ALTERNATIVES STUDY

KY 100 FROM KY 622 TO US 31E ALLEN & SIMPSON COUNTIES ITEM NUMBER 3-8303.00

Kentucky Transportation Cabinet
Division of Planning
September 2008





EXECUTIVE SUMMARY

Alternatives Study

Allen & Simpson Counties: Item Number 3-8303

KY 100 from KY 622 to US 31E

As part of the Kentucky primary highway network, KY 100 is a rural two-lane facility which connects US 31E near Scottsville in Allen County to I-65 near Franklin in Simpson County. KY 100 is functionally classified as a rural major collector, and it provides a link between the employment, education, governmental, health and recreation service centers in Allen and Simpson Counties. With the improvements to the KY 100 corridor from Franklin to Scottsville currently underway, the next priority for improvement is slated as the section of KY 100 from the intersection with KY 622 in Simpson County to US 31E in Allen County.

This alternatives study was conducted to develop and evaluate alternatives for improving KY 100 in Allen and Simpson Counties, starting at KY 622 in eastern Simpson County and ending approximately fifteen miles east at US 31E in Allen County. This study was developed using a project team approach, with the project team being composed of personnel from the Kentucky Transportation Cabinet's Central Office and Bowling Green Highway District Office, and the Barren River Area Development District. The process of developing this alternatives study included analyzing roadway and traffic conditions; developing a draft purpose and need statement; coordinating with resource agencies and meeting with local officials, stakeholders, and the public to identify their concerns and preferences related to transportation improvements in the area; investigating environmental concerns in the area, including environmental justice and community impacts; and developing and evaluating potential improvement alternatives. Two public meetings, as well as two meetings with local officials and stakeholders, were included as part of this study.

The purpose of this project is to improve safety and provide a better connection for travelers along KY 100 from the intersection with KY 622 to the intersection

with US 31E as part of an overall improvement strategy for the entire KY 100 corridor. While existing and projected traffic volumes indicate that the level of service will remain acceptable at least until Year 2030, the existing geometrics increase travel times and create safety concerns at certain locations. Traffic consists primarily of passenger cars, but there is a relatively large proportion of heavy vehicles, and horse and buggy traffic is fairly common due to the Mennonite communities in the area. This mixture of vehicles combined with the roadway geometrics and narrow cross-section creates safety concerns, and several locations were identified as having potentially high crash rates.

Due to the length of the study corridor, it was divided into six segments which collectively cover the entire study corridor and could be reconstructed independently. In addition, eight locations were identified for potential spot improvements, which are low-cost improvements that focus on small areas of the existing route where specific problems have been identified. Other options that were considered include the no-build alternative and a new four-lane corridor alternative. Based on technical analysis and community input, the project team selected and prioritized a set three spot improvements and three segment improvements. The recommended improvement locations are shown in Figure ES-1. Phased cost estimates and estimated beginning and ending mile points keyed to KY 100 are provided in Table ES-1.

Figure ES-1: Recommended Improvement Locations

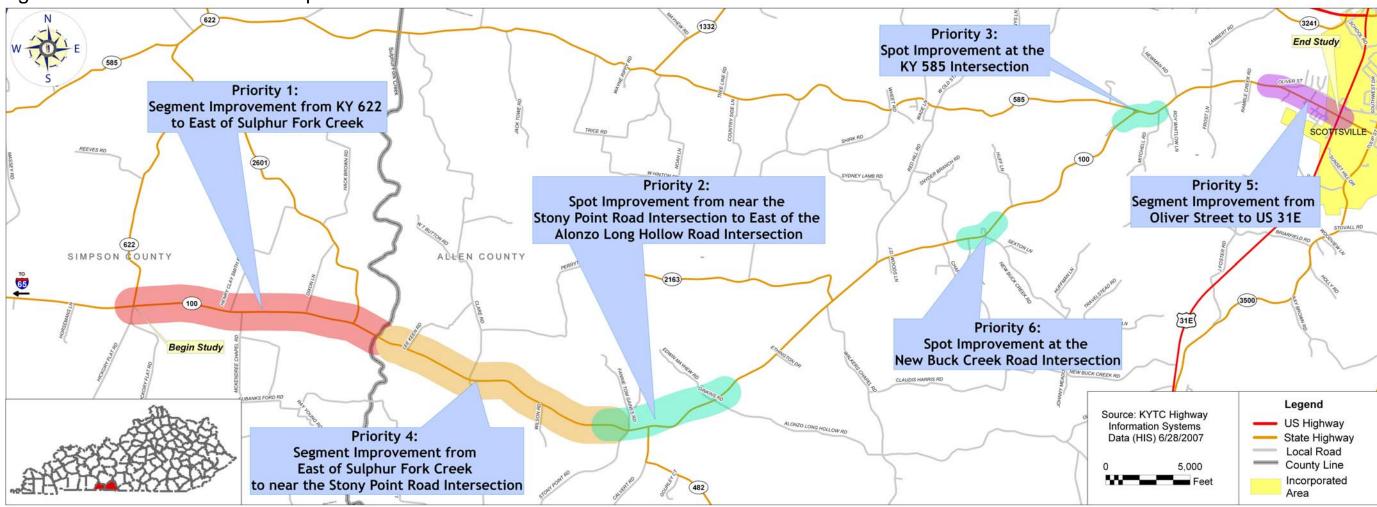


Table ES-1: Cost Estimates for Recommended Improvements

| | Description | Mile Point Range | Estimated Cost | | | | | |
|----------|---|---|----------------|-----------|-------------|--------------|--------------|--|
| Priority | (Cost Estimates Assume a 2-Lane Rural Cross- Section Unless Otherwise Noted) | (Allen County Unless Otherwise Noted) | Design | ROW | Utilities | Construction | Total | |
| | Red Segment: Reconstruct KY 100 from KY 622 to East of Sulphur Fork Creek | Simpson County 16.3 - Allen County 0.4 | \$1,200,000 | \$640,000 | \$1,500,000 | \$9,600,000 | \$12,800,000 | |
| 2 | Spot D: Curve, Bridge, and Intersection Improvements from near the Stony Point Road Intersection to East of the Alonzo Long Hollow Road Intersection | 2.7 - 4.5 | \$660,000 | \$360,000 | \$830,000 | \$5,400,000 | \$7,250,000 | |
| .3 | Spot F: Reconstruct Intersection of KY 100 and KY 585 | 9.9 - 10.6 | \$170,000 | \$93,000 | \$220,000 | \$1,400,000 | \$1,880,000 | |
| 4 | Orange Segment: Reconstruct KY 100 from East of Sulphur Fork Creek to Stony Point Road | 0.4 - 3.1 | \$1,200,000 | \$580,000 | \$1,300,000 | \$8,700,000 | \$11,900,000 | |
| | Purple Segment: Reconstruct KY 100 from Oliver St. to US 31E (3-Lane Urban Cross-Section) | 11.8 - 12.7 | \$480,000 | \$380,000 | \$670,000 | \$3,800,000 | \$5,330,000 | |
| h l | Spot E: Reconstruct Intersection of KY 100 and New Buck Creek Rd. | 7.5 - 8.2 | \$170,000 | \$93,000 | \$210,000 | \$1,400,000 | \$1,870,000 | |

KY 100 Alternatives Study

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1.0 INTRODUCTION

1.1 Study Purpose

The purpose of this alternatives study is to develop, evaluate, and prioritize alternatives for improving the section of KY 100 from the KY 622 intersection in Simpson County to the US 31E intersection in Allen County. This study is intended to provide an estimate of funding needs for potential improvements within the study corridor and to provide information that can be used if and when these improvements are carried forward to the design phase. This study is also intended to lay the groundwork for satisfying requirements of the National Environmental Policy Act (NEPA) regarding consideration of environmental issues.

The following items were included in the development of this study:

- Analyze existing roadway and traffic conditions, and identify concerns that should be addressed;
- Coordinate with resource agencies, local officials, and the public to inform them about the planning study and to identify their concerns related to transportation improvements in the study corridor;
- Develop a draft Purpose and Need Statement;
- Investigate environmental concerns in the study area, including environmental justice and community impacts;
- Develop and evaluate potential improvement alternatives; and
- Recommend improvements to be carried forward.

1.2 Programming

This study was funded in the *Enacted Six-Year Highway Plan 2007-2012* as Item Number 03-8303.00, "Widen and improve KY-100 from US 31E to KY-622 in Simpson County," with beginning and ending mile points of 16.34 in Simpson County and 12.654 in Allen County, respectively. No funding is programmed for future project phases at this time. On the Unscheduled Projects List, this project

is ranked as a high priority at the district level and as a medium priority at the regional level.

1.3 Other Transportation Projects in the Area

Several transportation projects in the immediate vicinity of the KY 100 corridor have been scheduled in the *Enacted Six-Year Highway Plan 2007-2012*:

- Reconstruct and widen KY 100 from I-65 to KY 622 (Item Number 3-8306.00): This project is currently in the design phase. When completed, it will result in an improved segment of KY 100 from I-65 to the beginning of the study corridor.
- Replace KY 100 bridge and approaches over Trammel Creek (Item Number 3-8100.00): This project is located within the KY 100 study corridor and is currently in the design phase.
- Construct a two-way left-turn lane on US 31E from KY 100 to the Primary Center entrance (Item Number 3-8301.00).

1.4 Study Process

This study was conducted using a project team approach. The project team included representatives from the Kentucky Transportation Cabinet (KYTC) Central Office, the KYTC Bowling Green Highway District Office, and the Barren River Area Development District (BRADD). In addition, agency coordination and public involvement activities were conducted to solicit input from a variety of resource agencies, local officials, and the public.

A total of three project team meetings, two local officials and stakeholders meetings, and two public information meetings were held as part of this alternatives study. Complete minutes for the project team meetings, local officials and stakeholders meetings, and public meetings are provided in Appendices B, C, and D, respectively. Brief summaries of these meetings are as follows:

- An initial project team meeting was held on May 16, 2007. Items discussed at this meeting included existing conditions, goals and objectives, environmental issues, other projects in the area, and preliminary design criteria.
- A local officials and stakeholders meeting was held on July 19, 2007. Information on traffic volumes, crash history, and the environmental footprint was presented to the local officials and stakeholders. The officials identified a number of concerns. Some of these concerns were general in nature (e.g. Mennonite communities in the area and heavy truck traffic), but most pertained to problems at specific locations.
- A public meeting was held on August 16, 2007. Information on traffic volumes, crash history, and the environmental footprint was presented to the public. Members of the public provided information on their concerns about potential improvements, as well as specific problems that they would like to see addressed. This meeting was very well-attended, with 151 members of the public noted on the sign-in sheets.
- A second project team meeting was held on October 24, 2007. The results of the previous public meeting were discussed, and short-term and long-term project goals were identified. A variety of improvement alternatives were discussed, including building a new corridor, reconstructing the existing corridor, and making spot improvements to the existing corridor. A set of alternatives was selected to present at the next local officials meeting.
- A second local officials and stakeholders meeting was held on November 29, 2007. The main issues identified through the previous phase of the planning study, along with a draft Purpose and Need Statement, were presented. The initial set of improvement alternatives identified by the project team were also presented to the local officials and stakeholders, and they were given the opportunity to comment on these alternatives.
- A second public information meeting was held on January 8, 2008. The previously identified issues and concerns were presented, along with a

purpose and need statement and the preliminary set of improvement alternatives. Members of the public were given comment forms on which to state their preferences and priorities regarding potential improvements within the study corridor. Twenty-five members of the public were noted on the sign-in sheets.

A third project team meeting was held on March 6, 2008. Previous work on the planning study was reviewed, environmental concerns were discussed, and the results of the most recent public information meeting were summarized. Based on this information, a prioritized list of spot improvements and segment improvements recommended to be carried forward was developed.

2.0 CORRIDOR DESCRIPTION

2.1 Project Location

The study corridor begins at the KY 622 intersection at MP 16.340 in Simpson County and continues east to the US 31E intersection at MP 12.654 in Allen County. The study corridor is shown in Appendix A, Exhibit 1. Land use along the corridor is primarily rural in nature, with a higher concentration of residential development in the Scottsville area at the eastern end of the corridor. KY 100 connects with I-65 approximately six miles west of the beginning of the study corridor, and many residents of Allen County use this portion of KY 100 to access the Interstate.

2.2 Roadway Characteristics

Data related to the existing roadway characteristics for this section of KY 100 was obtained from the Division of Planning's Highway Information System (HIS) database. This data is included in Appendix E and is summarized below. Additional information was obtained from field visits, meetings with personnel from the Bowling Green Highway District Office, and public involvement.

This section of KY 100 is classified in the State System as a state secondary route, and is functionally classified as a rural major collector. The truck weight class is AAA, and the route is not part of the National Highway System. The speed limit is 55 miles per hour (MPH) except in the Scottsville area at the eastern end of the study corridor, where it is reduced to 45 MPH.

No specific information on vertical grades is available, but the terrain in the area is generally rolling. There are a number of sharp vertical curves, particularly in the Simpson County and western Allen County portions of the study corridor. These vertical curves restrict sight distance and create safety concerns, especially when intersections are located in the vicinity. Abrupt horizontal curves are also a major safety concern within the study corridor. A table containing the degree of horizontal curvature for segments of KY 100 within the study corridor was obtained from HIS and is included in Appendix E. The degrees of curvature were used to calculate design speed based on horizontal curvature, assuming a maximum superelevation of six percent. A large number of segments were found to have design speeds based on horizontal curvature of 45 MPH and 50 MPH, which is below the posted speed limit of 55 MPH. The actual design speed for these segments may be even lower due to vertical curvature and sight distance restrictions.

The existing cross section consists of two through lanes with narrow paved and unpaved shoulders. In Simpson County, the through lanes are nine feet wide and the shoulders are four feet wide. In Allen County, the through lanes range from nine to ten feet wide, and the shoulders are two feet wide. Heavy vehicles make up a relatively large proportion of the traffic composition on this route, and there is also a significant amount of horse and buggy traffic due to the large number of Mennonites in the area. Many members of the public expressed concerns about the large proportion of trucks on such a narrow roadway. They also expressed concerns that the narrow shoulders don't provide room for horse and buggy traffic to pull over to allow vehicles to pass, do not provide a place for

disabled vehicles to pull over, and do not provide an adequate recovery zone for vehicles that leave the travel lanes.

Several bridges are located along this section of KY 100:

- B00004 is located at Sulphur Fork Creek at the Allen-Simpson County
 Line
- B00016 is located at Middle Fork Drakes Creek at MP 3.968 in Allen County.
- B00015 is located at Long Hollow Branch at MP 4.149 in Allen County.
- B00014 is located at Trammel Fork at MP 9.181 in Allen County.

The Trammel Fork bridge is scheduled to be replaced as a separate project which is currently in the design phase. No structural concerns were noted regarding the other three bridges, but local officials and members of the public expressed concerns about the narrow width of the bridges, especially given the high number of large trucks using the route.

2.3 Traffic Characteristics

Four traffic count stations are located along this section of KY 100. Station 508 covers the portion beginning at KY 622 at the western end of the study corridor and ending at the KY 482 intersection; Station 558 covers the segment from KY 482 to Red Hill Road; Station 505 covers the segment from Red Hill Road to KY 585; and Station 563 covers the segment from KY 585 to US 31E at the eastern end of the study corridor. Average daily traffic volumes (ADT) for these count stations were obtained from the Division of Planning's Traffic and Equipment Management Branch. Data was available from as early as 1965 and as recently as 2006, depending on the particular count station. These historic ADT volumes were used to estimate current (Year 2007) and future (Year 2030) ADT volumes for each station. The results of this analysis are presented in Table 1

Table 1: Current and Future Traffic Volumes and Levels of Service

| | Traffic | Existing (Year 2007) | | Projected (Year 2030) | | | | |
|-------------------------------------|------------------|----------------------|------|-----------------------|-----------------------------------|---|--|--|
| Segment Description | Count Station | ADT* | LOS† | ADT | LOS for Unimproved Sections | LOS for Improved Two- Lane Sections | | |
| From KY 622 to Allen County Line | 508 | 2,680 | В | 5,570 | С | С | | |
| From Allen County Line to KY 482 | 508 | 2,680 | С | 5,570 | С | С | | |
| From KY 482 to Red Hill Road | 558 | 2,310 | В | 4,080 | С | В | | |
| From Red Hill Road to KY 585 | 505 | 2,570 | С | 4,670 | С | С | | |
| From KY 585 to US 31E | 563 | 3,540 | С | 5,210 | С | С | | |

^{*}Average Daily Traffic (vehicles per day)

Current ADT volumes range from 2,310 vehicles per day near the middle of the study corridor to 3,540 vehicles per day at the eastern end of the study corridor near Scottsville. Although the eastern end of the study corridor currently has the highest traffic volumes, traffic volumes at the western end of the study corridor have historically grown at a faster rate. This trend is expected to continue due to anticipated developments near I-65. Future ADT volumes in the year 2030 are expected to range from approximately 4,000 vehicles per day near the middle of the study corridor to approximately 5,600 vehicles per day at the western end of the study corridor. Currently, heavy vehicles make up 12% of the traffic volumes on KY 100 throughout the study corridor, and it has been assumed that the proportion of heavy vehicles in the traffic stream will remain unchanged.

Level of Service (LOS) is a measure of how well a transportation facility is operating. It ranges from A, which indicates that there is no congestion, to F, which indicates that the traffic demand exceeds the capacity of the facility. A design hour level of service of C is considered acceptable in rural areas, while a level of service D is acceptable in urban areas. For rural two-lane highways such as KY 100, level of service is based primarily on percent time spent following. The ADT volumes in Table 1 were used to calculate design-hour volumes (DHV), and the HCS+ computer program was used to calculate design-hour levels of

[†]Level of Service

service for each segment under three different scenarios: Current traffic volumes on the existing route, future traffic volumes on the existing route, and future traffic volumes on an improved route. Geometric data from HIS was used in conjunction with the design-hour traffic volumes to calculate existing and future levels of service (LOS) on the existing route. For the purpose of calculating future levels of service on an improved route, it was assumed that the improved route would consist of two twelve-foot-wide travel lanes with eight-foot-wide shoulders, that passing sight distance would be available on 70% of the improved route, and that the improved alignment would allow a base free-flow speed of 60 MPH. The results of this analysis are summarized in Table 1, and printouts containing the details of the HCS+ analysis are provided in Appendix F.

Under current traffic and geometric conditions, LOS ranges from B to C. If no improvements were made to KY 100, the LOS in Year 2030 would be C on all segments, which is acceptable. If the entire route was upgraded to an improved two-lane cross-section with adequate geometrics, the Year 2030 LOS would improve to B on one segment and would remain at C on the remaining segments. The results of the level of service analysis are presented graphically in Appendix A, Exhibits 2 through 4. The results of this analysis indicate that anticipated traffic volumes are low enough that improvements to the study corridor will not be necessary to provide an adequate level of service in Year 2030.

2.4 Safety

Crash data was used to calculate critical rate factors in accordance with the procedure described in *Analysis of Traffic Crash Data in Kentucky (2001-2005)*, published by the Kentucky Transportation Center. A critical rate is the crash rate for a given type of roadway at which it can be said with 99.5% significance that the roadway in question is more prone to crashes than similar roadways throughout the state. A critical rate factor (CRF) is the ratio of the actual crash rate at the location of interest to the critical rate; therefore, a CRF approaching or greater than 1.00 indicates that there is a high probability that the location of

interest is a high-crash location. The data used in this analysis was obtained from the Collision Reports Analysis for Safer Highways (CRASH) database maintained by the Kentucky State Police for the time period beginning on January 1, 2004 and ending on December 31, 2006.

The study corridor was broken into four segments based on changes in traffic volume, which affects the calculation of critical rate factors. The segment from KY 622 at the western end of the study corridor to KY 482 in western Allen County was further divided into two segments, with the break point between segments corresponding to the county line, resulting in a total of five segments of similar length. Critical rate factors were calculated for each of the five segments and are presented in Table 2 and on Exhibit 5 in Appendix A. None of the segments had critical rate factors approaching 1.00. The two segments at the western end of the project had the highest critical rate factors: The segment from KY 622 to the Allen-Simpson County line had a critical rate factor of 0.75, and the segment from the Allen-Simpson County line to KY 482 had a critical rate factor of 0.74. This is not surprising given that the horizontal and vertical curvature is most pronounced on these two segments. The segment with the next highest critical rate factor, 0.64, begins at Red Hill Road and ends at KY 585. This segment includes the Trammel Creek Bridge, which was identified as a highcrash spot. The remaining two segments, from KY 482 to Red Hill Road at the middle of the study corridor, and from KY 585 to US 31E at the eastern end of the study corridor, both had critical rate factors of 0.40.

