segments did not include school traffic. The critical rate factors were explained. Any factors over 1.00 indicate that the accidents are not occurring randomly. A fatal accident that occurred on the road was not shown, and the reason for this was that the accident was not entered into the State HIS database. Additionally, accident analysis does not place a greater focus on fatal accidents over injury accidents, as both are seen as indicators of the severity of an accident.

Implementation of any proposed roadway changes could take eight to ten years under the most favorable conditions. For this project a list of operational improvements are being recommended, some of which the District office is already planning to implement. This is not typically done on this type of study. Operational improvements such as signs, guardrail, and landscape trimming, can be accomplished within the existing right of way at a minimal cost. It was mentioned that the STOP signs at KY 1159 and KY 1011/Augusta-Berlin might need to be oversized and stop ahead warning signs could be placed in advance of the intersection.

Next the design alternatives were discussed. They were basically broken down into a set of alternatives with a 45-mph design speed and a 55-mph design speed. The reasons for a 45-mph option was to reduce the number of properties/acres taken, reduce the environmental impacts and provide for a more uniform travel speed should the road be built in sections. Each of the 45-mph and 55-mph options included a connector to bypass Bladeston to either the east or the west, as well as an options that included minimal improvements through Bladeston. Concern was expressed over traffic failing to stop at the STOP signs at the intersection in Bladeston. It was pointed out that the connectors may not correct the problem, but may only introduce two more intersections along the corridor.

Sight distance concerns at KY 1011 and KY 1159 were expressed, particularly for bus traffic. It was decided that this area would be looked at further as part of the Bladeston alternatives. The team was informed that there are likely underground storage tanks in this area.

It was asked if the gas transmission station would be relocated. Since it is outside the existing right of way line for the road the cost to move it would be the burden of the State. Therefore, it will likely be avoided during the final design process.

The causes of accidents were suggested by the group as being speeding, inattention and wet conditions. It was explained that most of the roads in this part of the state started out as dirt roads and were never properly graded for drainage and superelevation. The recommended alternatives would eliminate the drainage and superelevation problems.

The general consensus of the attendees was that a 45-mph alternate was probably not preferred, since most people already drive at speeds that exceed this in certain sections of the road. It was felt that designing the alternates at 55-mph and posting them at 45-mph may help reduce any safety problems related to the speed differentials between the improved and unimproved sections, if the project were constructed in sections. From a maintenance perspective, the 45-mph would require posting of more speed limit signs. Typically, a 55-mph design road is only posted at a lower speed if the area is congested or the reduced speed can be enforced. Neither would be applicable in this location. The use of a 45-mph or 55-mph design would also have very little effect on travel time in the corridor, but will reduce impacts within the corridor.

Designing the project to be built in 4 sections is likely. This would probably involve starting at the south end adjacent to the current construction project and working north.

If the project is implemented, the improved facility would probably qualify as a State Secondary road.

The meeting concluded with a brief discussion of upcoming events. After receiving public input, a team meeting will occur to decide on a recommendation. At that time hopefully more will be known about future funding. The project is currently in the ADD's Top Ten List for consideration for the Long-Range Plan. After a recommendation on preferred alternative and priority sections, another meeting will be held with the local officials and stakeholders. Perry Poe congratulated the team on how quickly this project has proceeded compared to other projects he has been involved with, and Judge-Executive Pie Jett added that the team had done a good job.

STATEWIDE CORRIDOR PLANNING SERVICES
PUBLIC MEETING #2

TO: Annette Coffey, P.E.
Director
KYTC Division of Planning

FROM: Karen Mohammadi, P.E.
Project Manager
HNTB-Louisville

DATE: August 16, 2001

SUBJECT: Statewide Corridor Planning
Item No. 6-0154.00
KY 1159

The second public meeting was held Thursday, August 2nd, at the Bracken County High School concerning study alternatives for the possible improvements to KY 1159. A list of those in attendance is attached.

The meeting began at 4:00 p.m., and included a presentation at 4:15 p.m. by Jim Wilson, Bob Yeager and Karen Mohammadi. Mr. Wilson began with a discussion of the study process to date and explained that funding has only been identified in the State's current Six Year Highway Plan to conduct the study of KY 1159. This study is to determine costs and priority sections for possible improvements from the area currently under construction in Brooksville to the AA Highway.

Mr. Yeager expanded on the history of the project and how the study came about. Ms. Mohammadi then led the attendees through a PowerPoint presentation. Much of the material presented at the first public meeting was repeated for those who were unable to attend the previous meeting.

Ms. Mohammadi reviewed the purposes of the meeting: 1) to let the community know about the project; 2) to identify and address community concerns and issues; 3) to identify sensitive areas that should be considered; and 4) to create a project that would benefit the community and gain its support. She next explained that the Cabinet has identified over \$50 billion dollars worth of projects on their unscheduled needs list. With an anticipated annual budget of approximately \$800 million, it is evident that many projects must wait a number of years to be implemented. The schedule for completing a major reconstruction project, when funding is available for all phases of that project, was explained to take an average approximately 10 years - from the planning stage until construction is complete. Smaller scale projects are generally finished in a shorter timeframe, and, conversely, more complicated projects often take longer to complete.

Preliminary goals for the KY 1159 study include: 1) Improving the horizontal (curves) and vertical (grades) alignment, 2) Reducing the number of accidents along the route through safety improvements, and 3) Improving connectivity from Brooksville to the AA Highway. It was

explained that these goals, as presented at the first public meeting, were supported by the comments received at that meeting as well as at meetings with local officials and stakeholders.

Safety is one of the primary issues to be addressed with this study, given that the critical accident rate factors for one section of KY 1159 is above 1.0, indicating that the accidents are likely related to the roadway conditions. Many of the accidents involve vehicles leaving the road and striking fixed objects, such as utility poles and trees. Traffic is increasing as the area grows, and that accident rate may worsen as the traffic volume increases.

The highest traffic volumes on the road are about 2,740 vehicles per day. This is expect to grow to 3,840 by 2025. The levels of service (LOS) were explained and shown graphically in a diagram. Currently during the peak hour the LOS is C and D. In 2025 it will be a D and E.

Ms. Mohammadi next explained the key issues regarding improvement along the corridor. A completely new alignment for the route could prove difficult and costly, given that the existing road is built primarily along a ridge. Complete reconstruction could require substantial amounts of fill and the acquisition of much property. Additionally, areas that are either historic or sensitive in nature, including many potential archaeological sites, may restrict options for improvements to the existing road in that area.

The alternatives developed to address the goals of the project were discussed next. Ms. Mohammadi began by explaining the purpose of a No Build Alternative. Next she discussed the Operational Improvements Alternate stating that this would include items such as new signs, pavement marking, guardrail and clearing of trees and bushes to improve sight distance, but would not require any additional right of way. This alternate could also be completed in the very near future.

The next six alternates were variations of a 45 MPH Study Alternate and a 55 MPH Study Alternate. The differences between the 45 MPH Study Alternate and the 55 MPH Study Alternate were explained and the cross sections for each were reviewed. The main difference between the two would be the amount of right of way required for each. Three separate 45 MPH and three separate 55 MPH study alternates were presented, including either an improvement through Bladeston or an eastern or western connector to avoid disruptions to Bladeston. Finally, a chart comparing the alternates was discussed. The 55 MPH alternate would also have more impacts on the environment, particularly archeological sites. The alternates through Bladeston would have more impacts on historical properties than the eastern or western connectors.

Following the presentation, attendees were asked to complete the comment form included in their handouts and return them to the Cabinet by August 17, 2001. Then they were directed to an open exhibit area, where maps of the project area and potential environmental issues were on display. Representatives of both the Cabinet and HNTB were on hand to answer questions and to receive input from the 21 people who attended the meeting. Some general comments received from the public were that drivers were already traveling 55 MPH on the route, the community supported the project and they would like to see some major improvement completed as early as possible.

**Comments from Flip Charts at KY 1159 Public
Meeting August 2, 2001**

- Passing lane up ill from AA would help people round curves on wrong side of road
- Swan Song Lane (private road?)