Critical rate factors were also calculated for one-tenth-mile spots. Spots with a critical rate factor of 0.90 or higher were considered potentially high-crash locations. These spots and are listed in Table 3 and shown graphically Appendix A, Exhibit 5. Five of the seven spots are located between KY 622 and Clare Road/New Roe Road in eastern Allen County and western Simpson County. As noted previously, this area is located within the two segments with the highest critical rate factors. Most of these spots have critical rate factors slightly less

| than 1.00, although the spot at MP 0.85 in Allen County, just east of the Sulphur Fork Bridge, has a critical rate factor of 1.28. | | | | | | | | |
|--|--|--|--|--|--|--|--|--|
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Table 2: Critical Rate Factors for Segments

| County | Segment | Segment | ADT* | Nu | | ashes on Segm 3 - Dec. 2005) | Segment Total | Critical Crash | CRF‡ | |
|---------|-------------------------|--------------------------|-------|---------------------|-------------------|---------------------------------|------------------|-------------------|-------|--------|
| County | Begin Point | End Point | ADT | Fatality Crashes | Injury Crashes | Property Damage Only | Total Crashes | Crash Rate† | Rate† | Orti ‡ |
| Simpson | MP 16.34 (KY 622) | MP 19.115 (Cnty Line) | 2,410 | 1 | 4 | 16 | 21 | 287 | 380 | 0.75 |
| Allen | MP 0.000 (Cnty Line) | MP 3.339 (KY 482) | 2,410 | 0 | 6 | 18 | 24 | 272 | 366 | 0.74 |
| Allen | MP 3.339 (KY 482) | MP 6.586 (Red Hill) | 2,050 | 0 | 1 | 10 | 11 | 151 | 380 | 0.40 |
| Allen | MP 6.586 (Red Hill) | MP 10.228 (KY 585) | 2,250 | 1 | 7 | 13 | 21 | 234 | 365 | 0.64 |
| Allen | MP 10.228 (KY 585) | MP 12.654 (US 31E) | 3,400 | 0 | 3 | 10 | 13 | 144 | 364 | 0.40 |

Table 3: Critical Rate Factors for Tenth-Mile Spots

| County | Mile Point at | Intersections | ADT* | | | Crashes at Spo 3 - Dec. 31, 200 | Spot Total | Critical Crash | CRF‡ | |
|---------|------------------|-------------------------|--------|---------------------|-------------------|------------------------------------|------------------|-------------------|-------|--------|
| County | Center of Spot | Intersections | (2005) | Fatality Crashes | Injury Crashes | Property Damage Only | Total Crashes | Crash Rate† | Rate† | OIXI # |
| Simpson | 16.790 | Farm entrance | 2,410 | 0 | 1 | 2 | 3 | 1.1 | 1.18 | 0.96 |
| Simpson | 17.450 | Henry Clay Smith Rd. | 2,410 | 0 | 0 | 3 | 3 | 1.1 | 1.18 | 0.96 |
| Simpson | 18.7 | | 2,410 | 0 | 1 | 2 | 3 | 1.1 | 1.18 | 0.96 |
| Allen | 0.05 | Private entrances | 2,410 | 0 | 0 | 3 | 3 | 1.1 | 1.18 | 0.96 |
| Allen | 0.85 | | 2,410 | 0 | 0 | 4 | 4 | 1.5 | 1.18 | 1.28 |
| Allen | 9.15 | Trammel Creek | 3,400 | 0 | 2 | 6 | 8 | 2.1 | 1.00 | 2.14 |
| Allen | 12.65 | US 31E | 3,400 | 0 | 2 | 3 | 5 | 1.3 | 1.00 | 1.34 |

^{*}Average Daily Traffic (vehicles per day)

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^{*}Average Daily Traffic (vehicles per day)
†Number of crashes per hundred million vehicles miles traveled

[‡]Critical Rate Factor = Segment Total Crash Rate / Critical Crash Rate

[†]Number of crashes per million vehicles ‡Critical Rate Factor = Spot Total Crash Rate / Critical Crash Rate

Details on the weather conditions, roadway conditions, light conditions, and manners of collision at the high-crash spots are provided in Table 4. The majority of collisions involved single vehicles, and at most of the spots a relatively high proportion of the collisions occurred at night. Exceptions to this pattern include the Henry Clay Smith Road intersection, the Trammel Creek bridge, and the US 31E intersection. The collisions at Henry Clay Smith Road included one single vehicle crash, one opposing left-turn crash, and one rear-end crash. The two multi-vehicle collisions may be attributable to the poor sight distance at this intersection. Collisions at the Trammel Creek Bridge are evenly split between single vehicle and sideswipe collisions. The high number of sideswipe collisions may be due to the narrowness of the bridge. Crashes at the US 31E intersection, which is signalized, are mainly rear-end collisions.

Table 4: Crash Details at High-Crash Spots

| County & Mile Point at Center of Spot | | Simpson County 16.79 | Simpson County 17.45 | Simpson County 18.7 | Allen County 0.05 | Allen County 0.85 | Allen County 9.15 | Allen County 12.65 |
|---|-----------------------|----------------------------|-------------------------------|---------------------------|-------------------------|-------------------------|-------------------------|--------------------------|
| Intersections | | Farm entrance | Henry Clay Smith Rd. | | Driveways | | Trammel Creek | US 31E |
| Crash | Factors | | Nι | ımber of A | pplicable Cra | ashes at S | pot | |
| - | Clear | 1 | 2 | 1 | 2 | 2 | 3 | 5 |
| Weather | Cloudy | 1 | 1 | 0 | 0 | 1 | 2 | 0 |
| Vea | Rain | 0 | 0 | 2 | 1 | 0 | 3 | 0 |
| - | Other | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| ay on | Dry | 2 | 3 | 1 | 2 | 3 | 5 | 5 |
| dw | Wet | 0 | 0 | 1 | 1 | 0 | 3 | 0 |
| Roadway Condition | Ice/ Other | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| | Angle | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| on | Backing | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| isi | Head-on | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Manner of Collision | Opposing Left Turn | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| e | Rear End | 0 | 1 | 0 | 0 | 1 | 0 | 4 |
| uu | Sideswipe | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| Ma | Single Vehicle | 2 | 1 | 3 | 2 | 3 | 4 | 0 |
| no | Dark | 2 | 1 | 2 | 2 | 3 | 2 | 1 |
| Light Condition | Dawn/ Dusk | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Ŏ | Daylight | 0 | 2 | 0 | 1 | 1 | 6 | 4 |

3.0 AGENCY COORDINATION

The KYTC Division of Planning solicited input regarding this Alternatives Study from a variety of resource agencies. Their responses are included in Appendix G and are summarized below.

U.S. Coast Guard: The project does not involve bridges over navigable waters of the United States, and a Coast Guard bridge permit is therefore not required.

U.S. Department of Health & Human Services: Consideration should be given to potential future growth along the corridor when developing alternatives so that injuries are reduced for all users of the corridor. Areas considered during the NEPA process should include air quality, water quality and quantity, wetlands and floodplains, hazardous materials and wastes, non-hazard solid waste and other materials, noise, occupational health and safety, land use and community and neighborhood impacts, and environmental justice.

Kentucky Commerce Cabinet, State Historic Preservation Office: The agency indicates that there are many cultural resources and a number of previously recorded archaeological sites within the project area. The Section 106 Review Process must be completed if the project is federally funded or subject to Corps of Engineers permits.

Kentucky Department of Agriculture: No specific issues or concerns were identified.

Kentucky Environmental and Public Protection Cabinet (EPPC): The EPPC Department for Environmental Protection requested input from a number of agencies through the State Environmental Review Process. Some of these agencies had also been contacted by the Division of Planning directly and sent their responses directly to the Division of Planning. Agency comments received through the State Environmental Review Process, as well as comments from

agencies within the EPPC that were sent directly to the Division of Planning, are listed below.

- EPPC Division for Air Quality: The agency indicates that Kentucky Administrative Regulations 401 KAR 63:010 and 401 KAR 63:005 apply to this project. These regulations relate to fugitive emissions and open burning. In addition, the project must meet the conformity requirements of the Clean Air Act as amended and the transportation planning provisions of Title 23 and Title 49 of the United States Code. An investigation into compliance with applicable local government regulations is also suggested.
- EPPC Division of Conservation: The agency states that there are no agricultural districts or agricultural conservation easements established in the project area. However, the agency would like to see the issue of loss of farmland addressed and has listed resources for obtaining farmland designations and soil survey information. In addition, the agency has concerns about erosion and sedimentation control during and after earth-disturbing activities and recommends that best management practices be utilized to prevent nonpoint source water pollution.

EPPC Department for Natural Resources:

- The Lloyd Wildlife Management Area lies within the study area. It includes 366 acres of forestland, including a small "old growth" forest just north of Highway 491. [This comment does not appear to pertain to this study.]
- A limestone quarry is located on KY 1332 in Allen County. The exact location is shown on a map provided.
- EPPC Division of Water: The agency found that the information provided warranted an endorsement of the project. Additional comments are listed below:
 - Trammel Fork is listed as a Coldwater Habitat, Exceptional Water, and Reference Reach Stream.

- The project's location in a karst region can lead to groundwater pollution. Experienced karst hydrogeologists should review the area to ensure that groundwater will not be adversely affected.
 Measures should be taken to protect the area's groundwater, possibly including newly-developed "rain garden" technology.
- o No stream construction permit is required.

EPPC Division of Waste Management:

- Solid waste generated by the project must be disposed of at a permitted facility, and underground storage tanks, asbestos, lead paint, and other contaminants must be properly addressed if they are encountered.
- No known Underground Storage Tanks were found in the project area.
- A list of Superfund sites in Simpson County was provided.
- No historic landfills were noted in the project area.

Kentucky Commerce Cabinet, Department of Fish & Wildlife Resources:

- The federally endangered Indiana bat and gray bat are known to occur near the study area. The area is designated in Kentucky's State Wildlife Action Plan as a "Mussel Priority Conservation Area" and a "Fish and Lamprey Conservation Area" due to the potential presence of several "Species of Greatest Conservation Need" located in Trammel Creek, the Middle Fork of Drakes Creek, and Sulphur Fork Creek. Appropriate avoidance and/or mitigation measures should be taken to address these species.
- The project has the potential to impact wetland habitats.
 Appropriate avoidance and/or mitigation measures should be taken.
- The US Army Corps of Engineers and the Kentucky Division of Water should be contacted prior to any work within waterways or wetland habitats.

- The agency provided recommended practices for portions of the project that impact streams.
- Kentucky State Nature Preserves Commission (KSNPC): The agency emphasizes the importance of minimizing physical impacts to streams at crossings and water quality downstream from proposed crossings due to the presence of KSNPC-listed and federally threatened species in the area. The agency also indicates that this project would be a good candidate for using bridge designs at stream crossings that afford roosting use by gray myotis.

Kentucky Justice and Public Safety Cabinet:

- Kentucky State Police: KY 100 in Allen and Simpson Counties has been identified as a "High Crash Roadway." Steep drop-offs in some areas could contribute to crashes. Population and industrial growth in the area along with access to I-65 will cause traffic, including commercial traffic, to increase.
- Kentucky Vehicle Enforcement: The route is considered a nondesignated highway which does not allow trucks larger than 8 feet wide and 65 feet overall length. Some companies receiving citations complain that they are not aware of the restrictions due to a lack of signing.

Kentucky Transportation Cabinet:

Permits Branch:

- The project should be classified as a partially or fully controlled access facility. Details related to access control are provided.
- The design speed should equal the anticipated posted speed limit if possible.
- The permits branch requests early notification if the proposed roadway is to be placed on the National Highway System.

Office of Special Programs:

- The safety needs of bicyclists and pedestrians should be incorporated into the design as there are many small communities, churches, and schools along the route, and the Southern Lakes and Mammoth Cave KYTC designated bike routes are in close proximity.
- A minimum of 4 feet of paved shoulder beyond any rumble strips is recommended, along with proper signage, to accommodate bicyclists and pedestrians.
- Construction Branch: It is critical to provide a wide enough easement to properly maintain at least one lane of traffic during the construction phases.

Geotechnical Branch:

- The study area includes the St. Louis Limestone, Salem and Warsaw Limestone, and the Fort Payne Formations. A discussion of the characteristics of these formations is provided along with a map showing their locations within the study area. Sinkholes may be encountered in all three formations, especially the St. Louis Limestone, and are the branch's only concern.
- Oil and gas wells exist throughout the area and are also shown on the map provided. They should be researched further if new alignments are chosen.

University of Kentucky, Kentucky Geological Survey: The agency provided a summary of geologic concerns in the study area. The main concern appears to be karst potential.

4.0 ENVIRONMENTAL CONCERNS

4.1 Environmental Overview

Information on potential environmental concerns was obtained through coordination with the KYTC Division of Environmental Analysis (DEA). DEA completed a checklist addressing concerns related to archaeology; cultural and

historic resources; socioeconomic, air quality, and noise concerns; underground storage tanks and hazardous waste; ecology; and the need for special permits. This checklist is provided in Appendix H. The Division of Planning also prepared an environmental footprint to graphically illustrate known features of environmental concern in the area. The environmental footprint is included in Appendix H.

Personnel from the Bowling Green Highway District Office also noted that a home and farm at 7231 Scottsville Road in Franklin was built in the 1800's and is listed on the National Historic Register. Photographs of this home are included in Appendix H.

4.2 Environmental Justice and Community Impacts

Environmental justice is required by Executive Order 12898, which was signed on February 11, 1994. This Executive Order states that "...each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations...." The KYTC also considers elderly populations when evaluating environmental justice.

In order to identify potential environmental justice concerns, an *Environmental Justice Report* was prepared by the Barren River Area Development District (BRADD) to assess the community demographics within the study area. This report is included in Appendix I. The report notes that there are small concentrations of minorities within the study area. No concentrations of persons below the poverty level or of elderly residents are expected to be disproportionately affected by the project. The BRADD will continue to monitor the study area for environmental justice concerns throughout the development of the project.

5.0 PURPOSE AND NEED

Based on the information provided thus far in this report, and through public involvement and resource agency coordination, the following purpose and need statement was developed:

As part of the Kentucky primary highway network, KY 100 is a rural twolane facility which connects US 31E near Scottsville in Allen County to I-65 near Franklin in Simpson County. KY 100 is functionally classified as a "rural major collector", linking the employment, education, governmental, health and recreation service centers in Allen and Simpson Counties.

With the improvements to the KY 100 corridor from Franklin to Scottsville currently underway, the next priority for improvement is slated as the section of KY 100 from the intersection with KY 622 in Simpson County to US 31E in Allen County.

The purpose of this project is to improve safety and provide a better connection for travelers along KY 100 from the intersection with KY 622 to the intersection with US 31E as part of an overall improvement strategy for the entire KY 100 corridor.

6.0 ALTERNATIVES CONSIDERED

The project team considered several alternatives for the section of KY 100 between KY 622 and US 31E, including the no-build alternatives. These alternatives are discussed in detail below. Cost estimates for these alternatives are included in Table 5.

6.1 No-Build Alternative

This alternative would involve no reconstruction within the study corridor.

Improvements would be limited to maintenance and operations activities. This alternative would be the least expensive in terms of up-front costs and would

have the least community and environmental impacts. However, this alternative would not adequately address the project goals of improving safety and providing a better connection for travelers along the KY 100 corridor.

6.2 Spot Improvements

Based on a review of highway geometrics, crash data, and comments from local officials, stakeholders and the public, several locations were identified as potential candidates for spot improvements. Potential improvements, along with cost estimates, were developed to address the issues identified at these locations. A description of these spot improvements is provided below. Spot improvement locations are shown graphically in Appendix A, Exhibit 6. Photographs taken at the spot improvement locations are included in Appendix J. With the exception of Spots G and H, the cost estimates provided in Table 5 for these spot improvements are based on an assumed cross section consisting of two twelve-foot lanes with eight-foot shoulders, four feet of which would be paved.

- Spot A is located at the H. C. Smith Road intersection in Simpson County. The main problem at this location appears to be the sharp vertical curve which obscures sight distance. This spot was identified as a potentially high-crash location.
- Spot B is located at the Sulphur Fork Bridge at the Allen-Simpson County line. This bridge was improved recently, and the project team did not identify any particular issues with the bridge itself. However, crash data does indicate a spot with a potentially high crash rate near the bridge, and local officials and members of the public identified this location as a problem spot. One local official indicated that the curve just east of the bridge is dangerous.
- Spot C is located at the Clare Road/New Roe Road intersection in Allen County. This intersection is located in a horizontal S-curve, and there is a paved parking area in the northwest quadrant of the intersection where parked vehicles could obstruct intersection sight distance. There is also a

- vertical curve to the east of the intersection which reduces visibility. While the intersection itself was not identified as a high-crash location, there is a spot just west of the intersection, at the beginning of the S-curve, which has a high critical rate factor.
- Spot D is located in the Stony Point area in Allen County and extends from Stony Point Road to Alonzo Long Hollow Road. This spot originally consisted of four separate spots which were combined into one spot due to their close proximity to each other: The Stony Point Road and KY 482 intersections; the horizontal curve between KY 482 and Drakes Creek; Drakes Creek Bridge; and the Alonzo Long Hollow Road intersection.
- Spot E is located at the New Buck Creek Road intersection in Allen County. This is a skewed intersection located in a horizontal curve. A vertical curve to the east of the intersection reduces sight distance.
- Spot F is located at the KY 585 intersection in Allen County. KY 585 intersects KY 100 at a severe skew in a sharp horizontal curve.
 Comments from the public indicate that this is a dangerous intersection with many vehicles on KY 585 running the stop sign, and vehicles on KY 100 running off the road.
- Spot G is located at the Oliver Street intersection in Scottsville. The large skew angle at this intersection makes it somewhat difficult for drivers turning onto KY 100 to see conflicting traffic. Local officials indicated that congestion is a problem when school is starting and ending, especially in the morning when a large number of vehicles are turning left from KY 100 onto Oliver Street. The assumed cross section used to generate cost estimates for improvements at this location consists of two through lanes and a two-way left-turn lane with curb, gutter, and sidewalks. These assumptions were made to allow for improved traffic flow and to be consistent with potential segment improvements adjacent to this intersection.
- Spot H is located at the US 31E intersection in Scottsville. Although the KY 100 approaches are wide enough to accommodate two vehicles in

each direction, there are no marked turn lanes. This adversely affects traffic operations and may be confusing to drivers. This intersection has a critical rate factor of 1.34 which indicates that there may be a safety problem at this location. The assumed cross section used to generate cost estimates for improvements at this location consists of two through lanes and a left-turn lane with curb, gutter, and sidewalks. These assumptions were made to allow for improved traffic flow and to be consistent with potential segment improvements adjacent to this intersection.

6.3 Segment Improvements

Improvements to longer segments were considered in addition to the spot improvements listed above. The entire section of KY 100 from KY 622 to US 31E, except for the Trammel Creek Bridge, which is to be replaced as a separate project, was divided into six segments. The break points between segments were selected so that these segments could be rebuilt independently as funding became available. If all segments were eventually rebuilt, the result would be a completely improved route between KY 622 and US 31E. These segments are shown graphically in Appendix A, Exhibit 7 and are discussed below. Cost estimates for these improvements, with the exception of the Purple Segment, are based on a rural cross-section consisting of two twelve-foot lanes with eight-foot shoulders, four feet of which would be paved.

- The Red Segment begins at KY 622 in Simpson County and extends east to the Allen County line at Sulphur Fork Creek. This segment includes three spots with potentially high crash rates, including the H. C. Smith Road intersection which was identified as a potential spot improvement. The replacement of the Sulphur Fork Creek bridge could be included in the reconstruction of this segment or the Orange Segment.
- The Orange Segment begins at the Allen-Simpson County line and continues east to a point near the Stony Point Road intersection. This segment includes the Clare Road/New Roe Road intersection, which was

identified as a potential spot improvement, and the high-crash spot just west of this intersection. The replacement of the Sulphur Fork Creek bridge could be included in the reconstruction of this segment or the Red Segment.

- The Yellow Segment begins near the Stony Point Road intersection and continues east to the KY 2163 intersection. This segment includes the potential spot improvement location in the Stony Point area.
- The Green Segment begins at the KY 2163 intersection and continues east to the Trammel Creek bridge. This segment would tie into the proposed western approach for the Trammel Creek bridge replacement project that is currently in the design phase.
- The Blue Segment begins at the Trammel Creek bridge and ends near the Oliver Street intersection in Scottsville. This segment would tie into the proposed eastern approach for the Trammel Creek bridge replacement project that is currently in the design phase.
- The Purple Segment begins near the Oliver Street intersection and continues east to the US 31E intersection in Scottsville. Due to the high access point density in this area, along with the presence of several nearby schools and a housing complex with a large number of elderly residents, this section should be designed to better accommodate pedestrians and turning traffic. For the purposes of preparing a cost estimate, it was assumed that the new cross-section would consist of two through lanes, a two-way left-turn lane, curb and gutter, and sidewalks.

6.4 New Corridor Alternative

At the first public meeting, several citizens suggested building a four-lane highway on a new alignment. The Division of Planning developed a preliminary alignment for this alternative to use as the basis for a cost estimate. This alignment is included in Appendix A, Exhibit 8. The project team felt that even if this alternative was implemented, a significant amount of local traffic would continue to use the existing route and the safety issues identified through this

planning study would need to be addressed to safely accommodate the residual traffic. Therefore, the cost of spot improvements to the existing route was included in the cost estimate for the new corridor alternative. The project team also recognized that the existing route would have to be maintained in addition to the new route at an average annual cost of approximately \$120,000.

Table 5: Cost Estimates for Build Alternatives

| | Spot Improvements | | | | | | | | | |
|--------------|---|-----------------|-----------------|--------------|--------------|----------------|--|--|--|--|
| Cnot | Description (2-Lane Rural Cross | Estimated Cost | | | | | | | | |
| Spot | Section Unless Otherwise Noted) | Design | ROW | Utilities | Construction | Total | | | | |
| Α | H. C. Smith Rd. | \$210,000 | \$110,000 | \$260,000 | \$1,700,000 | \$2,280,000 | | | | |
| В | Sulphur Fork Bridge | \$180,000 | \$98,000 | \$230,000 | \$1,500,000 | \$2,010,000 | | | | |
| С | Clare Rd./ New Roe Rd. | \$330,000 | \$180,000 | \$410,000 | \$2,700,000 | \$3,620,000 | | | | |
| D | Stony Point Area | \$660,000 | \$360,000 | \$830,000 | \$5,400,000 | \$7,250,000 | | | | |
| E | New Buck Creek Rd. | \$170,000 | \$93,000 | \$210,000 | \$1,400,000 | \$1,870,000 | | | | |
| F | KY 585 | \$170,000 | \$93,000 | \$220,000 | \$1,400,000 | \$1,880,000 | | | | |
| G | Oliver Street (3-lane urban section) | \$92,000 | \$73,000 | \$130,000 | \$730,000 | \$1,030,000 | | | | |
| Н | US 31E (3-lane urban section) | \$95,000 | \$75,000 | \$130,000 | \$750,000 | \$1,050,000 | | | | |
| | | | | | | | | | | |
| | S | egment Imp | provements | | | | | | | |
| Coamont | Description (2-Lane Rural Cross | · | Estimated Cost* | | | | | | | |
| Segment | Section Unless Otherwise Noted) | Design | ROW | Utilities | Construction | Total | | | | |
| Red | KY 622 to County Line | \$990,000 | \$540,000 | \$1,200,000 | \$8,100,000 | \$10,900,000 | | | | |
| Orange | County Line to Stony Point Rd. | \$1,200,000 | \$680,000 | \$1,600,000 | \$10,000,000 | \$13,700,000 | | | | |
| Yellow | Stony Point Rd. to KY 2163 | \$1,300,000 | \$690,000 | \$1,600,000 | \$10,000,000 | \$13,800,000 | | | | |
| Green | KY 2163 to Trammel Creek | \$1,200,000 | \$670,000 | \$1,500,000 | \$10,000,000 | \$13,500,000 | | | | |
| Blue | Trammel Creek to Oliver St. | \$940,000 | \$510,000 | \$1,200,000 | \$7,700,000 | \$10,300,000 | | | | |
| Purple | Oliver St. to US 31E (3-Lane Urban Section) | \$480,000 | \$380,000 | \$670,000 | \$3,800,000 | \$5,330,000 | | | | |
| *Includes of | costs for spot improvements located | within the segr | ment | | | | | | | |
| | | | | | | | | | | |
| New Corridor | | | | | | | | | | |
| | | | | Estimated C | ost | | | | | |
| | | Design | ROW | Utilities | Construction | Total | | | | |
| (4-Lar | New Corridor ne Divided Rural Cross Section) | \$9,150,000 | \$8,770,000 | \$11,000,000 | \$71,800,000 | \$101,000,000 | | | | |
| | Improvments to Existing Route | \$1,907,000 | \$1,082,000 | \$2,420,000 | \$15,580,000 | \$21,000,000 | | | | |
| | Front Costs for New Corridor | | | | | \$122,000,000 | | | | |
| Cost to Ma | aintain Existing Route | | | | | \$120,000/year | | | | |

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7.0 RECOMMENDATIONS

7.1 Improvements Recommended To Be Carried Forward

Improvements recommended to be carried forward are listed below in order of descending priority:

- Priority 1 Red Segment: The project team decided to include Spot B (the Sulphur Fork Creek bridge) in the Red Segment and make this the top priority. This would address several high-crash locations and would be a continuation of the proposed improvements to KY 100 from I-65 to KY 622. The original cost estimate for this segment did not include Spot B, so the estimated cost of Spot B was added to the estimated cost for the Red Segment to obtain a revised estimated cost of \$12.8 million.
- Priority 2 Spot D (Stony Point Area): This portion of KY 100 has numerous geometric deficiencies, several narrow bridges, and was by far the highest-ranked spot improvement based on the survey questionnaire from the second public meeting. The project team feels that making this spot improvement will address most of the problems associated with the Yellow Segment.
- Priority 3 Spot F (KY 585 Intersection): This spot was identified as the second highest priority spot improvement based on the survey questionnaire from the second public meeting. The project team feels that the KY 585 intersection is the main problem location within the Blue Segment.
- Priority 4 Orange Segment: This segment of KY 100 contains two high-crash locations, one of which would be addressed with reconstruction of the Red Segment, and was ranked as the second most critical segment based on the survey questionnaires from the second public meeting. The Orange Segment also contains Spot C (New Roe Road and Clare Road), which the public identified as the third highest priority spot improvement location. Reconstructing this segment, combined with reconstructing the Red Segment and Spot D, would result in a continuous improved roadway from KY 622 to Alonzo Long Hollow Road. The cost of Spot B was originally included in the

- cost estimate for the Orange Segment, but since it was decided to include Spot B as part of the Red Segment, the cost of Spot B was subtracted from the original estimated cost of the Orange Segment to obtain a revised estimated cost of \$11.9 million.
- Priority 5 Purple Segment: This segment includes both Spot G (the Oliver Street intersection) and Spot H (the US 31E intersection). Because there are numerous access points along this segment, several nearby schools, and a relatively high concentration of residential units, including a housing complex with a large number of elderly residents, the project team recommends rebuilding this segment as an urban roadway with curb, gutter, and sidewalk. Support for improvements in this area was expressed at the local officials and stakeholders meetings.
- Priority 6 Spot E (New Buck Creek Road): This intersection is located on a segment of KY 100 that contains both horizontal and vertical curvature. Visibility at the intersection is restricted for vehicles on KY 100 and on New Buck Creek Road. Although the crash data does not indicate that this intersection is a high-crash location, members of the public stated that crashes do occur in this location. The project team feels that the New Buck Creek Road intersection is the main problem spot within the Green Segment.

Phased cost estimates and approximate beginning and ending mile points for the recommended improvements are provided in Table 6. The recommended improvements and their priority are shown graphically in Appendix A, Exhibit 9.

Table 6: Phased Cost Estimates and Mile Point Ranges for Recommended Improvements

| Priority | Description (2-Lane Rural Cross Section Unless | Mile Point Range (Allen County unless | Estimated Cost | | | | | | |
|----------|---|---|----------------|-----------|-------------|--------------|--------------|--|--|
| | Otherwise Noted) | otherwise specified) | Design | ROW | Utilities | Construction | Total | | |
| | Red Segment: KY 622 to East of Sulphur Fork Creek | Simpson County 16.3 - Allen County 0.4 | \$1,200,000 | \$640,000 | \$1,500,000 | \$9,600,000 | \$12,800,000 | | |
| 2 | Spot D: Stony Point Area | 2.7 - 4.5 | \$660,000 | \$360,000 | \$830,000 | \$5,400,000 | \$7,250,000 | | |
| 3 | Spot F: KY 585 | 9.9 - 10.6 | \$170,000 | \$93,000 | \$220,000 | \$1,400,000 | \$1,880,000 | | |
| 4 | Orange Segment: East of Sulphur Fork Creek to Stony Point Rd. | 0.4 - 3.1 | \$1,200,000 | \$580,000 | \$1,300,000 | \$8,700,000 | \$11,900,000 | | |
| | Purple Segment: Oliver St. to US 31E (3-Lane Urban Section) | 11.8 - 12.7 | \$480,000 | \$380,000 | \$670,000 | \$3,800,000 | \$5,330,000 | | |
| 6 | Spot E: New Buck Creek Rd. | 7.5 - 8.2 | \$170,000 | \$93,000 | \$210,000 | \$1,400,000 | \$1,870,000 | | |

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7.2 Improvements Not Recommended To Be Carried Forward

In addition to recommending the improvements listed above, the project team selected several improvements that should not be carried forward at this point. These alternatives are as follows:

- Spot A (Henry Clay Smith Road): This spot will be addressed when the Red Segment is reconstructed.
- Spot B (Sulphur Fork Bridge): This spot will be included with the reconstruction of the Red Segment.
- Spot C (Clare Road/New Roe Road): This spot will be addressed when the Orange Segment is reconstructed.
- Yellow Segment: The project team feels that the main issues on this segment will be addressed with the reconstruction of Spot D (the Stony Point area). Therefore, it is not recommended that the entire segment be rebuilt at this time.
- Green Segment: The project team feels that the main issues on this segment will be addressed with the reconstruction of Spot E (the New Buck Creek Road intersection). Therefore, it is not recommended that the entire segment be rebuilt at this time.
- Blue Segment: The project team feels that the main issues on this segment will be addressed with the reconstruction of Spot F (the KY 585 intersection). Therefore, it is not recommended that the entire segment be rebuilt at this time.
- Spot G (Oliver Street): This spot will be addressed when the Purple Segment is reconstructed.
- Spot H (US 31E): This spot will be addressed when the Purple Segment is reconstructed.
- New Corridor Alternative: The projected traffic volumes for Year 2030 are not high enough to require the construction of a new four-lane route. In addition, a substantial amount of local traffic would continue to rely on the existing route to access local properties. To maintain access for this local traffic, the existing route would need to be maintained at an estimated cost of \$120,000

per year, and the safety improvements identified in this report would still need to be implemented. Therefore, the project team does not consider the new corridor alternative to be a cost-effective solution for addressing the goals and objectives identified for the KY 100 corridor.

7.3 Operations Projects

In addition to the recommended build options, the following operations improvements are recommended:

- Evaluate the US 31E intersection for potential short-term traffic improvements. These improvements could include better delineation of travel lanes and shoulders, and possibly the addition of left-turn lanes on KY 100.
- Consider placing signage on KY 100 to alert truck drivers to any restrictions.

8.0 ACKNOWLEDGEMENTS

Appreciation is extended to the following individuals who served on the project team and provided valuable information and assistance throughout the development of this planning study:

- Phil Carter, Highway District 3 Construction
- Allen Cox, Highway District 3 Permits
- Ashley Graves, Highway District 3 Operations
- Kent Gilley, Highway District 3 Operations
- Deneatra Hack, Highway District 3 Planning
- David Haydon, Highway District 3 Design
- Jim Hudson, Highway District 3 Design
- Keirsten Jaggers, Highway District 3 Public Information Officer
- Steve James, Highway District 3 Pre-Construction
- Jeff Moore, Highway District 3 Planning
- Stuart Payton, Highway District 3 Planning
- Shari Sams, Highway District 3 Chief District Engineer

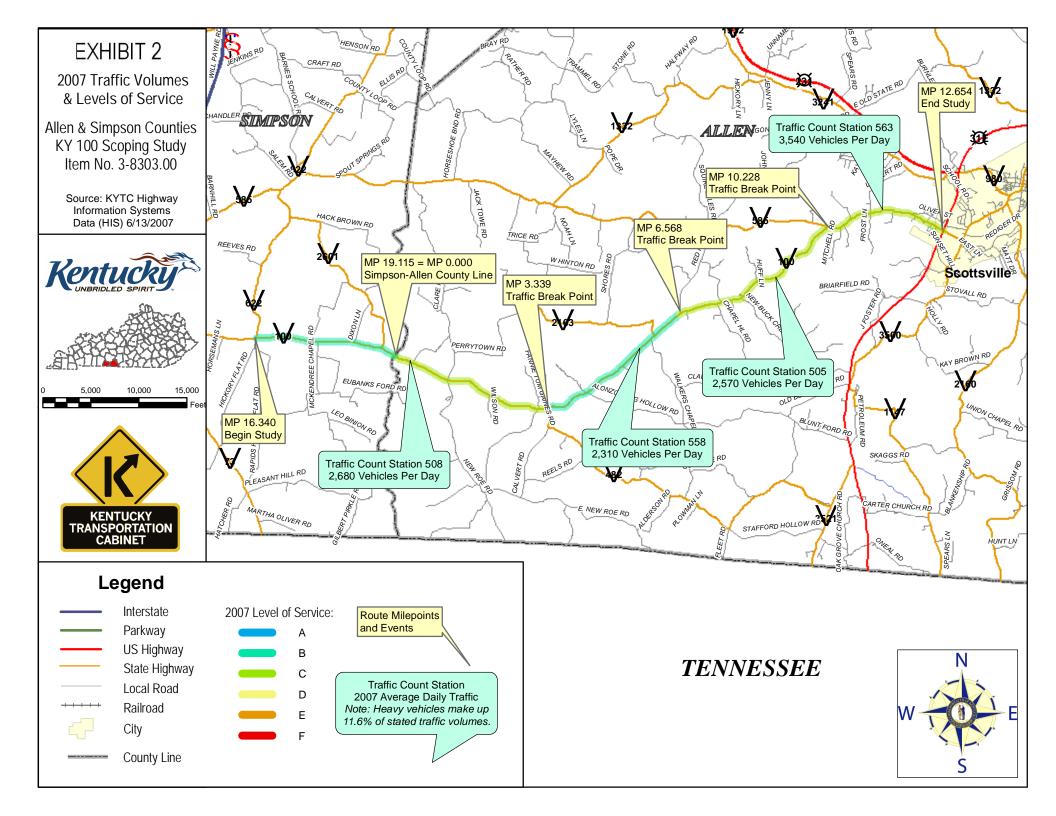
- Scott Schurman, Division of Environmental Analysis
- Amy Scott, Barren River Area Development District
- Jim Simpson, Division of Highway Design
- Renee Slaughter, Highway District 3 Design
- Andrew Stewart, Highway District 3 Design
- David Tipton, Division of Planning
- Misti Wilson, Highway District 3 Planning

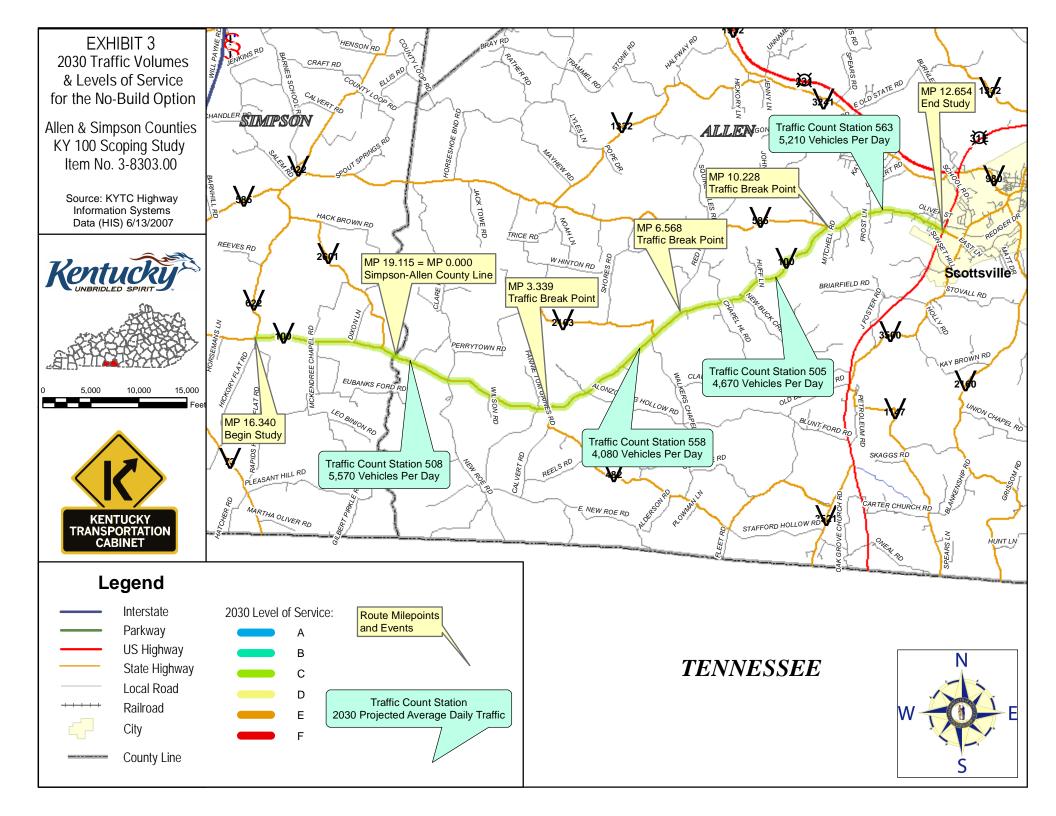
The following individuals from the Kentucky Transportation Cabinet's Division of Planning may be contacted if additional information is required:

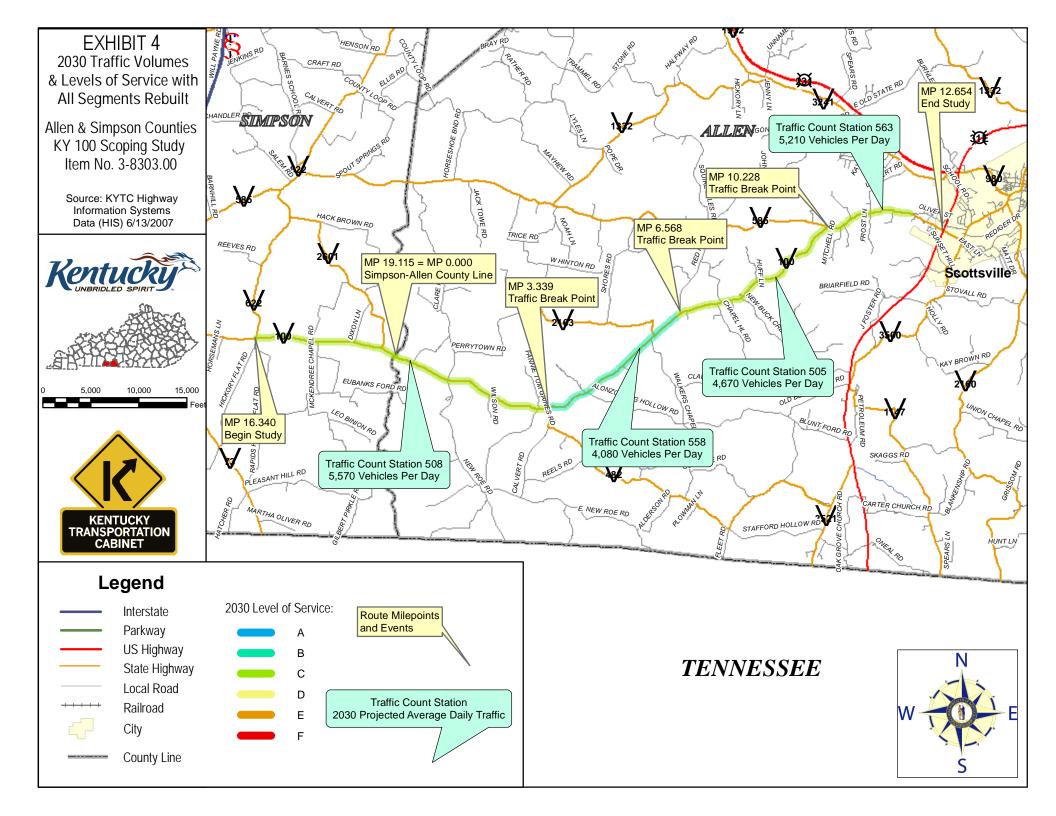
- Thomas Witt, E.I.T., Project Manager, Strategic Planning Activity Center
- David Martin, P.E., Backup Project Manager, Strategic Planning Activity
 Center
- Steve Ross, P.E., Branch Manager, Strategic Planning Activity Center