STATEWIDE CORRIDOR PLANNING SERVICES
KY 1159 FINAL TEAM MEETING MINUTES

TO: Annette Coffey, P.E.
Director
KYTC Division of Planning

FROM: Larry D. Chaney, P.E.
Director of Transportation
HNTB-Louisville

DATE: September 11, 2001

SUBJECT: Statewide Corridor Planning
Item No. 6-0154.00
KY 1159

A Project Team Meeting was held August 31, 2001 at the KYTC District 6 Office to discuss the final recommendations for the KY 1159 project. Those in attendance were:

Jim Wilson	Division of Planning
Robert Woodrum	Division of Planning
Brad Eldridge	Division of Highway Design
Charles Meyers	District 6 Chief District Engineer
Bob Yeager	District 6 Planning
Bob Hill	District 6 Planning
Richard Guidi	District 6 Pre-Construction
Mike Bezold	District 6 Design
Bill Madden	District 6 Traffic
Brian Donnelly	District 6 Traffic
Bernadette Dupont	FHWA- KY
Michael Loyselle	FHWA – HPD (KY)
Karen Mohammadi	HNTB Corporation
Larry Chaney	HNTB Corporation

Bob Woodrum began the meeting by stating that the study is drawing to a conclusion. The team has been brought together to determine the recommended alternative(s) in order that Mr. Meyers and Mr. Guidi may prepare recommendations for the new Six-Year Highway Plan. HNTB has been asked to prepare a breakdown of costs specifically for that purpose.

Larry Chaney then addressed the group by giving a brief history of the project and Karen Mohammadi reviewed the traffic and accident exhibits (see handouts attached). Mr. Woodrum explained that the public has responded favorably to an operational improvement alternative. Mr. Chaney explained that when accidents occur on the road they are often injury accidents, and because of this HNTB looked at operational improvements to improve safety without expensive capital improvements. These improvements include items such as signing and improved sight distance. Because of their immediate benefits and low costs, these improvements should be made regardless of whether or not any of the other alternatives are constructed.

Mr. Chaney then explained the design alternatives considered. H.E. Rudy Consultants prepared a spot improvement design for the corridor, a portion of which is under construction today. However, their curves were based on a 45 MPH design speed, and little attention was paid to the approach roads. HNTB used those plans as a basic design and to obtain some specific details from the field survey. Next, HNTB evaluated connecting the sections proposed in those plans. The first alternative considered was the 45 MPH Alternative, which has fewer apparent impacts on properties. However, it should be noted that the differences between the impacts of the 45 MPH Alternative and the 55 MPH Alternative are relatively insignificant. A high percentage of people drive the corridor at 55 MPH today, and there is little enforcement on this road. Mr. Woodrum noted that if the road were designed for 45 MPH, it might not fit criteria that would make it eligible for reclassification as a State Secondary Road.

The 45 MPH and 55 MPH Alternatives each have options that go around Bladeston, in order to avoid impacts on that community. However, the State Designated Bike Route follows KY 1011 and crosses KY 1159 over to Augusta-Berlin Road, so some sort of connection needs to be maintained for the Bike Route. An eastern bypass is preferred by HNTB, because it would involve fewer residential takings, should not impact any endangered species, and would have less impact on blue line streams. There are archaeological and historical properties throughout the KY 1159 corridor, and the western bypass would likely require the taking of, or at minimum greatly impact, one historical property. Archaeological impacts are the chief environmental concern for this project, since it is built on a crest and the typical location of archaic remnants is in undisturbed, elevated areas. The option of improving KY 1159 through Bladeston would require the use of a curb and gutter section, narrowed lane widths, and the taking of the historical property on the southwest corner of KY 1011 and KY 1159.

Both alternatives propose a typical section with 12-foot lanes and 8-foot shoulders. Richard Guidi suggested that context sensitive design techniques be included, and that the ditch be narrowed. One option Mr. Chaney noted that might lessen impacts to adjacent properties was using 11-foot lanes and 4-foot shoulders, with the possible use of reinforced turf to allow even more narrow shoulder pavement.

HNTB's recommendation is the 55 MPH Alternative, since the community is already driving the corridor at that speed, because there is little enforcement of the speed limit, and because it serves the same general purpose as KY 19, which has also been designed for 55 MPH. Additionally, that alternative is supported by the citizens, as is a bypass of Bladeston. An east bypass is recommended, as noted above, to minimize environmental impacts. The intersection of KY 1011 and KY 1159 should be improved regardless of which alternative is chosen. The project may be broken into four sections, the termini of which are locations where it is reasonable to tie back into the existing road. Mr. Guidi noted that they would likely program Sections 1 and 2 together, and Sections 3 and 4 together due to the short distances. Section 1-2 should be given high priority and Section 3-4 should be given a lower priority.

The discussion then turned to the Operational Improvements. Bill Madden stated that the corridor has been logged for signs based upon HNTB's initial findings, but that no additional work has been completed. The District would need about \$30,000 to complete the work. HNTB will include this cost as a part of their recommendations. Mr. Chaney questioned whether there was any potential for dialog with the utility companies to get some poles relocated, but was told that was unlikely to happen.

Mr. Woodrum asked the District to check into the status of affidavits from the public meeting announcements, and to forward those to Ms. Mohammadi. The affidavits are preferable over the tear sheets.

Jim Wilson ended the meeting by questioning the purpose of the third set of meetings with local officials. It was suggested that the Executive Summary be sent to local officials and stakeholders after it is approved by the Cabinet. The same information can be given to the local newspaper, with perhaps a reference to the Cabinet's web page where the public could access selected portions of the report.

APPENDIX (C) – RESOURCE AGENCY

COORDINATION RESPONSE LETTERS



RECEIVED

JUN 28 2001

HNTB

James C. Codell, III
Secretary of Transportation

Commonwealth of Kentucky
Transportation Cabinet
Frankfort, Kentucky 40622

Paul E. Patton
Governor

Clifford C. Linkes, P.E.
Deputy Secretary

June 25, 2001

KY 1159 Agency Mailing List
(See Attached List)

«Salutation»

The Kentucky Transportation Cabinet is requesting your agency's input and comments on the needs and potential impacts of a proposed highway project.

We believe that early identification of issues or concerns can help us select highway project alternatives that avoid or minimize impacts before the project begins final design. The Intermodal Surface Transportation Efficiency Act (ISTEA) and Transportation Efficiency Act for the 21st Century (TEA-21) encourage early coordination between government agencies in order to streamline environmental reviews during the project development process. The Federal Highway Administration is partnering with us in these efforts. With this cooperation in mind, we are asking for you to notify us of specific issues or concerns of your agency that could affect future phases of the project described below.

The Kentucky Transportation Cabinet has assembled a study team to evaluate improvements to KY 1159 from Brooksville to KY 9 (AA Highway) in Bracken County. The study is currently in the initial data-gathering stage. This request is intended to address public and agency concerns earlier in the project development process.

We have enclosed the following project information for your review and comment:

- Topographic Map showing the Project Area
- Summary of Existing Conditions
- Accident Locations, 1996-1999
- Crash Data Analysis
- Minutes from the Initial Team Meeting
- Draft Statement of Project Goals
- Early Environmental Footprint



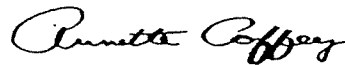
Please note that this letter does not serve as a notice of intent to prepare an environmental document in accordance with the National Environmental Policy Act (NEPA). However, we hope to identify issues now that could affect and streamline future phases of the project. We understand that you may not be able to provide extensive detail at this time within the time requested, but we would like to receive enough information to identify the general nature and relative magnitude of each issue or concern. More detailed information will be gathered in the next phase of project implementation when we begin the NEPA process.

Specifically, we wish to know how this project affects your organization and/or its areas of interest. We also would like to know if your organization is aware of any issues or problems within the project area. Any input and/or insight you can provide concerning this proposed improvement would be welcomed. We respectfully ask that you provide us with your project comments by July 25, 2001, to ensure timely progress in this planning effort.