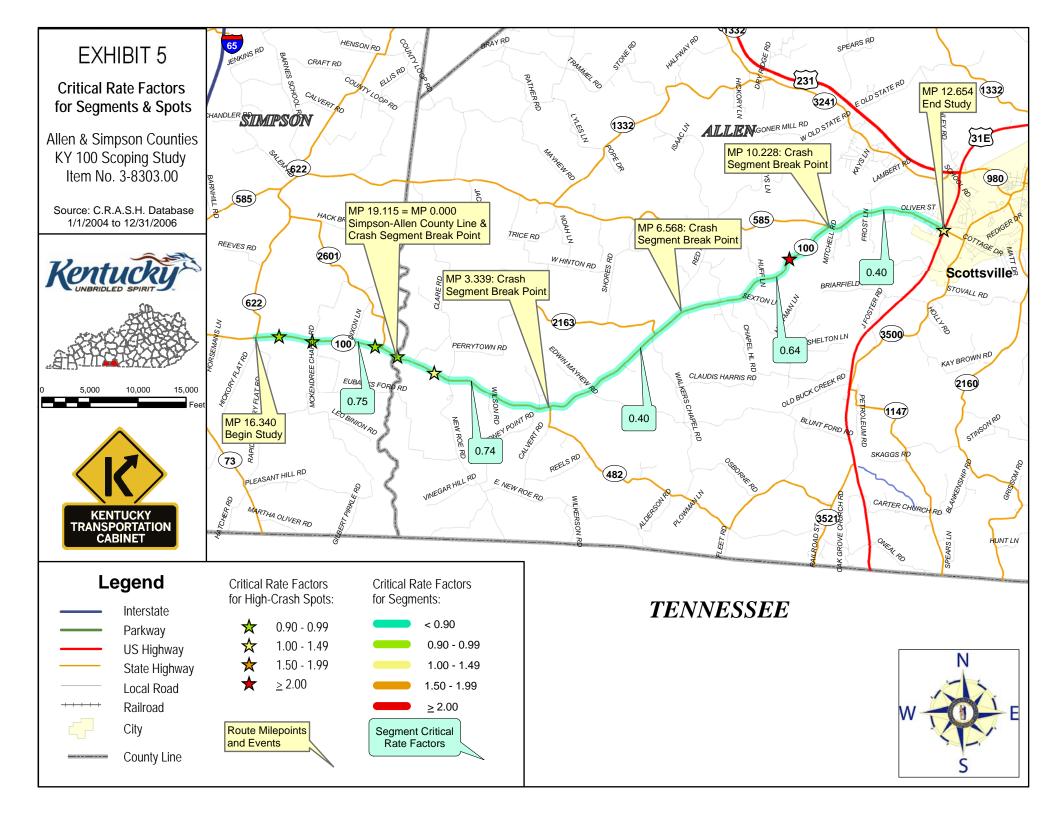
APPENDIX A EXHIBITS

EXHIBIT 1 1533 WARREN **PROJECT** 31W) 622 **LOCATION MAP** 6143 961 231 884 Allen & Simpson Counties (234) 242 KY 100 Scoping Study Item No. 3-8303.00 Source: KYTC Highway Information Systems Data (HIS) 6/13/2007 622 240 231 1332 622 1434 (3241) 31E (1171) Trammel Creek Bridge Replacement Widen I-65 to Six Lanes 980 SIMPSON ALLEN (1008) (585) 1332 85 Franklin Scottsville 3498 **2601**) 100 KENTUCKY TRANSPORTATION CABINET 65 (622) (100) 2163 3500 Legend End Study Corridor at US 31E Study Corridor Other Projects (1147) in Area Begin Study Corridor at KY 622 Interstate Improve KY 100 from 482 KY 1008 to KY 622 Parkway **US Highway** 3521 State Highway 31W Local Road Railroad **TENNESSEE** City County Line River Lake









APPENDIX B PROJECT TEAM MEETINGS

Meeting Minutes Allen & Simpson Counties – Item Number 3-8303.00 KY 100 from KY 622 to US 31E May 16, 2007

A project team meeting for the KY 100 scoping study was held on May 16, 2007 in the conference room of the Highway District 3 Office in Bowling Green. The meeting began at 1:00 p.m. C.D.T. and ended at approximately 3:00 p.m. The following people attended the meeting:

Keirsten Jaggers District 3 Public Information Officer

Steve James District 3 Pre-Construction

Misti Wilson District 3 Planning Deneatra Hack District 3 Planning Jeff Moore District 3 Planning **District 3 Operations** Ashley Graves Kent Gilley **District 3 Operations** David Haydon District 3 Design Andy Stewart District 3 Design Jim Hudson District 3 Design Phil Carter District 3 Construction Thomas Witt Central Office Planning David Martin Central Office Planning

Amy Scott Barren River Area Development District

The following items were discussed:

Existing Conditions

- The project team agrees that the current traffic volumes and levels of service appear reasonable. However, there is concern that the future traffic growth rates may be higher than in the past due to the potential construction of several major traffic generators along I-65 at the KY 100 interchange and toward the Tennessee state line. These traffic generators include a technical training center, which should stimulate industrial development at the I-65/KY 100 interchange; a proposed mixed-use development for recreational vehicles at the I-65/KY 100 interchange (the Garvin development); and industrial developments near I-65 at the Kentucky-Tennessee state line.
- The horizontal alignment of KY 100 is generally acceptable, although there are a few curves, primarily in Allen County, that do not meet the criteria for a 55 M.P.H. design speed.
- There are several crest vertical curves in Simpson County that do not meet geometric criteria for a 55 M.P.H. design speed. These vertical curves severely restrict sight distance and may cause vehicles to become airborne.

- There are four narrow bridges along the project corridor. One of these bridges is located at the Allen-Simpson County line, and the rest are located in Allen County. These narrow bridges present a safety hazard, particularly given the high percentage of trucks using the highway. This is reflected by the high crash rates at the Trammel Creek Bridge and the Allen-Simpson County line.
- Sight distance is restricted at several intersections along the project corridor. Also, the KY 585 intersection has a non-standard layout and may need to be reconstructed.
- Personnel from the District Office stated that the project corridor has a truck weight class of AA and that consideration should be given to replacing all four bridges with bridges that meet standards for a truck weight class of AAA. However, HIS data indicate that this section of KY 100 currently has a truck weight class of AAA. This will require further investigation.

Goals and Objectives

- Goals and objectives identified by the project team include improving safety, providing better access to employment opportunities, and increasing the potential for economic development.
- In the short-term, these goals and objectives may be accomplished by spot improvements targeting improved safety and better access for trucks. Ultimately, the project team envisions an improved cross section for the entire corridor and would like to establish a consistent cross section to be used for short-term spot improvements.

Issues to Consider

- Access management is not considered to be a major issue on the KY 100 corridor. There may be one or two stores with excessively wide entrances. These entrances could be modified as part of the spot improvements.
- No ITS solutions were identified.
- The route is not on the bike network, and there is little if any bicycle and pedestrian traffic along the corridor. However, there is a considerable amount of horse and buggy traffic due to the large Mennonite community near the Allen-Simpson County line.
- There is a significant amount of industrial activity in Scottsville that generates a large number of truck trips on KY 100, which may be the fastest route from northbound I-65. In addition, trucks avoiding the scales on I-65 and construction in the Nashville area may use KY 100 as part of an alternative route. Local haulers, as well as Dollar General, which has a warehouse in Scottsville, may need to be involved as stakeholders in the study.

- An environmental footprint will be developed by Central Office Division of Planning.
 The environmental footprint should cover an area approximately 300 feet on each side
 of the existing KY 100 centerline and should be prepared prior to any public meetings.
 It was noted that there are major gas lines which cross KY 100 within the study
 corridor.
- An environmental justice report will be prepared by the Barren River Area Development District. It is expected that low income, elderly, and low literacy populations will be present in the area. Therefore, public involvement material should be visual and uncomplicated.

Other Projects in the Area

- Replacement of Trammel Creek Bridge (3-8100.00): This project is currently in the design phase and is scheduled for construction in 2008. No cross section has been approved at this point, but it may consist of two 12' lanes with 8' shoulders.
- Two-way left turn lane on US 31E from KY 100 to the Allen County Primary Center entrance (3-8301.00): This may involve simply re-striping the existing pavement and is scheduled for construction this year in the Six-Year Plan. However, if widening is necessary, the project could be delayed.
- Reconstruct and widen KY 100 from I-65 to KY 622 (3-8306.00): This project will actually begin at Eddings Road and continue to KY 622. This section currently has a good horizontal alignment, but the vertical alignment is poor enough that relocation of the highway may be required in some locations.
- Widen KY 100 from I-65 to RV Park (3-124.00): This project will widen KY 100 to 10 lanes (including two sets of dual left-turn lanes) at the I-65 interchange.
- Major widening of KY 100 to four lanes from KY 1008 in Franklin to I-65 (3-8307.00)
- Widen Oliver Street in Scottsville to three lanes from the Allen County Primary Center entrance to US 31E (3-8302.00): This should not have an impact on the KY 100 project.

Design Criteria

- The speed limit on most of the study section of KY 100 is 55 M.P.H. There is a short section in Scottsville that has a posted speed limit of 45 M.P.H.
- Due to the large percentage of trucks using this section of KY 100, spot improvements may need to be designed to meet the criteria for the AAA weight class. As mentioned in the goals and objectives section, a consistent cross section should be selected for ultimate construction and used for spot improvements as they are implemented

throughout the study corridor. The large percentage of trucks should be taken into consideration when selecting an appropriate cross section.

- Horse and buggy traffic should also be considered in developing the design criteria.
 Two options mentioned included a shoulder wide enough to accommodate a buggy and buggy pull-offs, which should be wide enough to accommodate a buggy but not wide enough to set up stands. KY 88 in Hart County was mentioned as an example of a project with buggy pull-offs.
- Given the low existing and anticipated traffic volumes, a two-lane cross section should be adequate. However, increased passing opportunities should be provided. In Allen County, truck climbing lanes might be needed to accomplish this.

Next Steps

- A local officials meeting should be held around mid-July. This meeting should include the Simpson and Allen County judges and the Scottsville mayor. For this meeting, it will be necessary to have a clear purpose and need statement; a packet with traffic, crash, and environmental data; a PowerPoint photo log (prepared by District 3 Planning); and an aerial photograph. One outcome of this meeting will be to identify stakeholders and determine if a stakeholders meeting is feasible. A second project team meeting should be held prior to the local officials meeting.
- A public meeting should be held after the stakeholders meeting, or after the local officials meeting if it is determined that a stakeholders meeting is not feasible. A volunteer fire station was identified as a preferred meeting location since it is near the center of the project and firefighters would be knowledgeable of high-crash locations. Other potential meeting locations include the Primary and Intermediate Centers in Scottsville. The following items will be needed for the first public meeting: Environmental footprint, crash data, and LOS data (in graphical format); a purpose and need statement; a survey for meeting participants to complete; and a large aerial photograph of the study area. District 3 will advertise the meeting when requested by Central Office.
- Agency coordination should begin after the first public meeting. Local officials, the Sanders Interstate Industrial Park, the Garvin development, and the Stony Point Volunteer Fire Department should be added to the usual resource agency mailing list. If the Mennonites are to be involved, they must be approached differently.
- The tentative timeline established for this project includes the development of preliminary alternatives with cost estimates by the end of 2007 and completion of the study by summer 2008.

Meeting Minutes

Allen & Simpson Counties – Item Number 3-8303.00 KY 100 from KY 622 to US 31E Second Project Team Meeting – October 24, 2007

A project team meeting for the KY 100 scoping study was held on October 24, 2007 in the conference room of the Highway District 3 Office in Bowling Green. The meeting began at 1:30 p.m. C.D.T. and ended at approximately 3:30 p.m. The following people attended the meeting:

| Name | Office |
|------------------|--|
| Andy Stewart | KYTC District 3 Design |
| Deneatra Hack | KYTC District 3 Planning |
| Jeff Moore | KYTC District 3 Planning |
| Misti Wilson | KYTC District 3 Planning |
| Steve James | KYTC District 3 Preconstruction |
| Keirsten Jaggers | KYTC District 3 Public Information Officer |
| James Simpson | KYTC Division of Highway Design |
| David Martin | KYTC Division of Planning |
| Thomas Witt | KYTC Division of Planning |

Thomas Witt began the meeting by summarizing the results of the first project team meeting, the first local officials meeting, the first public meeting, and comments received through the agency coordination process. Minutes for each of these meetings and a summary of the resource agency comments were distributed to the attendees. Jeff Moore noted that the comment from the Kentucky State Police regarding safety issues along the route was noteworthy since this agency does not routinely provide comments of this nature.

Based on the input received from the local officials, the public, and the resource agencies, the project team decided that the short-term goal should be to improve safety at problems spots, while long term goal should be to provide an improved connection between Scottsville and I-65 with a safer cross-section, improved alignment, and more passing opportunities.

A variety of concepts to address the stated goals were discussed. These concepts ranged from a new corridor to operations improvements as follows:

New Corridor Options: It was noted that several members of the public expressed a desire for a new four-lane roadway either along the existing KY 100 corridor or along the KY 585 corridor with a new interchange at I-65. The project team decided to remove the possibility of a new route along the KY 585 corridor from future consideration because it would be an extremely expensive option and is outside the scope of the planning study. However, cost estimates will be prepared for a new four-lane route along the existing KY 100 corridor. These cost estimates will need to incorporate the cost of maintaining and making spot improvements to the existing route to accommodate local traffic.

- Spot Improvements: Initially, eleven potential spot improvements had been identified based on crash data and input from local officials and the public. The project team decided to combine four of these spot improvements in the Stony Point area from Stony Point Road to Alonzo Long Hollow Road and to re-letter the remaining spots. The resulting spot improvements are listed below. It was decided that spot improvements involving bridge replacements would be identified with a different color than those not involving bridge replacements when presented to the public.
 - o Spot A (H. C. Smith Road Intersection): The main problem at this spot appears to be the sharp vertical curve.
 - O Spot B (Sulphur Fork Bridge): This bridge was improved recently and the project team did not identify any particular issues. However, crash data does indicate a spot with a Critical Rate Factor of 0.96 near the bridge, and the bridge was mentioned as a problem spot by the local officials and by members of the public. Therefore, the Sulphur Fork Bridge will remain as a potential spot improvement.
 - O Spot C (New Roe Rd./Clare Rd. Intersection): Issues identified at this location include a parking area directly adjacent to KY 100 on the inside of a horizontal curve and a vertical curve to the East of the intersection. The parking area has the potential to reduce sight distance to the West for traffic coming from Clare Road, while the vertical curve reduces sight distance to the East. It was noted that there appears to be a sharp horizontal curve just East of the intersection, and the spot improvement should be extended to incorporate that curve.
 - O Spot D (Stony Point): This spot extends from Stony Point Road to Alonzo Long Hollow Road. This spot was originally composed of four separate spots including the Stony Point Road and KY 482 intersections; the horizontal curve between KY 482 and Drakes Creek; Drakes Creek Bridge; and the Alonzo Long Hollow Road intersection. It was decided to combine these four spots into a single spot due to their close proximity.
 - O Spot E (New Buck Creek Road intersection): This spot consists of a skewed intersection located in a horizontal curve. A vertical crest to the East of the intersection reduces sight distance. The project team decided to extend the limits of this spot to the East to include the possibility of realigning New Buck Creek Road to intersect KY 100 at a less skewed angle.
 - O Spot F (KY 585 intersection): KY 585 intersects KY 100 at a severe skew and in a sharp horizontal curve. Comments from the public indicate that this is a dangerous intersection with vehicles on KY 585 running the stop sign and vehicles on KY 100 running off the curve. Improvements at this location would probably include reducing the curvature of KY 100 and realigning KY 585 to intersect KY 100 at a less skewed angle.
 - Spot G (Oliver Street Intersection): Oliver Street intersects KY 100 at a highly skewed angle in the Scottsville area. This intersection was mentioned several times at the public meeting.
 - Spot H (US 31E Intersection): Although the KY 100 approaches are wide enough to accommodate two vehicles in each direction, there are no designated turn lanes. This adversely affects traffic operations at the

intersection and may be confusing to drivers. This intersection has a critical rate factor of 1.34.

- Operations Improvements:
 - Signage at the H. C. Smith Road intersection will be addressed as an operations improvement. The main signage issue identified at this location is that the H. C. Smith Road sign is very difficult to see from KY 100.
 - Signage to provide notification of truck restrictions will be considered as an operations improvement.
- Due to the length of the study corridor, it was divided into five segments that could be reconstructed separately. At this point, for the purpose of generating cost estimates, it is anticipated that the segment from Oliver Street to US 31E would be reconstructed as a three-lane urban section with curb, gutter, and sidewalks. The remaining segments would be constructed with a two-lane rural cross sections with passing lanes as appropriate. These segments were referred to by letters at the project team meeting (Segments A through E), but in the future they will each be identified by a unique color to avoid confusion with the spot improvements.
- Improvements in the rural portion of the project should conform to a 55 mile-per-hour design speed where possible. Cost estimates for the rural segments and spot improvements will be based on a cross section consisting of two twelve-foot lanes with eight-foot (four-foot paved) shoulders. Cost estimates for the urban segment and spots will be based on a three-lane cross section with curb, gutter, and sidewalks.

The next steps required for this project were discussed. It was noted that KYTC expects to receive the Environmental Justice report by October 31st and that an environmental review by the Division of Environmental Analysis would be initiated in the near future. Two meetings were tentatively scheduled as follow:

- A second local officials meeting was tentatively scheduled for November 29, 2007 at the Chamber Building in Scottsville. A draft comment form will be available at that meeting.
- A second public meeting was tentatively scheduled for December 11, 2007. At the public meeting, there will be two sets of boards displaying the spot alternatives. The cost estimates for the spot, segment, and new corridor alternatives will also be displayed along with drawings of the assumed typical sections used to generate these estimates.

A third project team meeting will be held after the second public meeting, after which a draft report will be prepared.

Meeting Minutes Allen & Simpson Counties – Item Number 3-8303.00 KY 100 from KY 622 to US 31E Third Project Team Meeting – March 6, 2008

A project team meeting for the KY 100 scoping study was held on March 6, 2008 in the conference room of the Highway District 3 Office in Bowling Green. The meeting began at 1:00 p.m. Central Time and ended at approximately 3:30 p.m. The following people attended the meeting:

| Name | Office |
|-----------------|----------------------------------|
| Thomas Witt | KYTC Division of Planning |
| David Tipton | KYTC Division of Planning |
| Shari Sams | KYTC District 3 |
| Jeff Moore | KYTC District 3 Planning |
| Misti Wilson | KYTC District 3 Planning |
| Stuart Payton | KYTC District 3 Planning |
| Deneatra Hack | KYTC District 3 Planning |
| Steve James | KYTC District 3 Pre-Construction |
| Andrew Stewart | KYTC District 3 Design |
| Renée Slaughter | KYTC District 3 Design |
| Phil Carter | KYTC District 3 Construction |
| Allen Cox | KYTC District 3 Permits |

The following items were discussed:

Environmental Concerns:

- An environmental footprint for the study area was presented to the project team. It was noted that the school indicated at the Walkers Chapel Road and KY 100 intersection is actually a church. It was also noted that archaeological investigations were conducted in the area of the Trammel Creek bridge replacement project, but no archaeological sites were found. No environmental issues were identified that would affect the recommendations of the KY 100 planning study.
- The Environmental Justice Report prepared by the Barren River Area Development District was discussed. No environmental justice issues were identified that would affect the recommendations of this planning study, but the presence of small groups of mobile homes was noted. These should be taken into consideration as more detailed alternatives are developed.
- It was noted that the Division of Environmental Analysis is in the process of completing an environmental considerations checklist which will be incorporated into the planning study report.

Review of Previous Activities:

A brief overview of the work performed up to the second public meeting was provided. This included a review of traffic data, crash data, and input received from the first phase of public involvement, as well as a description of the alternatives that were presented during the second phase of public involvement.

Results of Second Public Meeting:

A handout was provided to the project team members summarizing the results of the completed survey questionnaires that were distributed at the second public meeting. It was noted that in general, the public was most supportive of making improvements close to the Stony Point area. It was surmised that due to the meeting being held in Stony Point, the opinions of residents of the Stony Point area may have been disproportionately represented. However, it was also noted that some of the worst geometric deficiencies along the route are located in the Stony Point vicinity.

Recommendations:

The project team selected a set of improvements to be carried forward. These recommended improvements are listed below in order of descending priority:

- Red Segment: The project team decided to include Spot B (the Sulphur Fork Bridge) in the Red Segment and make this the top priority. This would address two high-crash locations and would be a continuation of the proposed improvements to KY 100 from I-65 to KY 622. The estimated cost for Spot B will be added to the cost estimate for the Red Segment.
- Spot D (Stony Point Area): This portion of KY 100 has numerous geometric deficiencies, several narrow bridges, and was by far the highest-ranked spot improvement based on the survey questionnaire from the second public meeting. The project team feels that making this spot improvement will address most of the problems associated with the Yellow Segment.
- Spot F (KY 585 Intersection): This spot was identified as the second highest priority spot improvement based on the survey questionnaire from the second public meeting. The project team feels that the KY 585 intersection is the main problem location within the Blue Segment.
- Orange Segment: This segment of KY 100 contains two high-crash locations, one of which would be addressed with reconstruction of the Red Segment, and was ranked as the second most critical segment based on the survey questionnaires from the second public meeting. The Orange Segment also contains Spot C (New Roe Road and Clare Road), which the public identified as the third highest priority spot improvement location. Reconstructing this segment, combined with reconstructing the Red Segment and Spot D, would result in a continuous improved roadway from KY 622 to Alonzo Long Hollow Road. Because Spot B will be included in the reconstruction of the Red Segment, the estimated cost of this spot improvement will be subtracted from the cost estimate for the Orange Segment.

- Purple Segment: This segment includes both Spot G (the Oliver Street intersection) and Spot H (the US 31E intersection). Because there are numerous access points along this segment, the project team recommends rebuilding this segment as an urban roadway with curb, gutter, and sidewalk. Neither the overall segment nor the two spot improvements within the segment scored highly on the survey questionnaires from the second public meeting but, as previously noted, that meeting may have been attended primarily by people living in the Stony Point area who would be little affected by improvements in the Scottsville area. At the local officials and stakeholders meetings, which were held in Scottsville, there appeared to be more support for improvements in this area.
- Spot E (New Buck Creek Road): This intersection is located on a segment of KY 100 that contains both horizontal and vertical curvature. Visibility at the intersection is restricted for vehicles on KY 100 and on New Buck Creek Road. Although the crash data does not indicate that this intersection is a high-crash location, members of the public stated that crashes do occur in this location. The project team feels that the New Buck Creek Road intersection is the main problem spot within the Green Segment.

In addition to recommending the improvements listed above, the project team selected several improvements that should not be carried forward at this point. These alternatives are as follows:

- Spot A (Henry Clay Smith Road): This spot will be addressed when the Red Segment is reconstructed.
- Spot B (Sulphur Fork Bridge): This spot will be included with the reconstruction of the Red Segment.
- Spot C (Clare Road/New Roe Road): This spot will be addressed when the Orange Segment is reconstructed.
- Yellow Segment: The project team feels that the main issues on this segment will be addressed with the reconstruction of Spot D (the Stony Point area). Therefore, it is not recommended that the entire segment be rebuilt at this time.
- Green Segment: The project team feels that the main issues on this segment will be addressed with the reconstruction of Spot E (the New Buck Creek Road intersection). Therefore, it is not recommended that the entire segment be rebuilt at this time.
- Blue Segment: The project team feels that the main issues on this segment will be addressed with the reconstruction of Spot F (the KY 585 intersection). Therefore, it is not recommended that the entire segment be rebuilt at this time.

| Next Steps: |
|--|
| A draft report will be prepared by the Central Office Division of Planning and submitted |
| to Highway District 3 for review. |
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APPENDIX C

LOCAL OFFICIALS & STAKEHOLDERS MEETINGS

Meeting Minutes Allen & Simpson Counties – Item Number 3-8303.00 KY 100 from KY 622 to US 31E July 19, 2007

A meeting with local officials for the KY 100 scoping study was held on July 19, 2007 at the Allen County Chamber Building in Scottsville. The meeting began at 10:00 a.m. C.D.T. and ended at approximately 12:00 p.m. The following people attended the meeting:

| Jeff Moore | KYTC District 3 Planning |
|-------------------|--|
| Amy Scott | Barren River Area Development District |
| Rob Cline | Mayor of Scottsville |
| Misti Wilson | KYTC District 3 Planning |
| Bobby Young | Allen County Judge/Executive |
| Roman Perry Jr | Allen County District 5 Magistrate |
| Gary Horn | Allen County District 3 Magistrate |
| Marty Chandler | East Simpson Magistrate |
| Lex Carter | Allen County Ambulance Service |
| Deneatra Hack | KYTC District 3 Planning |
| Dennis Harper | Allen County District 1 Magistrate |
| Don Rutheford | Scottsville Police Chief |
| Michael Cooksey | Scottsville Fire Chief |
| Rickey Cooksey | Allen County District 4 Magistrate |
| Bill Austin | Franklin City Commissioner |
| Jim Henderson | Simpson County Judge/Executive |
| Sam Carter | Allen County Sheriff |
| Nick Cook | Barren River Area Development District |
| Rodney Kirtley | Barren River Area Development District |
| Jerry Blankenship | |
| Gary Mathis | Scottsville-Allen County Planning Commission |
| Steve Ross | KYTC Central Office Planning |
| Thomas Witt | KYTC Central Office Planning |

Jeff Moore began the meeting by providing a brief overview of the purpose and status of the scoping study and then asked everyone to introduce themselves. After introductions were made, Thomas Witt described the study corridor and presented information on traffic volumes, crash history, and the environmental footprint. Judge Henderson noted that the assumed traffic growth rate is higher at the western end of the study corridor, and it was explained that this may be due to the western end's proximity to I-65 and various developments in the area. Jeff Moore mentioned the proposed Garvin development and continuing development of the Sanders Interstate Industrial Park as examples. Some attendees stated that a horse showplace with a public arena has been proposed in the area of Scottsville east of US 31E.

A draft purpose and need statement was presented to meeting attendees for their review. The only change that was suggested was to add a recreational component to the various activities that KY 100 provides access to.

Deneatra Hack presented a photo tour of the KY 100 corridor. She began by illustrating some of the general issues encountered throughout the corridor such as closely spaced driveways, hidden entrances, steep grades, and horse and buggy traffic. She then presented photographs of each intersection beginning with KY 622 and proceeding east to US 31E in Scottsville. Attendees made comments throughout the presentation. These comments were recorded on a large aerial photograph of the study area and are summarized below. General concerns which are applicable to multiple points along the study corridor are listed first, followed by concerns applicable to specific locations, which are listed in geographical order from west to east.

General Concerns:

- Passing lanes would be helpful in the Allen County portion of the study area, where the terrain is rolling.
- Signs in right-of-way need to be removed since they interfere with sight distance.
- Intersections with county roads have small corner radii, which makes turns difficult for large vehicles such as trucks and buses.
- Two Amish communities in the area generate significant horse and buggy traffic along KY 100, especially between KY 2163 and New Buck Road.
- Oil wells are present off of Mitchell Road and Roy Whitlow Lane.
- There is Senior Citizen housing near KY 100 and Belmont Park in Scottsville.
- KY 100 should be widened to 3 lanes from Oliver Street to US 31E in Scottsville.
- US 231 from Bowling Green to Scottsville needs to be added to the National Truck Network to provide an alternative route for trucks.
- Truck restriction signs should be posted on KY 100.

Concerns Pertaining to Specific Locations (listed from west to east):

- KY 622 (Mile Point 16.3 in Simpson County):
 - Signs block sight distance
 - It is difficult to see Westbound KY 100 traffic
- Henry Clay Smith Rd. (MP 17.4 in Simpson County): Sight distance is restricted due to the presence of a vertical curve and vegetation growth along KY 100.
- Sulphur Fork Bridge (At the Allen-Simpson County Line): The curve near this bridge is a safety problem; better signage might help.
- Lee Keen Rd. (MP 0.4 in Allen County): Vegetation restricts sight distance.
- Stony Point Rd. (MP 3.1 in Allen County):
 - The superelevation of KY 100 combined with the approach grade of Stony Point Rd. causes loads to shift in trucks as they turn onto KY 100.
 - Passing lanes would be helpful in this area.
- KY 482 (MP 3.3 in Allen County):
 - There is insufficient sight distance.
 - School buses have problems maneuvering through this intersection.

- Horizontal Curve Between KY 482 and Drakes Creek Bridge (MP 3.5 to MP 3.7 in Allen County): This curve was noted as being potentially dangerous.
- Drakes Creek & Long Branch Bridges (MP 3.9 to MP 4.5 in Allen County):
 - The Long Hollow Branch and Drakes Creek Bridges are both very narrow.
 - The old concrete barrier on the Long Branch Bridge was replaced with steel guardrail with a larger offset from the traveled way, but the traveled way is still restricted to the same width by the concrete curbs.
 - The Dinkins Road intersection should be included in any bridge replacement project.
- Walkers Chapel Rd. (MP 5.8 in Allen County): The corner radius for Eastbound traffic is too small.
- KY 2163 (MP 5.9 in Allen County):
 - Trucks use this intersection to access farms along KY 2163.
 - KY 2163 is also used by the Amish community, and there is an Amish store in the vicinity.
- Red Hill Rd. (MP 6.6 in Allen County):
 - Trucks use this intersection to access PIC Farms.
 - This intersection is hidden.
 - It is difficult for Westbound KY 100 traffic to turn onto this road.
- Chapel Hill Rd. (MP 7.4 in Allen County):
 - The intersection angle is a problem.
 - The vertical curve on KY 100 obstructs sight distance.
- New Buck Creek Rd. (MP 7.8 in Allen County):
 - The intersection is located in a sharp curve.
 - There have been several wrecks involving Eastbound trucks in the curve.
 - Sight distance is poor.
 - A turn lane might improve the intersection.
 - Amish use New Buck Creek Rd. as a shortcut to go from KY 100 to the Amish community in Holland.
- Huff Ln. (MP 8.3 in Allen County): There is some residential development on Huff Lane and the entrance could be wider.
- Trammel Creek to KY 585 (MP 9.2 to MP 10.1 in Allen County): A passing lane is needed at this location.
- KY 585 (MP 10.2 in Allen County):
 - This intersection should be reconstructed as a "T" intersection.
 - KY 585 is important for providing access to the Amish community.
- Newman Rd. Intersection (MP 10.7 in Allen County): Sight distance is restricted due to the vertical curve.
- Lambert Rd./Frost Ln. (MP 11.1 in Allen County):
 - A billboard with a "STOP" sign on it may be confusing to drivers.
 - Sight distance is a problem.
- Oliver St. (MP 11.9 in Allen County): Oliver Street is used as a cut-through by the Amish.

• Hinton Ave. (MP 12.5 in Allen County): A vertical curve near this intersection reduces sight distance.

The following problem locations seemed to be of most concern to the local officials:

- Drakes Creek and Long Branch Bridges
- New Buck Creek Road Intersection
- Stony Point Road Intersection
- KY 482 Intersection
- KY 585 Intersection

Meeting Minutes

Allen & Simpson Counties – Item Number 3-8303.00 KY 100 from KY 622 to US 31E

Second Local Officials Meeting – November 29, 2007

A local officials meeting for the KY 100 scoping study was held on November 29, 2007 at the Chamber of Commerce Building in Scottsville. The meeting began at 10:00 a.m. and ended at approximately 12:00 p.m. The following people attended the meeting:

| Name | Title/Organization |
|----------------|--|
| Jeff Moore | KYTC District 3 Planning |
| Amy Scott | Barren River Area Development District |
| Rob H. Cline | Mayor of Scottsville |
| Misti Wilson | KYTC District 3 Planning |
| Roman Perry Jr | Allen County District 5 Magistrate |
| Deneatra Hack | KYTC District 3 Planning |
| Don Rutheford | Scottsville Police Chief |
| Rickey Cooksey | Allen County District 4 Magistrate |
| Sam Carter | Allen County Sheriff |
| David Martin | KYTC Central Office Planning |
| Thomas Witt | KYTC Central Office Planning |

Mr. Witt began the meeting by asking everyone present to introduce themselves. After introductions were made, he provided a brief review of the purpose and status of the planning study. He then gave a PowerPoint presentation in which background information was provided along with a description of the alternative improvement strategies that were being considered.

First, it was noted that general issues and concerns as well as specific problem spots were identified through the first phase of public involvement. The main issues that were identified through this process were as follows:

- Roadway Geometrics
 - o Horizontal and vertical curves
 - o Narrow lanes, shoulders, and bridges
 - o Dangerous intersections
 - o Limited passing opportunities
- Traffic
 - Truck traffic
 - Horse and buggy traffic
 - o Speeding
- Economic Development

The purpose and need statement was then presented. The wording of this statement as it was presented at the first public meeting was not changed, but it was emphasized that based on the initial public input, the two main purposes of the project would be to improve safety and to provide a better connection between Scottsville and the interstate.

Next, three different improvement strategies were presented. These strategies consisted of building a new four-lane corridor; making relatively inexpensive spot improvements to address safety and traffic concerns at specific locations along the existing route; and upgrading long segments of the existing route with a better alignment and an improved cross-section. At the beginning of this discussion, a list of estimated costs for all of the improvement strategies considered was distributed to each of the attendees. Maps showing the locations of potential spot improvements and segment improvements were also distributed as these items were discussed. During the discussion of spot improvements, slides were presented showing an aerial view and photographs of each spot. The following items were noted about each of the alternative improvement strategies:

- The new corridor alternative would be expected to consist of a four-lane cross section and would provide a more direct connection and slightly reduced travel times compared to rebuilding the existing route. However, the large amount of local traffic remaining on the existing route would require that the spot improvements be implemented to address safety concerns. This would result in a total estimated up-front cost of \$122 million, of which \$21 million would be spent on spot improvements to the existing route. In addition, the costs to maintain the existing route would be approximately \$120,000 per year based on average permile maintenance costs for this type of facility in the project area. It was noted that the projected traffic volumes for Year 2030 do not justify building a new corridor.
- Spot improvements would generally consist of a two-lane cross section with wider lanes and shoulders than are present on the existing route. A three-lane urban cross section would be considered in the urban area of Scottsville, and passing lanes would be considered for the longer spot improvements. This type of improvement would be a relatively quick and inexpensive way to improve safety at critical locations and could also provide additional passing opportunities and improved traffic flow in some locations. Cost estimates for spot improvements range from \$1.0 million to \$7.3 million each. It was noted that any unimproved sections between implemented spot improvements could be upgraded as funding becomes available
- Segment improvements would upgrade longer sections of the existing route than spot improvements and could ultimately result in a completely improved corridor between KY 622 and US 31E. It is anticipated that segment improvements would result in an improved geometric alignment and an improved cross-section with wider lanes and shoulders and passing lanes where appropriate. Segment improvements would be less expensive and easier to implement than a new corridor and could be prioritized so that more critical segments could be addressed sooner. The total cost to rebuild the entire route along the existing alignment is estimated at \$67 million.

During the discussion of the spot improvement alternatives, several comments were made by the local officials. These comments are summarized as follows:

- Spot D (Stony Point Area): Trucks turn over on the sharp horizontal curve, and there are no shoulders. The Middle Fork Bridge is narrow, and tires often hit the concrete curb.
- Spot E (New Buck Creek Road): The superelevation changes to the East of the intersection and contributes to crashes.
- Spot F (KY 585): There was a fatal crash at this intersection four years ago. The access road to go West on KY 100 from KY 585 is not suitable for a truck, and it would be better to take out the two existing intersections and replace them with a single, less skewed intersection. This could involve filling in the large hole in the middle of the intersection and flattening the hill to the West of the intersection to improve sight distance.
- Spot G (Oliver Street): There is a lot of school traffic turning onto Oliver Street from 7:00 to 8:00 a.m. In the afternoon, there is a lot of school traffic turning from Oliver Street onto KY 100. Reducing the skew of the intersection and adding a turn lane on KY 100 would help reduce congestion. There is also a significant amount of Mennonite traffic using Oliver Street.
- Spot H (US 31E): There have been crashes at this location, including fatalities from running red lights. It was suggested that KYTC consider using strobe lights on the traffic signals like the ones used in Tennessee. Mr. Moore stated that there was some concern that strobe lights on the signals could trigger epileptic attacks, but that it would be possible to use reflective border tape on the signals to increase their visibility.
- A turn lane would be helpful near the elderly housing in Scottsville. It is currently anticipated that a continuous two-way left turn lane would be included in the Purple Segment, which includes the entrance to the elderly housing.

After the alternative improvement strategies were discussed, a brief overview of the results of the Level of Service (LOS) analysis was presented. Results were presented for the no-build scenario and for the scenario in which all segments would be completely rebuilt for both Year 2007 and Year 2030 traffic volumes. It was noted that rebuilding all segments would provide some improvement to the LOS for both existing and future traffic volumes. However, it was also noted that the worst LOS would be C, even under the Year 2030 no-build scenario, and traffic congestion is therefore not a concern.

At the end of the presentation, the local officials noted that spot improvements would be the timeliest. Mr. Moore informed them that the timing of any improvements would be controlled mainly by funding rather than constructability and that funding for any improvement greater than \$10 million would probably require federal funds, which would require more time to obtain than state funds.

Mayor Cline stated that his top priority would be the Purple Segment due to the heavier traffic volumes.

Mr. Carter felt that rebuilding the segments would be the safest alternative, but Mr. Moore noted that the timeline for segment improvements would probably be a minimum of 6 to 10 years, while spot improvements could potentially be accomplished in less time.

Mr. Rutheford stated that we should make sure that the public understands that the spot improvements would be a temporary solution that would provide benefits until the segments could be rebuilt. Mr. Moore commented further that the nature of the final study recommendations could possibly be a mixture of spot and segment improvements to accomplish an overall improvement strategy.

Mr. Carter added that KY 100 would be fine if it was improved to the same standards as US 31E.

At the end of the meeting, survey questionnaires were distributed to the local officials. They elected not to complete the surveys at the meeting but to return them by mail to the Division of Planning.

APPENDIX D PUBLIC MEETINGS

Public Meeting Minutes

KY 100 from KY 622 to US 31E in Allen and Simpson Counties Item Number 3-8303.00 Thursday, August 16, 2007 Stony Point Volunteer Fire Department in Scottsville, Kentucky

A public meeting was held from 4:00 P.M. to 7:00 P.M. Central Time on Thursday, August 16, 2007 at the Stony Point Volunteer Fire Department in Scottsville, Kentucky. The following Transportation Cabinet and Area Development District staff members were in attendance:

| Name: | Representing: |
|----------------|--|
| David Martin | KYTC Division of Planning |
| Thomas Witt | KYTC Division of Planning |
| Deneatra Hack | KYTC District 3 Planning |
| Jeff Moore | KYTC District 3 Planning |
| Misti Wilson | KYTC District 3 Planning |
| Andy Stewart | KYTC District 3 Design |
| David Erickson | KYTC District 3 Design |
| Amy Scott | Barren River Area Development District |

151 members of the public were also recorded as being in attendance. As each member of the public entered the building, they were asked to sign in and were given a survey questionnaire to complete. They were also offered a set of aerial photographs of the study area on which to make notes. Two sets of exhibits had been set up for the public to review. Each set of exhibits included maps showing the project location, crash data, current traffic volumes along with percent heavy vehicles and levels of service, and projected traffic volumes and no-build levels of service for the year 2030; an enlarged printout of the draft purpose and need statement; a large pad of paper with markers for recording comments; and a large aerial photograph showing the study area along with post-it notes and pens for recording comments. A single draft environmental footprint was also provided. After signing in, members of the public were invited to review these exhibits. Staff members were available at each set of exhibits to answer questions and record comments.

After everyone had signed in and been given time to review the exhibits, Jeff Moore called the meeting to order and introduced the staff members. Thomas Witt then provided a brief overview of the project status and explained that the primary reasons for having the public meeting were to inform the public about the planning study and to obtain input from the public on any issues and concerns that should be considered when developing alternatives. Deneatra Hack went through a PowerPoint presentation which included the draft purpose and need statement; reasons for having the public meeting; examples of issues that had been identified by the project team; and examples of natural and human environmental issues that should be identified.

Following the presentation, members of the public were again invited to ask questions and make comments at each set of exhibits. Comments received are listed below.