We are also emphasizing the issue of environmental justice. The purpose of this emphasis is to ensure equitable environmental protection regardless of race, ethnicity, age, disability, economic status or community, so that no segment of the population bears a disproportionate share of the consequences of environmental impacts attributable to a proposed project. Please let us know if you are aware of any of these groups or individuals in the project area that could possibly be impacted either positively or negatively.

We appreciate any input you can provide concerning this project. Please direct any comments, questions, or requests for additional information to Bob Woodrum of the Division of Planning at (502) 564-7183 or at bwoodrum@mail.kytc.state.ky.us. Please address all written correspondence to Annette Coffey, P.E., Director, Division of Planning, Kentucky Transportation Cabinet, 125 Holmes Street, Frankfort, KY 40622.

Sincerely,



Annette Coffey, P.E.
Director
Division of Planning

AC:DJG:RC

Enclosures

c/att: Jose Sepulveda
Steve Miller
Charles Meyers
Larry Chaney, HNTB

Mr. James P. Fenton
Director, Office of State Archaeology
Department of Anthropology
University of Kentucky
211 Lafferty Hall
Lexington, Kentucky 40506-0024

Ms. Margie Shouse
Independent Hauler Association
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Mr. Jack Fish
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Mr. Ishmon Burks, Jr.
Commissioner
Kentucky Department of State Police
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Frankfort, Kentucky 40601

Kentucky Disabilities Coalition
P.O. Box 1589
Frankfort, Kentucky 40602-1589

Mr. Mike Hill
Director
Division of Multimodal Programs
State Office Building Annex, Mail Code A-5
125 Holmes Street
Frankfort, Kentucky 40622

Colonel Kenneth Frost
Director
Division of Vehicle Enforcement
State Office Building, 8th Floor
501 High Street
Frankfort, Kentucky 40622

Mr. John Bird
Executive Director
Kentucky Forward
16 Chenault Road
P.O. Box 1628
Frankfort, Kentucky 40602-1628

Mr. Jim Cobb
State Geologist and Director
Kentucky Geological Survey
University of Kentucky
228 Mining and Mineral Resources Building
Lexington, Kentucky 40506-0107

Mr. John D. Overing
Kentucky Heritage Resource Conservation
and Development Council
27 Morris Drive
Fordsburg, Kentucky 40330

Mr. Kevin Graffagnino
Director
Kentucky Historical Society
100 W Broadway
Frankfort, Kentucky 40601

Kentucky Industrial Development Council, Inc.
59 Consumer Lane, Ste. A
Frankfort, Kentucky 40601-8489

Ms. Sylvia Lovely
Executive Director
Kentucky League of Cities, Inc.
101 East Vine Street, Ste. 600
Lexington, Kentucky 40507

Mr. Ned Sheehy
President
Kentucky Motor Transport Association
134 Walnut Street
Frankfort, Kentucky 40601

Ms. Margaret Plattner
Executive Director
Office of Transportation Delivery
State Office Building Annex, Mail Code A-4
125 Holmes Street
Frankfort, Kentucky 40622

Mr. Barry Barker
Executive Director
Kentucky Public Transit Association
Transit Authority of River City
1000 West Broadway
Louisville, Kentucky 40203

Ms. Marcheta Sparrow
President
Kentucky Tourism Council
1100 US 127S Bldg C
Frankfort, Kentucky 40601

Ms. Ann R. Latta
Secretary
Tourism Development Cabinet
Capital Plaza Tower, 24th Floor
1000 Mero Street
Frankfort, Kentucky 40601

Mr. Allen D. Rose
Secretary
Workforce Development Cabinet
Capital Plaza Tower, 2nd Floor
Frankfort, Kentucky 40601

Mr. James Aldridge
Director
Nature Conservancy - Kentucky Chapter
42 West Main Street
Lexington, Kentucky 40508

Ms. Helen Cleary
President
Scenic Kentucky
P. O. Box 32760
Louisville, Kentucky 40232

Mr. Oscar Geraldts
Terra Club
59 West Short Street
Lexington, Kentucky 40507

Colonel Robert E. Slockbower
U. S. Army Corps of Engineers
P.O. Box 59
Louisville, Kentucky 40201

Mr. Heinz Mueller
Attorney
U.S. Environmental Protection Agency, Region 4
3th Floor, Atlanta Federal Ctr.
Forsyth Street, SW
Atlanta, GA 30303

Mr. Kenneth W. Holt, MSEH
Emergency & Environmental Health Services Division
Chemical Demilitarization Branch (F-16)
Center for Disease Control and Prevention
4770 Buford Highway, N.E.
Atlanta, Georgia 30341-3724

Mr. John Milchick, Jr.
Kentucky State Coordinator
U.S. Department of Housing & Urban Development
Office of the State Coordinator
P.O. Box 1044
Louisville, Kentucky 40201

Mr. Lee A. Barclay, Phd.
Field Supervisor
U.S. Department of the Interior
Fish and Wildlife Service
446 Neal Street
Cookeville, Tennessee 38501

The Honorable Ken Lucas
US Representative - 4th District
US House of Representative
1237 Longworth Howe Office Building
Washington, DC 20515

The Honorable Jim Bunning
United States Senator
502 Hart Senate Building
Washington, D.C. 20510

The Honorable Mitch McConnell
United States Senator
361-A Senate Russell Office Building
Washington, D.C. 20510

The Honorable Ed Miller
Kentucky State Senator - 30th District
115 Bradford Drive
Cynthiana, Kentucky 41038-1796

The Honorable Mike Denham
Kentucky State Representative - 70th District
Old Hill City Road
Louisville, Kentucky 41056

Mr. Steve Goodpaster
Director
Kentucky Transportation Cabinet
Division of Bridge Design
State Office Building - 7th Floor
Frankfort, Kentucky 40622

Mr. Dexter Newman
Director
Kentucky Transportation Cabinet
Division of Construction
State Office Building - 4th Floor
Frankfort, Kentucky 40622

Mr. Jim Stone
Director
Kentucky Transportation Cabinet
Division of Materials
1227 Wilkinson Boulevard
Frankfort, Kentucky 40622

Mr. Ralph Divine
Director
Kentucky Transportation Cabinet
Division of Right-of-Way & Utilities
State Office Building - 4th Floor
Frankfort, Kentucky 40622

Mr. David Waldner
Director
Kentucky Transportation Cabinet
Division of Environmental Analysis
State Office Building Annex

Mr. Chuck Knowles
Director
Division of Operations
Kentucky Transportation Cabinet
State Office Building - 7th Floor
Frankfort, Kentucky 40622

Mr. Simon Cornett
Director
Division of Traffic
Kentucky Transportation Cabinet
State Office Building - 1st Floor
Frankfort, Kentucky 40622

American Association of Truckers
P.O. Box 487
Benton, Kentucky 42025

Ms. Edward Sue Perkins
Branch Manager
Permits Branch
Kentucky Transportation Cabinet
Frankfort, Kentucky 40622

The Honorable Dwayne Jett
Bracken County Judge/Executive
Bracken County Courthouse
Brooksville, Kentucky 41004

The Honorable John Corlins
Mayor City of Brooksville
Box 216
Brooksville, Kentucky 41004

Mr. David Burnett
Superintendent
Bracken County School District
P.O. Box 26
Brooksville, Kentucky 41004

Ms. Judy Planck, Executive Director
Working Valley Community Action Program
33 High Street
Flemingsburg, Kentucky 41041

Alex Barber
State Environmental Review Officer
Natural Resources and Environmental Protection Cabinet
Frankfort Office, Park, 14 Reilly Road
Frankfort, Kentucky 40601

Mr. Roger Wiebusch
Bridge Administrator
United States Coast Guard, Bridge Branch
1222 Spruce Street
St. Louis, Missouri 63103

AAA Cincinnati
7753 Mall Road
Florence, Kentucky 41042

The Honorable Wendell High
Mayor City of Augusta
P.O. Box 85
Augusta, Kentucky 41002

Dr. Teresa Taylor Wallace
Superintendent
Augusta Independent School District
307 Bracken Street
Augusta, Kentucky 41002

Ms. Martha Emmons, Chair
KYTC Pedestrian and Bicycle Task Force
848 Joe Clifton Drive
Paducah, Kentucky 42001

Kentuckians for Job Growth
P.O. Box 197
Frankfort, Kentucky 40601

Mr. David Huizenga
Deputy Assistant Secretary for Integration and Disposition
U.S. Department of Energy
Office of Environmental Management
1000 Independence Avenue SW
Washington, D.C. 20585

Mr. John L. Bruner, Executive Director
Buffalo Trace Area Development District
17 West Second Street
P.O. Box 460
Maysville, Kentucky 41056

James E. Bickford
Secretary



Paul E. Patton
Governor

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR NATURAL RESOURCES
DIVISION OF CONSERVATION
663 TETON TRAIL
FRANKFORT, KENTUCKY 40601

MEMORANDUM

TO: Alex Barber, Department of Environmental Protection
FROM: Mark Davis, Division of Conservation
DATE: May 24, 2001
SUBJECT: Environmental Review Project #SER02001-32

As requested, the Division of Conservation has reviewed the proposed route improvements along KY 1159 between Brooksville and the AA Highway (KY 9) in Bracken County.

A portion of Bracken County Agricultural District #012-02 is located north of Brooksville along KY 1159. It is identified on the enclosed map. This agricultural district was certified by the Kentucky Soil and Water Conservation Commission in 1990 and its recertification status is current. Agricultural districts are established in order to conserve, protect, develop, and improve agricultural land for production of food, fiber, and other agricultural products. Under KRS 262.850(12), state agencies must mitigate any impact their programs may have on land in agricultural districts.

In addition to the location of this agricultural district, the loss of farmland is an issue. Both prime farmland and farmland of statewide importance could be impacted by this project. Every year pressure imposed by utility right-of-ways, urban expansion, and new roads reduce the land available for agricultural use in the Commonwealth. Documents that could be utilized to identify these farmland designations are the unpublished soil survey maps for Bracken County and *Important Farmland Soils of Kentucky* (NRCS 1985). Both are available through this office.

One other concern we would like to comment on is the control of erosion and sedimentation during and after earth-disturbing activities once this project begins. We recommend best management practices (BMPs) be utilized to prevent nonpoint source water pollution. This would protect the water quality and aquatic habitat of several perennial and intermittent streams that this project could impact. The manual, *Best Management Practices for Construction Activities*, contains information on the kinds of BMPs most appropriate for this project and is available through the Bracken County Conservation District and this office.

MJD/ach
Enclosure





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DIVISION OF PLANNING

AUG 2 10 23 AM '01

James C. Codell, III
Secretary of Transportation

Commonwealth of Kentucky
Transportation Cabinet
Frankfort, Kentucky 40622

Paul E. Patton
Governor

Clifford C. Linkes, P.E.
Deputy Secretary

MEMORANDUM

AUG 02 2001

TO: Annette Coffey, Director
Division of Planning

FROM: Michael L. Hill, Director *MLH*
Division of Multimodal Programs

DATE: August 2, 2001

SUBJECT: Item No. 6-154.00
KY 1159 Scoping Study
Bracken County

Thank you for the opportunity to comment on the intermediate planning study for this Bracken County project. This project has no known issues or problems in connection with Small Urban Areas.

The coordination and connectivity of bicycle and pedestrian facilities is important in the early planning and design stages of projects. Design Guidance from the United States Department of Transportation in February, 2000, states "bicycling and walking facilities will be incorporated into all transportation projects unless exceptional circumstances exist."

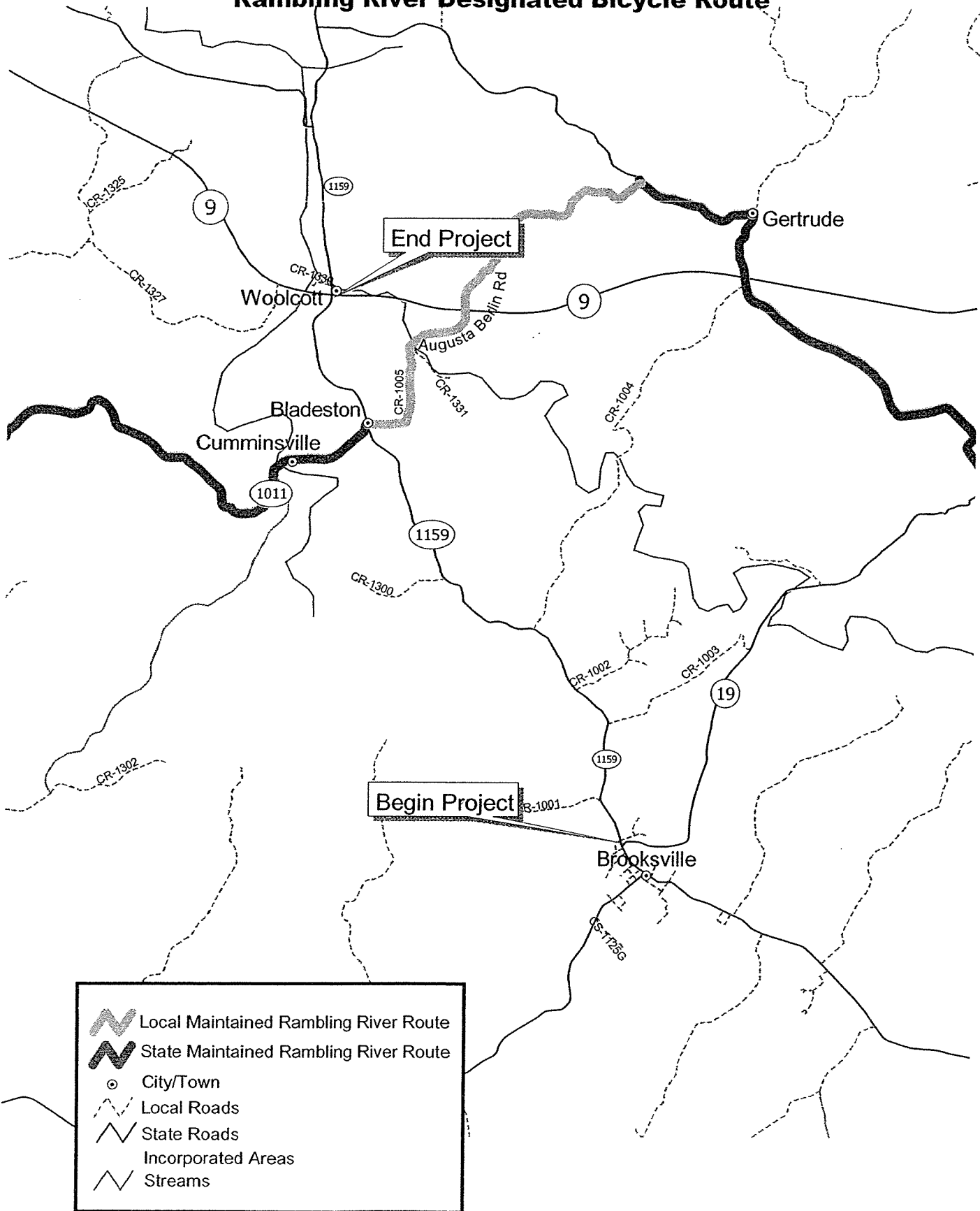
Sidewalks should be considered during the reconstruction of KY 1159 within the incorporated area of Brooksville. KY 1159 intersects CR 1005, Augusta Berlin Road, and KY 1011 at Bladeston. Please refer to the enclosed map for more details. CR 1005 and KY 1011 are part of the designated bicycle route Rambling River Bicycle Tour. Care must be taken at this intersection to be certain it will accommodate bicycle travel. Providing a wide and safe shoulder along the reconstructed KY 1159 for bicyclists will help ensure connectivity if the necessary right of way is available. Please contact Paula Nye of this Division, at (502) 564-7686, for information or questions about bicycle and pedestrian concerns.