- Trucks cross over the centerline in curves.
- The entire road is bad and needs to be relocated.
- Provide more passing opportunities.
- Need passing lanes (2)
- Trucks going to Southbound US 31E use KY 482 as a shortcut.
- Web map is not showing US 231 for trucks
- Need shoulders to pull off road
- Need shoulders to pull over trucks and speeders
- Noise from trucks at night is a problem
- Jake Brake noise
- People drive too fast
- Teen drivers construction
- Tennessee agricultural tourism; traffic to Mennonites; agricultural products traffic
- Edge line on highway
- Humps Simpson County
- R/W Concerns; farmland split
- Talk to Lorraine Mark (622-4616) for information about Mennonites.
- Intersections with Amish traffic:
 - Lee Keen Rd. (buggy traffic starts here)
 - Clare Rd./New Roe Rd.
 - KY 2163
 - KY 585
- Buses, buggies, and pedestrians in the area between Oliver Street and US 31E
- Hill one mile West of Stony Point, near 11060 Franklin Rd.
- Hill West of Stony Point
- New Roe Road & Clare Road:
 - Wrecks (vehicles sliding into field)
 - 35 m.p.h. advisory for curve
 - Trucks speed in area
 - Pulling out onto KY 100 Eastbound & Westbound
- KY 585:
 - Cars not stopping
 - Trucks sliding into ditch
 - Dangerous for school bus stop; won't stop
 - No shoulders
 - Re-route KY 100 to KY 585?
- Most Amish traffic turning onto KY 585 is from Scottsville. A turn lane would help get them out of the way. Other improvements are also needed at this intersection.
- H. C. Smith Rd.
 - Hill
 - Turning left from Eastbound KY 100

- Accidents
- 7860 Franklin Rd. Driveway near Walker Chapel Rd. Hill
- Oliver Street
 - Amish buggy & bus
 - KY 100 intersections, turns Westbound at school time
- KY 482 Intersection
- Sight distance is bad for turning onto Westbound KY 100 from KY 482.
- Trammel Creek Bridge should fit in with anticipated improvements
- Trammel Creek Bridge should be widened to four lanes when it is reconstructed.
- Trammel Creek Bridge Sight distance
- Replace Middle Fork Bridge
- Middle Fork Bridge Problem
- Alonzo Bridge WB Narrow (truck fire); E. of Middle Fork
- Comments noted on maps:

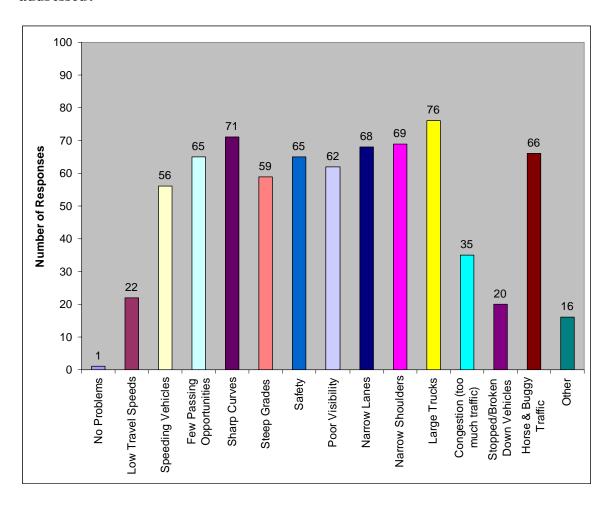
| Location | | cation | Comment |
|----------|---------------|----------------------------|---|
| County | Milepoint | Intersection | Comment |
| Simpson | 15.9 | • | Water across the road |
| Simpson | 16.1- 16.2 | - | Drainage problems |
| Simpson | 16.2- 16.5 | - | Water stands at rain events |
| Simpson | 17 | - | 17 mile marker down |
| Simpson | 17.0- 17.2 | - | Water stands at rain events |
| Simpson | 17.3- 17.6 | H. C. Smith Rd. | Hopover Hill - Flatten? High crash issue |
| Simpson | 17.4 | H. C. Smith Rd. | H. C. Smith Road intersection is very bad. Geometry has accident potential. |
| Simpson | 17.5 | H. C. Smith Rd. | Hopover Hill sight distance poor |
| Simpson | 17.5 | H. C. Smith Rd. | H. C. Smith sign covered |
| Simpson | 18 | • | 102 Trucks 'signed' and no signs posted |
| Allen | 0 | • | Bridge narrow |
| Allen | 0 | - | Wrecks area |
| Allen | 0.4 | Lee Keen Rd. | Very poor sight distance for school bus pulling out |
| Allen | 1.1 | New Roe Rd. / Clare Rd | Caution light at New Roe |
| Allen | 1.1 | New Roe Rd. / Clare Rd | Poor sight distance |
| Allen | 1.1-1.2 | New Roe Rd. / Clare Rd. | Sight distance looking east |
| Allen | 1.1-1.2 | New Roe Rd. / Clare Rd. | Better visibility - slope cut down |
| Allen | 1.1-1.3 | New Roe Rd. / Clare Rd. | Caution light |
| Allen | 1.5-1.6 | - | Curve with many crashes; redo curve |
| Allen | 2.8 | - | Entrance sight distance issues |
| Allen | 3.3 | KY 482 | Intersection with KY 482 (3 times) |

| Allen | 3.3 | KY 482 | KY 482 sight distance; bank issues if 4 lane |
|-------|---------------|---|--|
| Allen | 3.3-3.4 | KY 482 | Sight distance problem - trucks |
| Allen | 3.6 | - | Curve wrong bank |
| Allen | 3.6 | - | Dead man's curve MP 3.6; No guardrail |
| Allen | 4 | - | Bridge narrow |
| Allen | 4.2 | Dinkins Rd. / Alonzo Long Hollow Rd. | Bridge narrower than roadway 4.2 MP |
| Allen | 4.3 | - | Cars run off road on curve |
| Allen | 4.3 | - | Guardrails? |
| Allen | 4.5 | - | Two cast concrete bridges dangerous - no width for trucks/cars |
| Allen | 4.5 | - | 30 cars off curve here, MP 4.5 north, 1-2 per year |
| Allen | 5 | - | Passing lane |
| Allen | 5.2 | - | No driveway visibility (vertical); north side |
| Allen | 9.5-10 | - | Hickory Hill Church - poor visibility |
| Allen | 10 | - | Possible passing lane |
| Allen | 10.2 | KY 585 | Head-on crash |
| Allen | 10.2 | KY 585 | Cars not stopping at KY 585 |
| Allen | 10.3 | - | Trucks run off KY 100 near KY 585 |
| Allen | 11.1 | Frost Ln./Lambert Rd. | Sight distance problem |
| Allen | 11.1 | Frost Ln./Lambert Rd. | Turn lane for Lambert Rd. cut thru; no drainge; water over road; culvert blocked |
| Allen | 11.9 | Oliver St. | Oliver Rd. intersection improvements |
| Allen | 11.9- 12.7 | - | 3-4 Lanes from Oliver to US 31E |
| Allen | 12 | - | Speeding near Scottsville |
| Allen | 12.7 | US 31E | Cannot see traffic signal at times due to glare from sun |
| - | - | - | Re-align KY 100 in a straight line from KY 585 to US 31 E approximately 1/2 mile south of the existing KY 100 intersection to move traffic away from schools |
| - | - | - | Re-construct KY 585 from I-65 to KY 100 and add an interchange at I-65 |
| - | - | - | Need shoulder improvements; trucks over in middle |
| - | - | - | Curves straightened, hills cut down entire length |
| - | - | - | No room for mail man w/ mail boxes and fast trucks |

In addition, attendees were given the opportunity to either turn in their completed survey questionnaires at the meeting or to return them to the Central Office Division of Planning via postage-paid envelopes which were provided upon request. A total of 81 completed survey questionnaires were received along with one written statement. The original completed survey questionnaires are included in the Public Meetings Summary for the planning study. The responses received on the survey questionnaires and in the written statement are summarized below. Due to the large number of responses received, many of the similar open-ended responses were paraphrased and grouped by subject, with the

total number of similar responses included in parentheses following the paraphrased response.

Question: "What transportation problems exist on KY 100 that should be addressed?"



Summary of open-ended responses (grouped by subject):

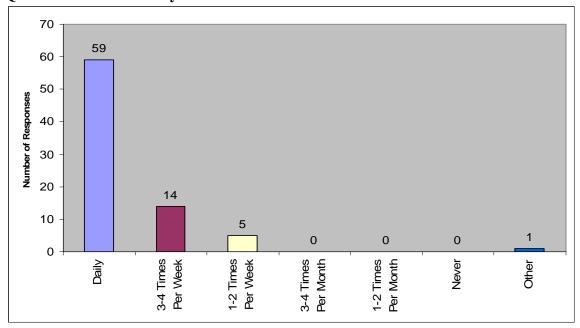
- Economic Development has been restricted
- Traffic concerns:
 - Can be a 40-45 minute drive
 - Horse & Buggy traffic (3)
 - On KY 100 from KY 2163 to Scottsville (3)
 - On KY 585
 - Not enough passing opportunities (3)
 - Traffic has increased greatly due to the increase in factories in Simpson County
 - Lots of people commuting from Allen County to work
 - Poor alignment causes some people to drive very slowly
 - Recreational and commercial traffic
 - Lots of trucks (3)
 - Going to Dollar General or US 31E

- Supplying chicken farms
- Through trucks do not need to be on highway (3)
 - Post signs at each end
- Trucks shouldn't be required to go through Bowling Green to get to Scottsville from Franklin; it is 30-40 miles longer.
- Steep grades
- School traffic (2)
- Too much traffic
- Trucks knocking over mailboxes
- Flooding
- Farm equipment/Wide Loads
- Garwin development will generate more traffic to Barren River Lake
- General Safety concerns:
 - Crashes (8)
 - Dangerous road (6)
 - Horizontal Curves (9)
 - Some curves lean the wrong way.
 - Some curves need to be improved
 - Worst in Allen County
 - Narrow bridges (10)
 - Unstable/Dilapidated bridges (2)
 - Mixture of traffic (trucks, speeding cars, and horses and buggies) (4)
 - Narrow or no shoulders (10)
 - No place to pull over if broken down (5)
 - No place for police to pull people over for violations (2)
 - No room to recover (4)
 - Vertical curves (6)
 - Mainly in Allen County
 - Restricted sight distance at driveways and intersections (6)
 - Speeding Vehicles (9)
 - Other poor driving habits (2)
 - Trucks going too fast (3)
 - Trucks crossing centerline (2)
 - Need more enforcement of traffic regulations (4)
 - Need striping along pavement edges (2)
 - Better signing for curves and blind spots
 - Passing in no-passing zones
 - Narrow lanes (4)
 - Large number of access points
- Problems at Specific Intersections:
 - KY 482 (6)
 - Poor site distance (4)
 - H.C. Smith Road (Hop Over Hill) (4)
 - Vertical curve needs to be reconstructed (2)

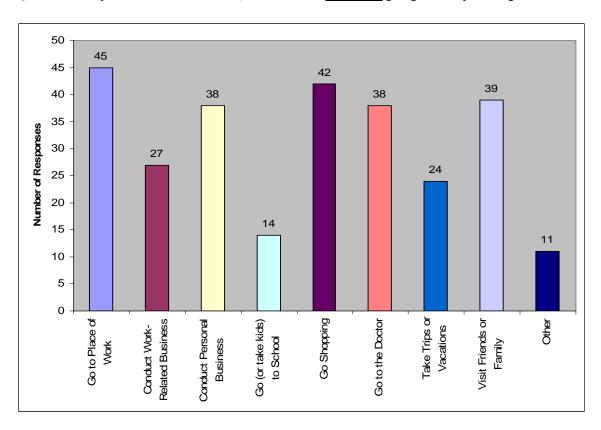
- Need a new 17 Mile Marker sign
- Hickory Flat Store
 - Needs caution light
- KY 585 (3)
 - Need turning lane for turning left onto KY 585 from Eastbound KY 100 (2)
 - Need a wider turning radius from KY 585 onto Westbound KY 100
 - Amish
 - No one stops at the stop sign; Trucks go around the curve too fast and run off the road; Several fatal crashes; School bus won't stop here because of dangerous conditions
- KY 2163
- KY 622
 - Cannot see to the west over the vertical curve
- New Buck Creek Road
 - Cannot see to the east
- Clare/New Roe (2)
 - Turning onto KY 100
 - Several crashes
- Frost Lane/Lambert Rd.
 - Needs turn lanes due to traffic volumes
 - Used as a shortcut to US 231
- Stoney Point Road
 - Poor visibility turning onto Stoney Point Road from the West; tree line needs to be taken down
- Midway Road (poor visibility)
- Nathan Mitchell Drive (poor visibility)
- Drainage problems:
 - Area at 10395 Franklin Road, Franklin
 - Frost Lane/Lambert Rd.
- Bridges:
 - Sulphur Fork Creek Bridge (2)
 - Needs to be widened (2)
 - Middle Fork Drakes Creek Bridge (3)
 - Narrow and outdated; has shifted
 - Drakes Creek Bridge
 - Long Hollow Branch Bridge (2)
 - Trammel Creek Bridge (7)
 - Narrow and outdated; has shifted (2)
 - Sections out of alignment
 - Alonzo Bridge(s) (2)
 - Trammel Creek Bridge on KY 585
- Roadway Alignment:
 - Blind hills five and eight miles from Franklin
 - MP 0.0 to 0.3 in Allen County
 - MP 2.8 to 3.0 in Allen County

- Curve and Grade from Long Hollow Branch Bridge to MP 4.8 in Allen County
 (2)
- Area between KY 482 and Long Hollow Branch Bridge
- Vertical curve at 6829 Franklin Rd.
- Desired improvements:
 - New 4-lane highway (7)
 - No 4-lane highway (4)
 - Not justified by traffic counts
 - Do not want to live on old side road
 - Trucks lanes on steep grades
 - Wide shoulders (7)
 - Wider lanes (4)
 - Wider bridges
 - Buggy lane (2)
 - Rebuild (8)
 - Vertical curves (3)
 - Horizontal curves (3)
 - Bevel all banking on road, improving entrance visibility
 - Replace bridges
 - Road is already wide enough
 - Road could be a little wider
 - Passing lanes (3)
 - High-visibility road markings, especially for night driving
 - Oliver Street area
 - Re-route KY 100 to provide a more direct connection from KY 585 to US 31E, bypassing the congestion from KY 585 into Scottsville
 - Turn lane between Oliver Street and US 31E
- Other concerns:
 - Disturb as few houses as possible

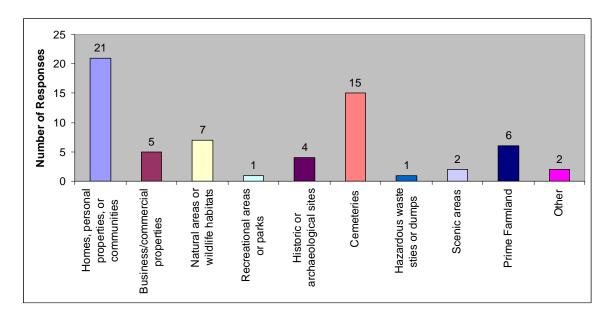
Question: How often do you use KY 100 now?



Question: If you use KY 100 now, what is the primary purpose of you trips?



Question: Are there sensitive areas that should be considered if a new route is constructed in the study area?



Summary of details provided:

- Homes, personal properties, or communities
 - All along road
 - 8243 Franklin Rd., Adolphus
 - Lambert Rd.
 - Ramble Creek Rd. (Blind Area)
 - Trammel Creek Bridge
 - H. C. Smith Road (2)
 - Sulphur Fork Creek Bridge
 - Apartments and senior citizen residence between Oliver Street and US 31E
- Business/Commercial Properties
 - School at Oliver Street
 - Between Oliver Street and US 31E
- Natural areas or wildlife habitats
 - Sinkhole to the right of 10395 Franklin Rd., Franklin; 15 ft from road
 - Possible caves across from 10395 Franklin Rd., Franklin
 - Deer (2)
 - Large woodpecker family (on endangered species list) directly across from 6950 Franklin Rd.
- Recreational areas or parks
 - Stoney Point Fire Department community park
- Historic or archaeological sites
 - Stoney Point Church
 - Walkers Chapel Church

- Hickory Hill Church
- Cemeteries
 - No details provided (7)
 - Hickory Hill U.M.C. (6)
 - Stoney point U.M.C. (7)
 - Walker's Chapel U.M.C. (7)
 - Family cemetery just East of Ramble Creek on North Side
- Prime farmland
 - 7633 Franklin Rd., Adolphus

Public Meeting Minutes

KY 100 from KY 622 to US 31E in Allen & Simpson Counties
Item Number 3-8303.00
Tuesday, January 8, 2008
Stony Point Volunteer Fire Department in Scottsville, Kentucky

A public meeting was held from 4:00 P.M. to 6:00 P.M. Central Time on Tuesday, January 8, 2008 at the Stony Point Volunteer Fire Department in Scottsville, Kentucky. The following Transportation Cabinet and Area Development District staff members were in attendance:

| Name: | Representing: |
|------------------|--|
| David Martin | KYTC Division of Planning |
| Thomas Witt | KYTC Division of Planning |
| Shari Greenwell | KYTC District 3 |
| Keirsten Jaggers | KYTC District 3 |
| Deneatra Hack | KYTC District 3 Planning |
| Jeff Moore | KYTC District 3 Planning |
| Jon Whitaker | KYTC District 3 Planning |
| Andy Stewart | KYTC District 3 Design |
| David Erickson | KYTC District 3 Design |
| Steve James | KYTC District 3 Pre-Construction |
| Amy Scott | Barren River Area Development District |

Twenty-five members of the public were also recorded as being in attendance. As each member of the public entered the building, they were asked to sign in and were given a set of handouts which included the following items: An aerial map showing proposed spot improvement locations and high-crash locations; an aerial map showing proposed segment improvements and high-crash locations; a table of cost estimates for the spot improvements, segment improvements, and new corridor alternatives; and a survey questionnaire. Two sets of exhibits were available for viewing. Each set contained display boards showing each of the spot improvements and the assumed cross-sections used to generate the cost estimates for the rural two-lane and urban three-lane segments. After signing in, members of the public were invited to view these exhibits. Staff members were available to answer questions and record comments.

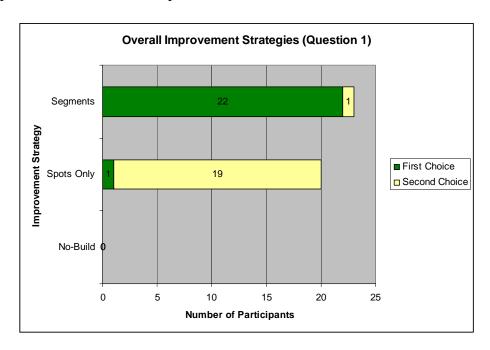
After everyone had signed in and been given time to review the exhibits, Jeff Moore called the meeting to order and introduced the staff members. Thomas Witt then gave a PowerPoint presentation in which he summarized the results of earlier phases of the planning study; presented the purpose and need statement; and provided details on potential improvement strategies including the no-build alternative; the new corridor alternative; spot improvements; and segment improvements. It was noted that the new corridor alternative was not feasible because the traffic volumes were not high enough to justify the cost. The presentation concluded with instructions to review the displays, ask questions, and indicate preferences on the survey questionnaires.

The following oral comments were received at the meeting:

- At Spot B (at the Allen-Simpson County Line), the main problem is the curve between the bridge and Lee Keene Road. The bridge was repaired recently but not replaced.
- Traffic enforcement is needed to control trucks and speeding, and the Mennonites don't get off the road.
- Shoulders would help a lot.

In addition to the survey questionnaires given to public meeting participants, another 100 surveys were given to community leaders for distribution. A total of twenty-three surveys were returned, including one that had been handed out at the previous local officials meeting. Three questions were included on the survey questionnaires. Each question required the participant to rank their top choices within a set of alternatives.

The first question asked participants to rank their preferred overall improvement strategy. Choices were included for the no-build alternative, spot improvements only, and segment improvements, and participants were asked to rank their top two choices. The results are summarized in the graph below. There was a clear preference for the segment alternatives, with twenty-two participants choosing segment alternatives as their first choice. One participant chose spot improvements only as their first choice. No participants chose the no-build option as either a first or second choice.

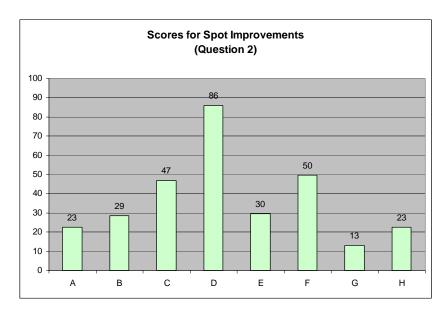


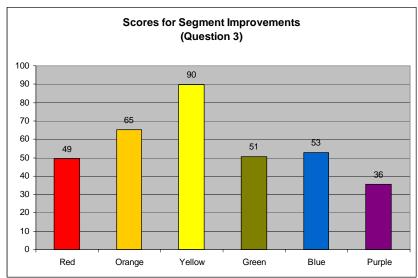
The second question asked participants to rank their top five preferred spot improvements. The third question asked participants to rank the six identified segments from most to least critical. For each response, the spots and segments were assigned points based on their rankings as shown in the table below. The points for each

alternative were then added up for all of the surveys, and these totals were normalized so that the highest-ranked alternative for each question would have a score of 100.

| Question 2: Spo | t Improvements | Question 3: Segment Improvements | | |
|-----------------|----------------|----------------------------------|--------|--|
| Rank | Points | Rank | Points | |
| First | 5 | First | 6 | |
| Second | 4 | Second | 5 | |
| Third | 3 | Third | 4 | |
| Fourth | 2 | Fourth | 3 | |
| Fifth | 1 | Fifth | 2 | |
| Sixth or Lower | 0 | Sixth | 1 | |
| Not Ranked | 0 | Not Ranked | 0 | |

The scores for Question 2 and Question 3 are presented in the tables below.





In addition to the rankings, several written comments were made on the survey forms. These comments are reproduced below:

- In response to Question 1, which relates to an overall improvement strategy:
 - "Segment improvements are the most important due to the fact that on Hwy 100 from 622 to 31E there are no shoulders on this road. No place for emergency stops, police stops, no place to get out of the way of emergency vehicles, no place for buggies to go to pull over, no place for farmers to pull over, & very poor visibility in many areas on this road. If you have to get over, or off the road, you are off the road!!"
 - o "Drakes Creek Bridge is narrow and hard to see oncoming traffic"
 - o "This road is traveled daily by 18 wheelers. The road is to narrow and curvy for this. The state either needs to shut the truck traffic down or fix the road!"
 - o "Segment improvements would be a better choice in my opinion. There are many school buses & truck that have near calls due to traffic in this area. I will not allow my children to ride a bus without seat belts for this reason."
 - o "Money"
 - o Spot Improvements: "Short Term help"
 - o Segment Improvements: "This is what needs to happen to meet the goals that we have established."
- In response to Question 2, which relates to spot improvements:
 - o "The Stony Point area leaves little to no place at all to go, but on your top, if you have to get over just a little bit. This area includes the Hwy 482 intersection which is a blind & very dangerous area. It also includes what we call "Dead Man's Curve" just past 482 which goes off downhill to Alonzo Long Hollow Rd area, then uphill into a series of curves known for speeding vehicle & big trucks. The Sulphur Fork/Lee Keen Rd area is a very bad area for serious rollover accidents."
 - o "H. C. Smith Rd. is bad because their have been people killed their."
- In response to Question 3, which relates to segment improvements:
 - o "Again, the Stony Point Area has little to <u>no</u> way to get over the least bit. There are a great number of speeding vehicles and big trucks that travel these blind curves and hills. These big trucks have no way of stopping 'Fast' if coming upon a buggy or tractor or combine or elderly person. If someone so much as has a flat tire there is no place to pull over. The county line to Stony Point is notorious for some very serious crashes. Especially from the County Line to Lee Keen Rd. We need road shoulders on all of Hwy 100!!"
 - o "Safety!!! Need improvements due to buggy traffic."
 - o Purple Segment (Oliver Street to US 31E): "It is very hard to make left hand turns. I'm surprised that there wasn't been a death there."