We look forward to working with your Division to facilitate your study efforts in our SUA and MPO areas, and by increasing awareness of bicycle and pedestrian issues.

MLH/LJS/PEN/AJT
Enclosure



KY 1159 Scoping Study from Brooksville to KY 9
Item No 6-154.00 Bracken County
Rambling River Designated Bicycle Route



JAMES E. BICKFORD
SECRETARY



PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION FOR AIR QUALITY
803 SCHENKEL LN
FRANKFORT KY 40601-1403

August 9, 2001

Kentucky Transportation Cabinet
Division of Planning
Attn: Annette Coffey, P.E., Director
125 Holmes Street
Frankfort, Kentucky 40622

**Re: Scoping Notice for the evaluation of improvements to KY 1159 from
Brooksville to KY 9 (AA Highway) in Bracken County, Kentucky**

Project Number: SERO 2001-61

Dear Ms. Coffey:

As this project is presented there is no requirement for the issuance of an air quality permit for the construction and operation of the affected facilities. However, upon thorough review it has been found that the following Kentucky Administrative Regulation applies to this proposed project:

Regulation **401 KAR 63:010** Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway.

Every effort should be made to maintain compliance with the preceding regulation. If there are any questions relating to this matter, you are encouraged to contact me at (502) 573-3382 Ext. 465, or my supervisor, Allan Elliott, at extension. 455.

Sincerely,

A handwritten signature in cursive script, appearing to read "James L. Roe".

James L. Roe
Permit Support Section



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JAMES E. BICKFORD
SECRETARY



PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601

MEMORANDUM

TO: Alex Barber
State Environmental Review Officer
Department for Environmental Protection

FROM: Timothy Kuryla *TK*
EIS Coordinator
Division of Water

DATE: September 28, 2001

SUBJECT: SN, KY1159, KY9 to KY19 (Bracken County); SERO 010712-61

IN GENERAL

The Division of Water has reviewed the Scoping Notice prepared by the Transportation Cabinet regarding the construction of KY1159, from KY9 to KY19 (Bracken County). The Division comments on matters the Division desires considered in the Environmental Assessment.

The applicant needs to consult, before construction can begin, with the U.S. Army Corps of Engineers to ascertain if a 33 USC § 1341 ("401") water quality certification by the Division of Water, or a 33 USC § 1344 ("404") dredge or fill material permit, or both, are required. Any impact to 200 linear feet or more of any stream or stream bank (below ordinary highwater) (as shown on U.S. Geological Survey 7.5 minute topographical maps for the project area) or one acre or more of any wetland, will require a "401" water quality certification. This includes excavations and impoundments. Thus, impacts to streams and wetlands must be considered in the EA.

Stream crossings except for Outstanding Resource Waters (ORWs), Cold water Aquatic Habitats (CAHs), and high quality waters are covered by a general certification. ORW, CAH, and high quality water stream crossings require an individual water quality certification and mitigation.

The Division of Water will require mitigation for stream loss (if more than 250 acres are involved above the construction impact) and for wetland loss (if more than 1 acre).



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If a floodplain outside the right of way is involved, prior approval must be obtained from the Division of Water before construction may begin. The EA needs to address the impacts on flooding of each stream crossing, all fills in floodplains, and any channel relocation or alteration.

The submitted data are general. With specific data as are found in the Transportation Cabinet Land and Water Ecology Section "404" checklist, plus Corps of Engineers or Coast Guard Public Notice, the Division of Water may find a problem relating to floodplain construction and water quality. Therefore, the Division requests an opportunity to review, at the Preliminary Design stage, the land and water ecology checklist for the proposed project should it be funded. (If a Public Notice is prepared for the proposed project, the Division will review it).

The Division of Water notes the relevant portions of the Transportation Cabinet's Standard Specifications for Road and Bridge Construction are Sections 212 and 213. Section 212 governs the protection and stabilization of those areas exposed to erosion as the result of construction practices. Section 213 protects water quality by governing construction practices that can result in nonpoint source pollution.

The Division of Water finds that these guidelines adequately address possible highway construction impacts on aquatic habitat and propose appropriate mitigation measures that insure minimal sediment and other damage to water quality. These sections need to be cited in the EA.

The Division of Water recommends that the Transportation Cabinet use the Groundwater Sensitivity Regions of Kentucky map published by the Kentucky Geological Survey (KGS) to determine sensitive groundwater areas. These areas must be considered in the EA.

If sinkholes are modified for drainage, the Division of Water notes U.S. Environmental Protection Agency (EPA) requires an Underground Injection Control Permit (40 CFR §§ 144.11, 144.25, 146.51). The activity is classified as a Class V well (40 CFR § 144.6).

The Division of Water has data and maps regarding wellhead protection areas located throughout the Commonwealth. The EA and highway design must take into account these areas.

Owners of onsite wastewater disposal systems must have Groundwater Protection Plans (GPP). Purchasing right of way lands on which these systems are located means assuming the obligations imposed by 401 KAR 5:037.

Deep road cuts can act as "French" drains. These cuts could drain aquifers that are used as domestic and public water supply sources. Highway design needs to take into account the location of these aquifers. The Division of Water maintains data on wells drilled since 1985 and of all wells it inspects. The EA needs to consider the effect on domestic and public water supplies.

JAMES E. BICKFORD
SECRETARY



PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601
October 11, 2001

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OCT 19 2001

Annette Coffey, P. E., Director
Division of Planning
Kentucky Transportation Cabinet
Frankfort KY 40622

Re: Scoping Notice for evaluation of improvements to KY 1159 from Brooksville to KY 9 (AA Highway) in Bracken County, Kentucky (SERO 2001-61) Comments were sent previously on what appears to be this same project to Doug Lambert-SERO 2001-32.

Dear Ms. Coffey:

The Natural Resources and Environmental Protection Cabinet (NREPC) serves as the state clearinghouse for review of environmental documents generated pursuant to the National Environmental Policy Act (NEPA). Within the Cabinet, the Commissioner's Office in the Department for Environmental Protection coordinates the review for Kentucky State Agencies.

The Kentucky agencies listed on the attached sheet have been provided an opportunity to review the above referenced report. Responses were received from eight (also marked on enclosed sheet) of the agencies that were forwarded a copy of the document. Attached are comments from the Kentucky Divisions of Water, Waste Management, Air Quality, and Conservation, and the Kentucky Department of Fish and Wildlife Resources.

If you should have any questions, please contact me at (502) 564-2150, ext. 112.

Sincerely,

Alex Barber
State Environmental Review officer

Enclosure



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**NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION
CABINET
ENVIRONMENTAL REVIEW**

Scoping Notice for evaluation of improvements to KY 1159 from Brooksville to KY 9 (AA Highway) in Bracken County, Kentucky

The following agencies were asked to review the above referenced project. Each agency that returned a response will appear below with their comments and the date the project response was returned.

**C denotes Comments
NC denotes No Comment
IR denotes Information Request
NR denotes No Response**

REVIEWING AGENCIES:

Division of Water _____	comments
Division of Waste Management _____	comments
Division for Air Quality _____	comments
Department of Health Services _____	
Economic Development Cabinet _____	
Division of Forestry _____	
Department of Surface Mining Reclamation & Enforcement _____	nc
Department of Parks _____	nc
Department of Agriculture _____	
Nature Preserves Commission _____	cn
Kentucky Heritage Council _____	
Division of Conservation _____	comments
Department for Natural Resources _____	
Department of Fish & Wildlife Resources _____	comments
Transportation Cabinet _____	
Department for Military Affairs _____	

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2524
JUN 29 2001

James C. Codell, III
Secretary of Transportation

Commonwealth of Kentucky
Transportation Cabinet
Frankfort, Kentucky 40622

Paul E. Patton
Governor

Clifford C. Linkes, P.E.
Deputy Secretary

June 25, 2001

Mr. Lee A. Barclay, Phd.
Field Supervisor
U.S. Department of the Interior
Fish and Wildlife Service
446 Neal Street
Cookeville, Tennessee 38501

Dear Dr. Barclay:

The Kentucky Transportation Cabinet is requesting your agency's input and comments on the needs and potential impacts of a proposed highway project.

We believe that early identification of issues or concerns can help us select highway project alternatives that avoid or minimize impacts before the project begins final design. The Intermodal Surface Transportation Efficiency Act (ISTEA) and Transportation Efficiency Act for the 21st Century (TEA-21) encourage early coordination between government agencies in order to streamline environmental reviews during the project development process. The Federal Highway Administration is partnering with us in these efforts. With this cooperation in mind, we are asking for you to notify us of specific issues or concerns of your agency that could affect future phases of the project described below.

The Kentucky Transportation Cabinet has assembled a study team to evaluate improvements to KY 1159 from Brooksville to KY 9 (AA Highway) in Bracken County. The study is currently in the initial data-gathering stage. This request is intended to address public and agency concerns earlier in the project development process.

We have enclosed the following project information for your review and comment:

- Topographic Map showing the Project Area
- Summary of Existing Conditions
- Accident Locations, 1996-1999
- Crash Data Analysis
- Minutes from the Initial Team Meeting
- Draft Statement of Project Goals
- Early Environmental Footprint



No significant adverse impacts to wetlands or federally listed endangered or threatened species are anticipated from this proposal.

Lee A. Barclay
Field Supervisor
U.S. Fish and Wildlife Service
Cookeville, TN 38501

7/13/01
Date

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HNTB

A-2

James C. Codell, III
Secretary of Transportation

Commonwealth of Kentucky
Transportation Cabinet
Frankfort, Kentucky 40622

Paul E. Patton
Governor

E. Jeffrey Mosley
Deputy Secretary

MEMORANDUM

TO: Annette Coffey, P.E.
Director
Division of Planning

ATTN: Bob Woodrum, P.E.
Trans. Engr. - Planning

FROM: S. R. Halloran, P.E. *S.R.H.*
Trans. Engr. Spec. - Construction

DATE: June 28, 2001

SUBJECT: Bracken County
KY 1159, Brooksville to KY 9 (AA Highway)
Scoping Study Area
Item No. 6-154.00

This office has reviewed the information packet sent from your office concerning the above subject scoping study of KY 1159 from Brooksville to KY 9 (AA Highway).

This office has no comments concerning this proposed project at this time. Should this office have comments or suggestions, we will forward this information to your office.

If you have question or require assistance please contact this office.





U. S. Department of Housing and Urban Development
Kentucky State Office
Office of the State Coordinator
601 West Broadway Room 110
Louisville, KY 40202
502-582-5251 Fax 502-582-6074
KY TDD Relay Service 800-648-6056
www.hud.gov/local/lou/

July 2, 2001

Ms. Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, KY 40622

Dear Ms. Coffey:

This letter is in reply to your request of June 25, 2001, for comment on a study of the potential consequences resulting from the proposed improvements to KY 1159 between Brooksville and the AA Highway (KY 9). The Kentucky State Office of HUD is pleased to have the opportunity to respond.

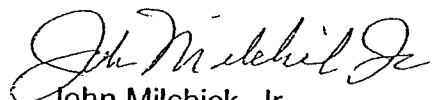
Based on the materials and information you provided, there is a potential impact on a HUD-funded multifamily property as follow:

The improvements to the road will affect the egress and ingress to the Brooksville Court Apartments property. The on-site manager stated that some work has been completed near the property and expects that additional road work will impact them. No complaints from residents have been reported, however.

Please contact Charles Shive in HUD's Multifamily Program Center at 502-582-6163, ext. 262, for more specific information on this potential impact.

Thank you for allowing us to review your project in its preliminary stages.

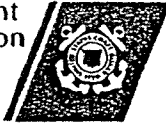
Sincerely,


John Milchick, Jr.
Kentucky State Coordinator

10 JUL 2001
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TRANSPORTATION CABINET

U.S. Department
of Transportation

United States
Coast Guard



Commander
Eighth Coast Guard District

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: obr
Phone: (314) 539-3900, Ext 382
FAX: (314) 539-3755

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9 July 2001

HNTB

Ms. Annette Coffey, P.E.
Director, Division of Planning
Commonwealth of Kentucky
Transportation Cabinet
125 Holmes Street
Frankfort, KY 40622

Subj: IMPROVEMENT TO KY 1159 FROM BROOKSVILLE TO KY 9 (AA HIGHWAY
IN BRACKEN)

Dear Ms. Coffey:

Please refer to your letter of June 25, 2000. After reviewing the plans that you submitted, we have determined that this project does not cross waterways over which the Coast Guard exercises jurisdiction for bridge administration purposes. A Coast Guard bridge permit is not required.

I appreciate the opportunity to comment on the proposed improvement project. Should you have any questions, please contact Mr. David Orzechowski at (314) 539-3900 Ext. 382.

Sincerely,

A handwritten signature in dark ink, appearing to read "R. Wiebusch".

ROGER K. WIEBUSCH

Bridge Administrator

By direction of the District Commander

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COMMONWEALTH OF KENTUCKY
KENTUCKY STATE POLICE

919 VERSAILLES ROAD

FRANKFORT 40601

July 23, 2001

PAUL E. PATTON
GOVERNOR

ISHMON F. BURKS
COMMISSIONER

Annette Coffey, P.E., Director
Division of Planning
Transportation Cabinet
Frankfort, KY 40602

Dear Ms. Coffey:

Per your request for information and input, this task was assigned to Tpr. Tom Lilley for consideration and response. Tpr. Lilley both works and lives near the roadway in question and is very familiar with the characteristics of the roadway. Please find attached the results and recommendations from Tpr. Lilley in reference to KY 1159.

If I can be of any assistance to you in the future, please do not hesitate to call upon me.

Sincerely,

A handwritten signature in dark ink, appearing to read "Lt. Jim Booth", followed by the letters "APC" in a smaller, handwritten font.

Lt. Jim Booth
Acting Commander



FISH & WILDLIFE COMMISSION

Mike Boatwright, Paducah
Tom Baker, Bowling Green, Chairman
Allen K. Gailor, Louisville
Charles E. Bale, Hodgenville
Dr. James R. Rich, Taylor Mill
Ben Frank Brown, Richmond
Doug Hensley, Hazard
Dr. Robert C. Webb, Grayson
David H. Godby, Somerset



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF FISH AND WILDLIFE RESOURCES
C. THOMAS BENNETT, COMMISSIONER

July 25, 2001

Alex Barber
Commissioner's Office
Department for Environmental Protection
14 Reilly Road
Frankfort, KY 40601

Re: Threatened/Endangered species review: Scoping Notice for Evaluation of Improvements to KY 1159 from Brooksville to KY 9 (AA Highway), Bracken County, Kentucky

Dear Mr. Barber:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received your request for the above-referenced information. The Kentucky Fish and Wildlife Information System indicates that no federally threatened or endangered species are known to occur in the Brooksville 7.5 minute USGS quadrangle(s). Please be aware that our database system is a dynamic one that only represents our current knowledge of the various species distributions.

The KDFWR recommends the following for any portion of the project that will be instream or near streams:

1. Development/excavation during a low flow period to minimize disturbance;
2. Proper placement of erosion control structures below highly disturbed areas to minimize entry of silt to the stream;
3. Replanting of disturbed areas after construction, including stream banks and right-of-ways, with native vegetation for soil stabilization and enhancement of fish and wildlife populations;
4. Return all disturbed instream habitat to its original condition upon completion of construction in the area, and;
5. Preservation of tree canopy overhanging the stream.

I hope this information will be helpful to you. Should you require additional information, please contact me at (502) 564-7109, ext. 367.

Sincerely,

A handwritten signature in cursive script, appearing to read "Marla T. Barbour".