APPENDIX E
HIS DATA

HORIZONTAL CURVES

| County Name | Begin MP | End MP | Route | Degree of Curve | Curve Class (Range) |
|----------------|------------------|----------------|------------------|--------------------|-------------------------------------|
| SIMPSON | 16.325 | 16.82 | KY 100 | 0.1 | 0.0-3.4 DEGREES |
| SIMPSON | 16.815 | 17.08 | KY 100 | 1.1 | 0.0-3.4 DEGREES |
| SIMPSON | 17.083 | 17.33 | KY 100 | 0.2 | 0.0-3.4 DEGREES |
| SIMPSON | 17.331 17.553 | 17.55 18.15 | KY 100 KY 100 | 1.4 0.1 | 0.0-3.4 DEGREES 0.0-3.4 DEGREES |
| SIMPSON | 18.146 | 18.33 | KY 100 | 1.4 | 0.0-3.4 DEGREES |
| SIMPSON | 18.333 | 18.53 | KY 100 | 0.1 | 0.0-3.4 DEGREES |
| SIMPSON | 18.53 | 18.64 | KY 100 | 1.2 | 0.0-3.4 DEGREES |
| SIMPSON | 18.639 | 18.82 | KY 100 | 1.7 | 0.0-3.4 DEGREES |
| SIMPSON | 18.815 | 18.87 | KY 100 | 2.9 | 0.0-3.4 DEGREES |
| SIMPSON | 18.868 | 19.12 | KY 100 | 0.1 1.4 | 0.0-3.4 DEGREES |
| ALLEN | 0.133 | 0.133 | KY 100 KY 100 | 4.8 | 0.0-3.4 DEGREES 3.5-5.4 DEGREES |
| ALLEN | 0.201 | 0.328 | KY 100 | 3.8 | 3.5-5.4 DEGREES |
| ALLEN | 0.328 | 0.454 | KY 100 | 1.8 | 0.0-3.4 DEGREES |
| ALLEN | 0.454 | 0.639 | KY 100 | 0.6 | 0.0-3.4 DEGREES |
| ALLEN | 0.639 | 1.077 | KY 100 | 0 | 0.0-3.4 DEGREES |
| ALLEN | 1.077 | 1.225 | KY 100 | 3.1 | 0.0-3.4 DEGREES |
| ALLEN ALLEN | 1.225 | 1.528 1.662 | KY 100 | 0.3 6.8 | 0.0-3.4 DEGREES 5.5-8.4 DEGREES |
| ALLEN | 1.528 1.662 | 1.778 | KY 100 KY 100 | 0.3 | 0.0-3.4 DEGREES |
| ALLEN | 1.778 | 1.924 | KY 100 | 2 | 0.0-3.4 DEGREES |
| ALLEN | 1.924 | 2.162 | KY 100 | 0 | 0.0-3.4 DEGREES |
| ALLEN | 2.162 | 2.242 | KY 100 | 3 | 0.0-3.4 DEGREES |
| ALLEN | 2.242 | 2.418 | KY 100 | 1.6 | 0.0-3.4 DEGREES |
| ALLEN | 2.418 | 2.675 | KY 100 | 2.4 | 0.0-3.4 DEGREES |
| ALLEN ALLEN | 2.675 2.834 | 2.834 3.02 | KY 100 KY 100 | 0.1 3.8 | 0.0-3.4 DEGREES 3.5-5.4 DEGREES |
| ALLEN | 3.02 | 3.02 | KY 100 | 3.8 5 | 3.5-5.4 DEGREES 3.5-5.4 DEGREES |
| ALLEN | 3.169 | 3.321 | KY 100 | 0 | 0.0-3.4 DEGREES |
| ALLEN | 3.321 | 3.419 | KY 100 | 3.6 | 3.5-5.4 DEGREES |
| ALLEN | 3.419 | 3.523 | KY 100 | 0 | 0.0-3.4 DEGREES |
| ALLEN | 3.523 | 3.66 | KY 100 | 7.6 | 5.5-8.4 DEGREES |
| ALLEN | 3.66 | 3.821 | KY 100 | 0.2 | 0.0-3.4 DEGREES |
| ALLEN | 3.821 3.942 | 3.942 4.14 | KY 100 KY 100 | 4.1 0 | 3.5-5.4 DEGREES 0.0-3.4 DEGREES |
| ALLEN | 4.14 | 4.453 | KY 100 | 1.5 | 0.0-3.4 DEGREES |
| ALLEN | 4.453 | 4.55 | KY 100 | 5.8 | 5.5-8.4 DEGREES |
| ALLEN | 4.55 | 4.732 | KY 100 | 0.3 | 0.0-3.4 DEGREES |
| ALLEN | 4.732 | 4.922 | KY 100 | 2.2 | 0.0-3.4 DEGREES |
| ALLEN | 4.922 | 5.639 | KY 100 | 0 | 0.0-3.4 DEGREES |
| ALLEN | 5.639 | 5.91 | KY 100 | 0.3 | 0.0-3.4 DEGREES |
| ALLEN ALLEN | 5.91 | 6.53 6.708 | KY 100 | 0 | 0.0-3.4 DEGREES |
| ALLEN | 6.53 6.708 | 7.075 | KY 100 KY 100 | 2.5 0 | 0.0-3.4 DEGREES 0.0-3.4 DEGREES |
| ALLEN | 7.075 | 7.151 | KY 100 | 3.7 | 3.5-5.4 DEGREES |
| ALLEN | 7.151 | 7.268 | KY 100 | 1.7 | 0.0-3.4 DEGREES |
| ALLEN | 7.268 | 7.494 | KY 100 | 0 | 0.0-3.4 DEGREES |
| ALLEN | 7.494 | 7.627 | KY 100 | 0.9 | 0.0-3.4 DEGREES |
| ALLEN | 7.627 | 7.744 | KY 100 | 0.1 | 0.0-3.4 DEGREES |
| ALLEN ALLEN | 7.744 7.886 | 7.886 8.163 | KY 100 KY 100 | 6.8 0 | 5.5-8.4 DEGREES 0.0-3.4 DEGREES |
| ALLEN | 8.163 | 8.405 | KY 100 | 4.2 | 3.5-5.4 DEGREES |
| ALLEN | 8.405 | 8.557 | KY 100 | 0.3 | 0.0-3.4 DEGREES |
| ALLEN | 8.557 | 8.647 | KY 100 | 5.6 | 5.5-8.4 DEGREES |
| ALLEN | 8.647 | 8.765 | KY 100 | 0 | 0.0-3.4 DEGREES |
| ALLEN | 8.765 | 8.905 | KY 100 | 5.9 | 5.5-8.4 DEGREES |
| ALLEN | 8.905 | 9.013 | | 0.5 | 0.0-3.4 DEGREES |
| ALLEN ALLEN | 9.013 9.126 | 9.126 9.323 | KY 100 KY 100 | 9.1 0.2 | 8.5-13.9 DEGREES 0.0-3.4 DEGREES |
| ALLEN | 9.323 | 9.387 | KY 100 | 2 | 0.0-3.4 DEGREES |
| ALLEN | 9.387 | 9.6 | KY 100 | 6.1 | 5.5-8.4 DEGREES |
| ALLEN | 9.6 | 9.728 | KY 100 | 0.4 | 0.0-3.4 DEGREES |
| ALLEN | 9.728 | 9.906 | KY 100 | 3.5 | 3.5-5.4 DEGREES |
| ALLEN | 9.906 | 10.12 | KY 100 | 0 | 0.0-3.4 DEGREES |
| ALLEN ALLEN | 10.115 10.196 | 10.2 10.22 | KY 100 | 8.9 7.2 | 8.5-13.9 DEGREES 5.5-8.4 DEGREES |
| ALLEN | 10.196 | 10.22 | KY 100 | 0.8 | 0.0-3.4 DEGREES |
| ALLEN | 10.278 | 10.4 | KY 100 | 7.9 | 5.5-8.4 DEGREES |
| ALLEN | 10.4 | 10.53 | KY 100 | 0.2 | 0.0-3.4 DEGREES |
| ALLEN | 10.527 | 10.61 | KY 100 | 2.6 | 0.0-3.4 DEGREES |
| ALLEN | 10.609 | 10.7 | KY 100 | 3.1 | 0.0-3.4 DEGREES |
| ALLEN | 10.699 | 10.78 | KY 100 | 0.3 | 0.0-3.4 DEGREES |
| ALLEN ALLEN | 10.779 10.944 | 10.94 11.05 | KY 100 KY 100 | 0.3 | 0.0-3.4 DEGREES 0.0-3.4 DEGREES |
| ALLEN | 11.045 | 11.12 | KY 100 | 3.7 | 3.5-5.4 DEGREES |
| ALLEN | 11.122 | 11.29 | KY 100 | 0.1 | 0.0-3.4 DEGREES |
| ALLEN | 11.288 | 11.38 | KY 100 | 3 | 0.0-3.4 DEGREES |
| ALLEN | 11.375 | 11.49 | KY 100 | 0.7 | 0.0-3.4 DEGREES |
| ALLEN | 11.486 | 11.62 | KY 100 | 2.4 | 0.0-3.4 DEGREES |
| ALLEN | 11.623 | 11.7 | KY 100 | 2.4 | 0.0-3.4 DEGREES |
| ALLEN ALLEN | 11.699 11.839 | 11.84 11.93 | KY 100 KY 100 | 0.4 4.4 | 0.0-3.4 DEGREES 3.5-5.4 DEGREES |
| ALLEN | 11.931 | 12.61 | KY 100 | 0.1 | 0.0-3.4 DEGREES |
| ALLEN | 12.61 | 13.05 | KY 100 | 0.2 | 0.0-3.4 DEGREES |
| | | | | | |

| Design Speed Based On Horizontal Curvature, Assuming 6% Maximum Superelevation |
|---|
| 55 Miles Per Hour |
| 50 Miles Per Hour |
| 45 Miles Per Hour |

VERTICAL GRADES

No HIS data was available on vertical grades for this section of KY 100.

TERRAIN

| County | | | | Type of |
|---------|--------|----------|--------|---------|
| Name | Route | Begin MP | End MP | Terrain |
| SIMPSON | KY 100 | 16.338 | 17.047 | Rolling |
| SIMPSON | KY 100 | 17.047 | 19.115 | Rolling |
| ALLEN | KY 100 | 0 | 3.339 | Rolling |
| ALLEN | KY 100 | 3.339 | 5.933 | Rolling |
| ALLEN | KY 100 | 5.933 | 6.586 | Rolling |
| ALLEN | KY 100 | 6.586 | 10.228 | Rolling |
| ALLEN | KY 100 | 10.228 | 12 | Rolling |
| ALLEN | KY 100 | 12 | 12.285 | Rolling |
| ALLEN | KY 100 | 12.285 | 13.1 | Rolling |

PERCENT PASSING SIGHT DISTANCE

| County Name | Route | Begin MP | End MP | Percent Passing Sight Distance |
|----------------|--------|----------|--------|---|
| SIMPSON | KY 100 | 16.338 | 17.047 | 63 |
| SIMPSON | KY 100 | 17.047 | 19.115 | 56 |
| ALLEN | KY 100 | 0 | 3.339 | 21 |
| ALLEN | KY 100 | 3.339 | 5.933 | 21 |
| ALLEN | KY 100 | 5.933 | 6.586 | 61 |
| ALLEN | KY 100 | 6.586 | 10.228 | 14 |
| ALLEN | KY 100 | 10.228 | 12 | 23 |
| ALLEN | KY 100 | 12 | 12.285 | 23 |
| ALLEN | KY 100 | 12.285 | 13.1 | 40 |

POSTED SPEED LIMIT

| County Name | Route | Begin MP | End MP | Posted Speed Limit |
|-------------|--------|----------|--------|--------------------------|
| SIMPSON | KY 100 | 13.097 | 19.115 | 55 |
| ALLEN | KY 100 | 0 | 12.078 | 55 |
| ALLEN | KY 100 | 12.078 | 12.721 | 45 |

LANES

| County Name | Route | Begin MP | End MP | Lane Width | Driving Lanes |
|----------------|--------|----------|--------|---------------|------------------|
| SIMPSON | KY 100 | 13.017 | 19.115 | 9 | 2 |
| ALLEN | KY 100 | 0 | 5.94 | 9 | 2 |
| ALLEN | KY 100 | 5.94 | 13.1 | 10 | 2 |

SHOULDERS

| County Name | Route | Begin MP | End MP | Туре | Width |
|----------------|--------|----------|--------|-------------|-------|
| SIMPSON | KY 100 | 13.017 | 19.115 | Combination | 4 |
| ALLEN | KY 100 | 0 | 13.08 | Combination | 2 |

PAVEMENT TYPE

| County Name | Route | Begin MP | End MP | Surface Type |
|----------------|--------|----------|--------|------------------|
| SIMPSON | KY 100 | 10.867 | 19.115 | High Flexible |
| ALLEN | KY 100 | 0 | 13.08 | High Flexible |

TRUCK WEIGHT CLASS

| County Name | Route | Begin MP | End MP | Class | Description |
|----------------|--------|----------|--------|-------|--|
| SIMPSON | KY 100 | 9.742 | 19.115 | AAA | FROM US 31W TO ALLEN COUNTY LINE |
| ALLEN | KY 100 | 0 | 29.583 | AAA | From Simpson County line to Monroe County line |

TRAFFIC

| County Name: | SIMPSON | ALLEN | ALLEN | ALLEN | ALLEN |
|------------------------------------|-------------------------|----------------------|----------------------|----------------------|----------------------|
| Route: | KY 100 | KY 100 | KY 100 | KY 100 | KY 100 |
| Begin MP: | 16.34 | 0 | 3.339 | 6.586 | 10.228 |
| End MP: | 19.115 | 3.339 | 6.586 | 10.228 | 12.654 |
| Current ADT: | 2,260 | 2,260 | 2,060 | 2,370 | 3,440 |
| Source of Current: | Computer Estimate | Computer Estimate | Computer Estimate | Computer Estimate | Computer Estimate |
| Last Actual ADT: | 2,085 | 2,085 | 1,904 | 2,318 | 3,231 |
| Year of Count: | 2006 | 2006 | 2004 | 2004 | 2004 |
| End Point: | ALLEN COUNTY LINE | KY 482 | RED HILL ROAD | KY 585 | US 31E |
| Traffic Station: | 2508 | 2508 | 2558 | 2505 | 2563 |
| Station Type: | in adjacent county | Coverage | Classification | Coverage | HPMS |
| Percent Single Unit Traffic: | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Percent Combination Traffic: | 7.1 | 7.1 | 7.1 | 7.1 | 7.1 |

SYSTEM

| County: | SIMPSON |
|------------------|----------------------|
| Route: | KY 100 |
| Begin MP: | 12.926 |
| End MP: | 19.115 |
| State System: | 4:State Secondary |
| National Highway | 0:Not on National |
| System: | Highway System |
| Functional | 07:Rural Major |
| Classification: | Collector |
| Type Area: | 1:Rural |
| Urban Area: | 00000:Rural |
| LRS_ID: | KY0100 00000 |
| Fed Aid System | O: Other Federal-aid |
| Codes: | System |

| County: | ALLEN |
|------------------|----------------------|
| Route: | KY 100 |
| Begin MP: | 0 |
| End MP: | 17.244 |
| State System: | 4:State Secondary |
| National Highway | 0:Not on National |
| System: | Highway System |
| Functional | 07:Rural Major |
| Classification: | Collector |
| Type Area: | 1:Rural |
| Urban Area: | 00000:Rural |
| LRS_ID: | KY0100 00000 |
| Fed Aid System | O: Other Federal-aid |
| Codes: | System |

APPENDIX F LEVEL OF SERVICE ANALYSIS

Capacity and Level of Service Analysis

Output from HCS+

No-Build Scenario with Year 2007 Traffic Volumes

Phone: Fax: E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 5/9/2007 Analysis Time Period Highway KY 100 From/To MP 16.34 to MP 19.115 Jurisdiction Simpson County Analysis Year Description No-Build Alternative _____Input Data_____ Highway class Class 2 Highway class Class 2
Shoulder width 4.0 ft Peak-hour factor, PHF 0.88
Lane width 10.0 ft % Trucks and buses 12
Segment length 2.8 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 42
Grade: Length mi Access points/mi 10 용 용 ્ટ 10 /mi Up/down Two-way hourly volume, V 308 veh/h Directional split 64 / 36 % ______Average Travel Speed______ Grade adjustment factor, fG 0.71 PCE for trucks, ET 2.5 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.847 Two-way flow rate, (note-1) vp 582 pc/h Highest directional split proportion (note-2) 372 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 60.0 mi/h Adj. for lane and shoulder width, fLS 2.4 mi/h Adj. for access points, fA 2.5 mi/h Free-flow speed, FFS 55.1 mi/h .5 mi/h 48.1 m Adjustment for no-passing zones, fnp 2.5

Average travel speed, ATS

| Percent Time-Spent-Following | | |
|--|---|---------------------------|
| Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Two-way flow rate, (note-1) vp Highest directional applit properties (note 2) | 0.77 1.8 1.0 0.912 498 319 | pc/h |
| Highest directional split proportion (note-2) Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np Percent time-spent-following, PTSF | 35.5 | % % |
| Level of Service and Other Performance Measur | res | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | B 0.18 245 862 5.1 | veh-mi veh-mi veh-h |

Notes:

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax: E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 5/9/2007 Analysis Time Period Highway KY 100 From/To MP 0 to MP 3.339 Allen County Jurisdiction Analysis Year 2007 Description No-Build Alternative _____Input Data_____ Highway class Class 2 Shoulder width 4.0 ft Peak-hour factor, PHF 0.88
Lane width 9.0 ft % Trucks and buses 12
Segment length 3.3 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 79
Grade: Length mi Access points/mi 16 0.88 용 용 ્ટ 16 /mi Up/down Two-way hourly volume, V 308 veh/h Directional split 64 / 36 % ______Average Travel Speed______ Grade adjustment factor, fG 0.71 PCE for trucks, ET 2.5 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.847 Two-way flow rate, (note-1) vp 582 pc/h Highest directional split proportion (note-2) 372 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 55.0 mi/h Adj. for lane and shoulder width, fLS 3.5 mi/h Adj. for access points, fA 4.0 mi/h Free-flow speed, FFS 47.5 mi/h Adjustment for no-passing zones, fnp .± 39.6 3.4 mi/h

mi/h

Average travel speed, ATS

| Percent Time-Spent-Following | | |
|--|------------------------------------|---------------------------|
| Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Two-way flow rate, (note-1) vp | 0.77 1.8 1.0 0.912 498 | pc/h |
| Highest directional split proportion (note-2) Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np Percent time-spent-following, PTSF Level of Service and Other Performance Measure | 56.3 | ે જે |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | C 0.18 289 1016 7.3 | veh-mi veh-mi veh-h |

Notes:

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax: E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 5/9/2007 Analysis Time Period Highway KY 100 From/To MP 3.339 to MP 6.586 Allen County Jurisdiction Analysis Year Description No-Build Alternative _____Input Data_____ Highway class Class 2 Highway class Class 2
Shoulder width 2.0 ft Peak-hour factor, PHF 0.8
Lane width 10.0 ft % Trucks and buses 12
Segment length 3.2 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 71
Grade: Length mi Access points/mi 12 0.88 12 용 용 71 ્ટ 12 /mi Up/down Two-way hourly volume, V 265 veh/h Directional split 64 / 36 % ______Average Travel Speed______ Grade adjustment factor, fG 0.71 PCE for trucks, ET 2.5 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.847 Two-way flow rate, (note-1) vp 500 pc/h Highest directional split proportion (note-2) 320 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 55.0 mi/h Adj. for lane and shoulder width, fLS 3.7 mi/h Adj. for access points, fA 3.0 mi/h Free-flow speed, FFS 48.3 mi/h 41.0 Adjustment for no-passing zones, fnp 3.5 mi/h Average travel speed, ATS mi/h

| Percent Time-Spent-Following | | |
|---|--------------------------------|---------------------------|
| Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER | 0.77 1.8 1.0 | |
| Heavy-vehicle adjustment factor, fHV Two-way flow rate,(note-1) vp Highest directional split proportion (note-2) | 0.912 429 275 | pc/h |
| Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np Percent time-spent-following, PTSF | 31.4 21.3 52.7 | • |
| Level of Service and Other Performance Measur | | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | B 0.16 241 848 5.9 | veh-mi veh-mi veh-h |