Marla T. Barbour
Fisheries Biologist III

cc: Environmental Section File



TO: Annette Coffey, P.E., Director
Division of Planning

FROM: David M. Waldner, P.E., Acting Director
Division of Environmental Analysis

DATE: July 25, 2001

SUBJECT: Comments on Proposed Project to Improve KY 1159 from Brooksville to KY 9 in Bracken Co.

We have reviewed the information provided on the proposed highway project and have the following comments at this time:

- Avoid or minimize any channel changes
- There is a prehistoric site located in Goose Creek flood plain southwest of KY 9/KY 1159. Site 15Br16 would need to be evaluated if impacted. There may be additional sites in this floodplain or along the ridge lines. No National Register archaeological sites currently identified.
- There is a potential threat to historic properties.
- Continue public involvement throughout the process.
- Avoid, minimize impacts to prime farmland, residences and community resources.

Air quality, UST/hazmat and other issues will need to be addressed as the project develops.

cc: Sharon Laycock (D-6), R.M. Morris, R.D. Dutton, Ann Brandt, Project File



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JUL 27 10 34 AM '01

COMMONWEALTH OF KENTUCKY
KENTUCKY STATE POLICE
919 VERSAILLES ROAD
FRANKFORT 40601

PAUL E. PATTON
GOVERNOR

ISHMON F. BURKS
COMMISSIONER

Post 6, Dry Ridge

Annette Coffey, P.E., Director
Division of Planning
Transportation Cabinet
Frankfort, KY 40622


Dear Ms. Coffey,

The roadway is two-lane asphalt road that extends from Brooksville Proper to KY 9 (AA Highway).

The roadway runs along a ridge with several curves, side roads, shoulder drop-offs and areas of limited sight distance due to elevation changes. Areas along the roadway near Brooksville and its intersection with KY 1011 also have residences in close proximity to the road.

Most of KY 1159 runs through a rural area where the posted speed limit is 55mph. Normally vehicles are unable to obtain and sustain the posted speed limit in these areas due to the roadway curves. Several of the curves have a limited sight distance due to the changes in roadway elevation making them potentially hazardous. I feel this along with driver error and area wildlife is the major causes of accidents along the roadway.

In conclusion I believe that widening the entire roadway, to include an additional lane, would be costly and potentially impossible due to geographic and residential location. Widening the shoulders in certain locations allowing recovery time for driver errors may be beneficial, however placing wide shoulders at turning locations (side roads) would create the potential for greater hazard by possibly further blocking sight distance from side roads, which in turn would create more driver error. Alleviating the sight distance limitations would be of benefit along with reducing the posted speed from 55mph to 45mph along KY 1159 from Brooksville to KY 1011. I believe these adjustments along with increased enforcement would have the desired effect of reducing accidents while at the same time having a minimal impact on the surrounding community.

Trooper T. Lilley 
Trooper T. Lilley, U/483

TL/jh

Reviewed
[Signature]
7/11/01



JAMES E. BICKFORD
SECRETARY



PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601

August 14, 2001

Division of Waste Management

Comments for Project #SER02001-61

The Division of Waste Management would be concerned that all solid waste generated by this project be disposed at a permitted facility.

Another concern is that during this type of project, old regulated and non-regulated underground storage tanks may be encountered, as well as other contamination. Should tanks or contamination be encountered they must be properly reported and remediated.



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APPENDIX (D) – ENVIRONMENTAL JUSTICE

KY 1159 ENVIRONMENTAL JUSTICE REPORT

INTRODUCTION

This report presents a review of the findings of the community and environmental conditions existing in and around the proposed KY 1159 improvements in Bracken County, Kentucky. The data in this report was collected from a number of sources, including the US Census Bureau, local elected officials, local stakeholders, and local residents. The information and data in this report is intended to aid the Kentucky Transportation Cabinet (KYTC) and others in engaging all groups potentially impacted by this project.

According to the US Environmental Protection Agency (EPA), "the goal of environmental justice is to ensure that all people, regardless of race, national origin or income, are protected from disproportionate impacts of environmental hazards." Environmental justice communities include minorities and/or low-income groups.

METHODOLOGY

Data was collected by reviewing the Census Data, conducting interviews, and conducting field reviews. All data was then compiled and analyzed to develop this report. The population and race Census Data used in this report were taken from the following sources:

- Profiles of General Demographic Characteristics 2000 Census of Population and Housing Kentucky
- Census 2000 Population by Race and Hispanic Origin for Census Blocks
- U.S. Census State and County Quick Facts

For the purposes of income analysis 1990 data was used since 2000 data was unavailable. Interviews and field surveys did not reveal any minority or low-income groups in the project area. That information was substantiated by the findings from the Census data and is discussed in the Census Data section.

INITIAL FINDINGS

Businesses/Organizations

There are only three businesses located in the KY 1159 study area. These include a restaurant/bar, a vehicle repair shop and a real estate office. No schools are located within the project area, although the Bracken County High School is just south of the project area. It has an enrollment of 360 students. However, there were no specific complaints received regarding bus/student travel during peak travel times. One church, the Concord United Methodist Church, is located in the project area just south of Bladeston. No complaints were received regarding church traffic.

Residences

Approximately 50 residences are located in the corridor. Through careful location selection and use of retaining walls taking of most of these residences for construction can be avoided.

Communities

The existing corridor also traverses through the small town of Bladeston. Any widening of the road through this area could result in the taking of homes and commercial buildings. Given the size of the community, this would negatively impact the area. No other communities, towns, neighborhoods and associated facilities, community centers, are within project area.

CENSUS DATA

In reviewing US Census Data, there were several items of note concerning Bracken County. Bracken County is divided into three Census Tracts and the project area is composed of 11 Census Blocks. The KY 1159 improvement project is located in one tract. See **Figure 1** for detail.

The data on minorities, poverty rates, and age are shown in **Tables 1, 2, and 3**, respectively. Census data on minorities was available at the Census Tract and Census Block levels. However, Census data for poverty rates and age were only available at the county level. Key characteristics from the 1990 Census data for Bracken County are as follows:

Population by Race

- Bracken County is predominantly a white community (over 98%). There are very few members of other races and no concentration of members of any race, including Hispanics, in the county. This holds true at the Tract level as well.
- American Indian or Alaska Native minorities were the only minority group more heavily represented in the county than the Commonwealth. The percentages of all other minority groups were below the Commonwealth percentages.
- Total minorities within a Census Block were less than 6% in all blocks except Block 3015 in the southern part of the study area. That block is composed of 18.75% minorities.

Poverty Rate and Age Groups

- Poverty rates for the county were 0.2% above those for the Commonwealth.
- Children in poverty were 1.57% higher for the county than the Commonwealth and female headed households in poverty were nearly 6% higher than the Commonwealth.
- Bracken County has a slightly greater percentage of population of persons over 65 years of age than the Commonwealth (1% higher) but persons over 65 in poverty were 3.51% higher than those for the Commonwealth.
- Bracken County is a rural county with no major employment centers.

CONCLUSION

No concentrations of minority or low income groups are present within the project area with the exception of Census Block 3015. In order to meet the EPA's goal of environmental justice on this study, it is recommended that any proposed improvements avoid the Bladeston community since the disruption caused by a widening along the existing KY 1159 route would not be mitigable and would adversely impact the community. Additionally it is recommended that the southern portion of the project stay on or near the existing alignment, and use retaining walls where possible to avoid the relocation of residents.

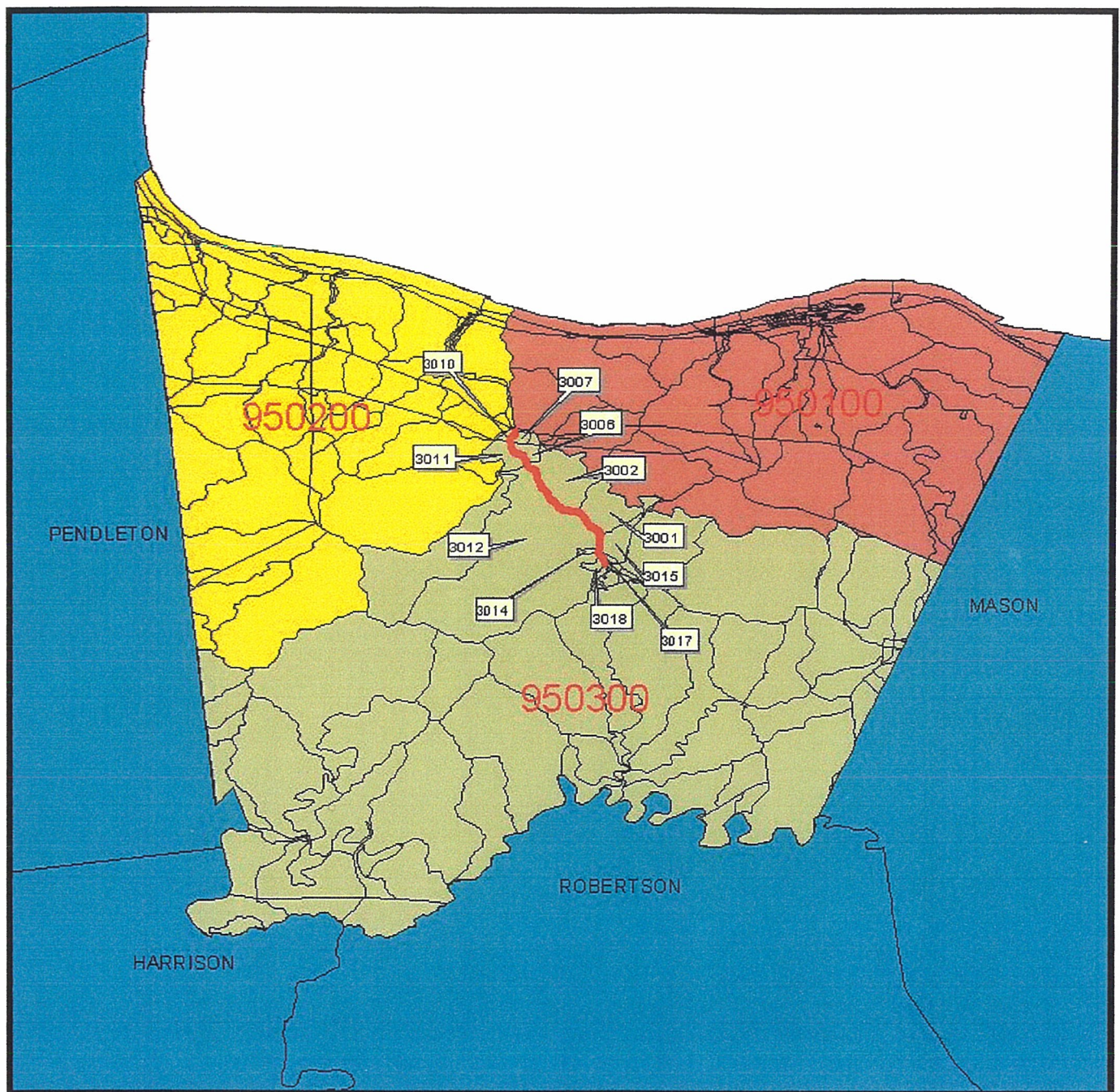


Figure 1: Bracken County Census Tracts

TABLE 1
YEAR 2000 POPULATION BY RACE COMPARISON CHART

	Total Population	White Alone	% of Population	Black or African-American only	% of Population	American Indian or Alaska Native Alone	% of Population	Asian Alone	% of Population	Native Hawaiian & Other Pacific Islander Alone	% of Population	Hispanic or Latino Alone	% of Population	Some Other Race(s)	% of Population
TRACT 9503, BLOCK 3001	202	198	98.02%	0	0.00%	4	1.98%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
TRACT 9503, BLOCK 3002	116	115	99.14%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	0.86%
TRACT 9503, BLOCK 3006	10	10	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
TRACT 9503, BLOCK 3007	0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
TRACT 9503, BLOCK 3010	0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
TRACT 9503, BLOCK 3011	18	18	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	5.56%	0	0.00%
TRACT 9503, BLOCK 3012	282	280	99.29%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	2	0.71%
TRACT 9503, BLOCK 3014	2	2	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
TRACT 9503, BLOCK 3015	32	29	90.63%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	3	9.38%	3	9.38%
TRACT 9503, BLOCK 3017	188	184	97.87%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	4	2.13%	4	2.13%
TRACT 9503, BLOCK 3018	17	17	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
TRACT 9503	3,866	3,798	98.24%	28	0.72%	12	0.31%	3	0.08%	1	0.03%	0	0.00%	42	1.09%
BRACKEN COUNTY	8,279	8,153	98.48%	51	0.62%	21	0.25%	5	0.06%	3	0.04%	39	0.47%	46	0.56%
KENTUCKY	4,041,769	3,640,889	90.08%	295,994	7.32%	8,616	0.21%	29,744	0.74%	1,460	0.04%	22,623	0.56%	22,623	0.56%

TABLE 2
YEAR 1990 POVERTY RATE COMPARISON CHART

	Total Persons in Poverty*	Total Persons in Poverty**	Children 0-17	Children 0-17 in Poverty	% of Children 0-17 in Poverty	Female Headed Households	Female Headed Households in Poverty	% of Female Headed Households in Poverty	Persons 65+	Persons 65+ in Poverty	% of Persons 65+ in Poverty
BRACKEN COUNTY	1,643	15.80%	1,986	517	26.03%	128	84	65.63%	274	24.12%	24.12%
KENTUCKY	681,827	16.00%	938,325	229,530	24.46%	86390	51,519	59.64%	441,885	91,091	20.61%

* 1989 numbers
* 1997 model based estimate

RECEIVED
TRANSPORTATION CABINET
DIVISION OF PLANNING

JUL 13 2 32 PM '01

MEMORANDUM

TO: Annette Coffey, P.E.
Director
Division of Planning

FROM: William Broyles, P.E.
Geotechnical Engineering
Branch Manager
Division of Material

BY: R.T. Wilson, P.G. *R.T. Wilson*
Geotechnical Branch

DATE: July 12, 2001

SUBJECT: Bracken County
FD04 012 1159
Mars No. 6879301D
Brooksville to the AA Highway
Geotechnical Considerations
Item 6-154.0

Personnel from the branch have completed an office review of the subject project.

The Geologic Map of the Brooksville Quadrangle, Bracken County, indicates the Fairview, Kope and Point Pleasant Formation of Ordovician Age underlie the study area.

The Fairview Formation is encountered above approximately elevation 860' and consists of crystalline and argillaceous limestone (approximately 50% of the unit) interbedded with calcareous shales. While the fresh, unweathered shales often appear to be competent material, exposure to air and moisture will quickly degrade them to highly plastic clay.

The Fairview Formation is underlain by the Kope Formation, and consists of calcareous shale (60% to 80% of the unit) interbedded with crystalline limestone. The Kope shales also exhibit a low resistance to slaking, similar to that exhibited by the Fairview shales. The shale members of both the Fairview and Kope Formations are typically weathered to a depth of 20 to 40 feet below the rock surface.

In the deeper valley, The lower portion of the ridges and valley floor is underlain by the Point Pleasant Formation, which consist of limestone (greater than 60% of the unit) with interbedded calcareous shale.

Structural contours on the geologic maps, based on the base of the Fairview Formation, indicate a gentle dip from the southeast to the northwest. No faults or other significant structural features are noted in the study area.

Avoidance of side hill cut-fills is recommended. Based on previous experience in the area and depth of the rock disintegration zone 2:1 cut slopes and 3:1 fill slopes are anticipated. Shale compacted in 1 foot lifts will be required.

In the opinion of the branch a stable roadway is more easily obtained by constructing it close to center of the ridgeline. If a by-pass of Bladeston is necessary, an alignment going to the east of the community is recommended. If there are questions please advise.

Attachment

APPENDIX (E) – GEOTECHNICAL OVERVIEW