Notes:

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax: E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 5/9/2007 Analysis Time Period Highway KY 100 From/To MP 6.586 to MP 10.228 Jurisdiction Allen County Analysis Year Description No-Build Alternative _____Input Data_____ Highway class Class 2 Highway class Class 2
Shoulder width 2.0 ft Peak-hour factor, PHF 0.88
Lane width 10.0 ft % Trucks and buses 12
Segment length 3.6 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 86
Grade: Length mi Access points/mi 15 용 용 ્ટ 15 /mi Up/down Two-way hourly volume, V 296 veh/h Directional split 64 / 36 % ______Average Travel Speed______ Grade adjustment factor, fG 0.71 PCE for trucks, ET 2.5 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.847 559 pc/h Two-way flow rate, (note-1) vp Highest directional split proportion (note-2) 358 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 50.0 mi/h 3.7 Adj. for lane and shoulder width, fLS mi/h Adj. for access points, fA 3.8 mi/h Free-flow speed, FFS 42.5 mi/h

Adjustment for no-passing zones, fnp 3.7

Average travel speed, ATS

34.6

mi/h

mi/h

| Percent Time-Spent-Following | | |
|---|---------------------------------|---------------------------|
| Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER | 0.77 1.8 1.0 | |
| Heavy-vehicle adjustment factor, fHV Two-way flow rate, (note-1) vp Highest directional split proportion (note-2) | 0.912 479 307 | pc/h |
| Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np Percent time-spent-following, PTSF | 34.4 | |
| Level of Service and Other Performance Measur | res | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | C 0.17 303 1066 8.8 | veh-mi veh-mi veh-h |

Notes:

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Fax:

Phone:

E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 5/9/2007 Analysis Time Period Highway KY 100 From/To MP 10.228 to MP 12.654 Allen County Jurisdiction Analysis Year Description No-Build Alternative _____Input Data_____ Highway class Class 2 Highway class Class 2
Shoulder width 2.0 ft Peak-hour factor, PHF 0.8
Lane width 10.0 ft % Trucks and buses 12
Segment length 2.4 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 74
Grade: Length mi Access points/mi 26 0.88 12 용 용 74 ્ટ 26 /mi Up/down Two-way hourly volume, V 407 veh/h Directional split 64 / 36 % ______Average Travel Speed______ Grade adjustment factor, fG 0.93 PCE for trucks, ET 1.9 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.903 551 pc/h Two-way flow rate, (note-1) vp Highest directional split proportion (note-2) 353 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 55.0 mi/h Adj. for lane and shoulder width, fLS 3.7 mi/h Adj. for access points, fA 6.5 mi/h Free-flow speed, FFS 44.8 mi/h Adjustment for no-passing zones, fnp 3.4 3.4 37.1 mi/h Average travel speed, ATS mi/h

| Percent Time-Spent-Following | | |
|---|-------------|------------------|
| Grade adjustment factor, fG | 0.94 | |
| PCE for trucks, ET PCE for RVs, ER | 1.5 | |
| Heavy-vehicle adjustment factor, fHV | 0.943 | |
| Two-way flow rate,(note-1) vp | 522 | pc/h |
| Highest directional split proportion (note-2) Base percent time-spent-following, BPTSF | 334 36.8 | 90 |
| Adj.for directional distribution and no-passing zones, fd/np | | 0 |
| Percent time-spent-following, PTSF | 57.2 | % |
| Level of Service and Other Performance Measur | res | |
| Level of service, LOS | С | |
| Volume to capacity ratio, v/c | 0.17 | - 1 |
| Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 | 278 977 | veh-mi veh-mi |
| Peak 15-min total travel time, TT15 | 7.5 | veh-h |

Notes:

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Capacity and Level of Service Analysis

Output from HCS+

No-Build Scenario with Year 2030 Traffic Volumes

Phone: Fax: E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 5/9/2007 Analysis Time Period Highway KY 100 From/To MP 16.34 to MP 19.115 Jurisdiction Simpson County Analysis Year Description No-Build Scenario _____Input Data_____ Highway class Class 2 Highway class Class 2
Shoulder width 4.0 ft Peak-hour factor, PHF 0.88
Lane width 10.0 ft % Trucks and buses 12
Segment length 2.8 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 42
Grade: Length mi Access points/mi 10 용 용 ્ટ 10 /mi Up/down Two-way hourly volume, V 641 veh/h Directional split 64 / 36 % _____Average Travel Speed_____ Grade adjustment factor, fG 0.93 PCE for trucks, ET 1.9 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.903 Two-way flow rate, (note-1) vp 868 pc/h Highest directional split proportion (note-2) 556 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 60.0 mi/h Adj. for lane and shoulder width, fLS 2.4 mi/h Adj. for access points, fA 2.5 mi/h Free-flow speed, FFS 55.1 mi/h 46.5 Adjustment for no-passing zones, fnp 1.8 mi/h Average travel speed, ATS mi/h

| Percent Time-Spent-Following | | | | |
|--|---|---------------------------|--|--|
| Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Two-way flow rate,(note-1) vp Highest directional split proportion (note-2) Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np Percent time-spent-following, PTSF | 0.94 1.5 1.0 0.943 821 525 51.4 10.5 61.9 | pc/h % | | |
| Level of Service and Other Performance Measures | | | | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | C 0.27 510 1795 11.0 | veh-mi veh-mi veh-h | | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Fax:

Phone:

E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 5/9/2007 Analysis Time Period Highway KY 100 From/To MP 0 to MP 3.339 Jurisdiction Allen County Analysis Year Description No-Build Scenario _____Input Data_____ Highway class Class 2 Shoulder width 4.0 ft Peak-hour factor, PHF 0.88
Lane width 9.0 ft % Trucks and buses 12
Segment length 3.3 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 79
Grade: Length mi Access points/mi 16 0.88 응 응 ્ટ 16 /mi Up/down Two-way hourly volume, V 641 veh/h Directional split 64 / 36 % _____Average Travel Speed_____ Grade adjustment factor, fG 0.93 PCE for trucks, ET 1.9 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.903 Two-way flow rate, (note-1) vp 868 pc/h Highest directional split proportion (note-2) 556 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 55.0 mi/h Adj. for lane and shoulder width, fLS 3.5 mi/h Adj. for access points, fA 4.0 mi/h Free-flow speed, FFS 47.5 mi/h Adjustment for no-passing zones, fnp 2.5 mi/h Average travel speed, ATS 38.2 mi/h

| Percent Time-Spent-Following | | | | |
|--|-------|--------|--|--|
| Grade adjustment factor, fG | 0.94 | | | |
| PCE for trucks, ET | 1.5 | | | |
| PCE for RVs, ER | 1.0 | | | |
| Heavy-vehicle adjustment factor, fHV | 0.943 | | | |
| Two-way flow rate,(note-1) vp | 821 | pc/h | | |
| Highest directional split proportion (note-2) | 525 | | | |
| Base percent time-spent-following, BPTSF | 51.4 | % | | |
| Adj.for directional distribution and no-passing zones, fd/np | 13.6 | | | |
| Percent time-spent-following, PTSF | 65.0 | % | | |
| Level of Service and Other Performance Measur | res | | | |
| Level of service, LOS | С | | | |
| Volume to capacity ratio, v/c | 0.27 | | | |
| Peak 15-min vehicle-miles of travel, VMT15 | 601 | veh-mi | | |
| Peak-hour vehicle-miles of travel, VMT60 | 2115 | veh-mi | | |
| Peak 15-min total travel time, TT15 | 15.7 | veh-h | | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Fax:

Phone:

E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 5/9/2007 Analysis Time Period Highway KY 100 From/To MP 3.339 to MP 6.586 Jurisdiction Allen County Analysis Year Description No-Build Scenario _____Input Data_____ Highway class Class 2 Highway class Class 2
Shoulder width 2.0 ft Peak-hour factor, PHF 0.88
Lane width 10.0 ft % Trucks and buses 12
Segment length 3.2 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 71
Grade: Length mi Access points/mi 12 0.88 12 응 응 ્ટ 12 /mi Up/down Two-way hourly volume, V 469 veh/h Directional split 64 / 36 % _____Average Travel Speed_____ Grade adjustment factor, fG 0.93 PCE for trucks, ET 1.9 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.903 Two-way flow rate, (note-1) vp 635 pc/h Highest directional split proportion (note-2) 406 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 55.0 mi/h Adj. for lane and shoulder width, fLS 3.7 mi/h Adj. for access points, fA 3.0 mi/h Free-flow speed, FFS 48.3 mi/h 40.3 Adjustment for no-passing zones, fnp 3.1 mi/h Average travel speed, ATS mi/h

| Percent Time-Spent-Following | | | | |
|--|---|---------------------------|--|--|
| Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Two-way flow rate,(note-1) vp Highest directional split proportion (note-2) Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np Percent time-spent-following, PTSF | 0.94 1.5 1.0 0.943 601 385 41.0 19.4 60.5 | pc/h % | | |
| Level of Service and Other Performance Measures | | | | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | C 0.20 426 1501 10.6 | veh-mi veh-mi veh-h | | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax: E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 5/9/2007 Analysis Time Period Highway KY 100 From/To MP 6.586 to MP 10.228 Jurisdiction Allen County Analysis Year Description No-Build Scenario _____Input Data_____ Highway class Class 2 Highway class Class 2
Shoulder width 2.0 ft Peak-hour factor, PHF 0.88
Lane width 10.0 ft % Trucks and buses 12
Segment length 3.6 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 86
Grade: Length mi Access points/mi 15 응 응 ્ટ 15 /mi Up/down Two-way hourly volume, V 537 veh/h Directional split 64 / 36 % _____Average Travel Speed_____ Grade adjustment factor, fG 0.93 PCE for trucks, ET 1.9 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.903 Two-way flow rate, (note-1) vp 727 pc/h Highest directional split proportion (note-2) 465 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 50.0 mi/h 3.7 Adj. for lane and shoulder width, fLS mi/h Adj. for access points, fA 3.8 mi/h Free-flow speed, FFS 42.5 mi/h 33.8 Adjustment for no-passing zones, fnp 3.1 mi/h

mi/h

Average travel speed, ATS

| Percent Time-Spent-Following | | | | |
|--|---|---------------------------|--|--|
| Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Two-way flow rate,(note-1) vp Highest directional split proportion (note-2) Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np Percent time-spent-following, PTSF | 0.94 1.5 1.0 0.943 688 440 45.4 17.5 62.8 | pc/h % | | |
| Level of Service and Other Performance Measures | | | | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | C 0.23 549 1933 16.2 | veh-mi veh-mi veh-h | | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Fax:

Phone:

E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 5/9/2007 Analysis Time Period Highway KY 100 From/To MP 10.228 to MP 12.654 Allen County Jurisdiction Analysis Year Description No-Build Scenario _____Input Data_____ Highway class Class 2 Highway class Class 2
Shoulder width 2.0 ft Peak-hour factor, PHF 0.88
Lane width 10.0 ft % Trucks and buses 12
Segment length 2.4 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 74
Grade: Length mi Access points/mi 26 응 응 ્ટ 26 /mi Up/down Two-way hourly volume, V 599 veh/h Directional split 64 / 36 % _____Average Travel Speed_____ Grade adjustment factor, fG 0.93 PCE for trucks, ET 1.9 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.903 811 pc/h Two-way flow rate, (note-1) vp Highest directional split proportion (note-2) 519 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 55.0 mi/h Adj. for lane and shoulder width, fLS 3.7 mi/h Adj. for access points, fA 6.5 mi/h Free-flow speed, FFS 44.8 mi/h 35.9 Adjustment for no-passing zones, fnp 2.6 mi/h Average travel speed, ATS mi/h

| Percent Time-Spent-Following | | | | |
|--|---|---------------------------|--|--|
| Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Two-way flow rate,(note-1) vp Highest directional split proportion (note-2) Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np Percent time-spent-following, PTSF | 0.94 1.5 1.0 0.943 768 492 49.1 14.6 63.7 | • | | |
| Level of Service and Other Performance Measures | | | | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | C 0.25 408 1438 11.4 | veh-mi veh-mi veh-h | | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Capacity and Level of Service Analysis

Output from HCS+

Year 2007 Traffic Volumes with All Segments Rebuilt

Phone: Fax: E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 11/26/2007 Analysis Time Period Highway KY 100 From/To MP 16.34 to MP 19.115 Jurisdiction Simpson County Analysis Year 2007 Description Rebuild All Segments _____Input Data_____ Highway class Class 2 Highway class Class Z
Shoulder width 8.0 ft Peak-hour factor, PHF 0.88
Lane width 12.0 ft % Trucks and buses 12
Segment length 2.8 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 30
Grade: Length mi Access points/mi 10 응 응 ્ટ 10 /mi Up/down Two-way hourly volume, V 308 veh/h Directional split 64 / 36 % _____Average Travel Speed______ Grade adjustment factor, fG 0.71 PCE for trucks, ET 2.5 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.847 Two-way flow rate, (note-1) vp 582 pc/h Highest directional split proportion (note-2) 372 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 60.0 mi/h Adj. for lane and shoulder width, fLS 0.0 mi/h Adj. for access points, fA 2.5 mi/h Free-flow speed, FFS 57.5 mi/h

Adjustment for no-passing zones, fnp 2.0

Average travel speed, ATS

51.0

mi/h

mi/h

| Percent Time-Spent-Following | | | | |
|--|-------|--------|--|--|
| Grade adjustment factor, fG | 0.77 | | | |
| PCE for trucks, ET | 1.8 | | | |
| PCE for RVs, ER | 1.0 | | | |
| Heavy-vehicle adjustment factor, fHV | 0.912 | | | |
| Two-way flow rate,(note-1) vp | 498 | pc/h | | |
| Highest directional split proportion (note-2) | 319 | _ | | |
| Base percent time-spent-following, BPTSF | 35.5 | % | | |
| Adj.for directional distribution and no-passing zones, fd/np | 13.9 | | | |
| Percent time-spent-following, PTSF | 49.3 | % | | |
| Level of Service and Other Performance Measur | ces | | | |
| Level of service, LOS | В | | | |
| Volume to capacity ratio, v/c | 0.18 | | | |
| Peak 15-min vehicle-miles of travel, VMT15 | 245 | veh-mi | | |
| Peak-hour vehicle-miles of travel, VMT60 | 862 | veh-mi | | |
| Peak 15-min total travel time, TT15 | 4.8 | veh-h | | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Fax:

Phone:

E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 11/26/2007 Analysis Time Period Highway KY 100 From/To MP 0 to MP 3.339 Allen County Jurisdiction Analysis Year 2007 Description Rebuild All Segments _____Input Data_____ Highway class Class 2 Highway class Class 2
Shoulder width 8.0 ft Peak-hour factor, PHF 0.88
Lane width 12.0 ft % Trucks and buses 12
Segment length 3.3 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 30
Grade: Length mi Access points/mi 16 응 응 ્ટ 16 /mi Up/down Two-way hourly volume, V 308 veh/h Directional split 64 / 36 % _____Average Travel Speed_____ Grade adjustment factor, fG 0.71 PCE for trucks, ET 2.5 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.847 Two-way flow rate, (note-1) vp 582 pc/h Highest directional split proportion (note-2) 372 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 60.0 mi/h Adj. for lane and shoulder width, fLS 0.0 mi/h Adj. for access points, fA 4.0 mi/h Free-flow speed, FFS 56.0 mi/h Adjustment for no-passing zones, fnp 49.5 mi/h Average travel speed, ATS mi/h

| Percent Time-Spent-Following | | | |
|--|---|--|--|
| Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Two-way flow rate, (note-1) vp Highest directional split proportion (note-2) | 0.77 1.8 1.0 0.912 498 319 | pc/h | |
| Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np | | | |
| Percent time-spent-following, PTSFLevel of Service and Other Performance Measure | 49.3 res | ······································ | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | B 0.18 289 1016 5.8 | veh-mi veh-mi veh-h | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax: E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 11/26/2007 Analysis Time Period Highway KY 100 From/To MP 3.339 to MP 6.586 Allen County Jurisdiction Analysis Year Description Rebuild All Segments _____Input Data_____ Highway class Class 2 Highway class Class 2
Shoulder width 8.0 ft Peak-hour factor, PHF 0.88
Lane width 12.0 ft % Trucks and buses 12
Segment length 3.2 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 30
Grade: Length mi Access points/mi 12 응 응 ્ટ 12 /mi Up/down Two-way hourly volume, V 265 veh/h Directional split 64 / 36 % _____Average Travel Speed_____ Grade adjustment factor, fG 0.71 PCE for trucks, ET 2.5 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.847 Two-way flow rate, (note-1) vp 500 pc/h Highest directional split proportion (note-2) 320 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 60.0 mi/h Adj. for lane and shoulder width, fLS 0.0 mi/h Adj. for access points, fA 3.0 mi/h Free-flow speed, FFS 57.0 mi/h Adjustment for no-passing zones, fnp 2.1
Average travel speed, ATS 51.0 mi/h Average travel speed, ATS mi/h

| Percent Time-Spent-Following | | | |
|---|--------------------------------|---------------------------|--|
| Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV | 0.77 1.8 1.0 0.912 | | |
| Two-way flow rate,(note-1) vp Highest directional split proportion (note-2) | 429 275 | pc/h | |
| Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np | 31.4 | % | |
| Percent time-spent-following, PTSF | 45.6 | % | |
| Level of Service and Other Performance Measur | res | | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | B 0.16 241 848 4.7 | veh-mi veh-mi veh-h | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax: E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 11/26/2007 Analysis Time Period Highway KY 100 From/To MP 6.586 to MP 10.228 Jurisdiction Allen County Analysis Year Description Rebuild All Segments _____Input Data_____ Highway class Class 2 Highway class Class 2
Shoulder width 8.0 ft Peak-hour factor, PHF 0.88
Lane width 12.0 ft % Trucks and buses 12
Segment length 3.6 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 30
Grade: Length mi Access points/mi 15 응 응 ્ટ 15 /mi Up/down Two-way hourly volume, V 296 veh/h Directional split 64 / 36 % _____Average Travel Speed_____ Grade adjustment factor, fG 0.71 PCE for trucks, ET 2.5 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.847 559 pc/h Two-way flow rate, (note-1) vp Highest directional split proportion (note-2) 358 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 60.0 mi/h Adj. for lane and shoulder width, fLS 0.0 mi/h Adj. for access points, fA 3.8 mi/h Free-flow speed, FFS 56.3 mi/h

Adjustment for no-passing zones, fnp 2.0

Average travel speed, ATS

49.9

mi/h

mi/h

| Percent Time-Spent-Following | | | |
|---|-------------|------------------|--|
| Grade adjustment factor, fG | 0.77 | | |
| PCE for trucks, ET | 1.8 | | |
| PCE for RVs, ER | 1.0 | | |
| Heavy-vehicle adjustment factor, fHV | 0.912 | | |
| Two-way flow rate,(note-1) vp | 479 | pc/h | |
| Highest directional split proportion (note-2) | 307 | | |
| Base percent time-spent-following, BPTSF | 34.4 | % | |
| Adj.for directional distribution and no-passing zones, fd/np | 14.0 | | |
| Percent time-spent-following, PTSF | 48.3 | % | |
| Level of Service and Other Performance Measur | ces | | |
| Level of service, LOS | В | | |
| Volume to capacity ratio, v/c | 0.17 | | |
| Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 | 303 1066 | veh-mi veh-mi | |
| Peak 15-min total travel time, TT15 | 6.1 | veh-h | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax: E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 11/26/2007 Analysis Time Period Highway KY 100 From/To MP 10.229 to MP 11.931 Allen County Jurisdiction Analysis Year Description Rebuild All Segments _____Input Data_____ Highway class Class 2 Highway class Class Z
Shoulder width 8.0 ft Peak-hour factor, PHF 0.88
Lane width 12.0 ft % Trucks and buses 12
Segment length 1.7 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 30
Grade: Length mi Access points/mi 15 응 용 ્ટ 15 /mi Up/down Two-way hourly volume, V 407 veh/h Directional split 64 / 36 % _____Average Travel Speed_____ Grade adjustment factor, fG 0.93 PCE for trucks, ET 1.9 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.903 551 pc/h Two-way flow rate, (note-1) vp Highest directional split proportion (note-2) 353 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 60.0 mi/h Adj. for lane and shoulder width, fLS 0.0 mi/h Adj. for access points, fA 3.8 mi/h Free-flow speed, FFS 56.3 mi/h Adjustment for no-passing zones, fnp 49.9 2.0 mi/h

mi/h

Average travel speed, ATS

| Percent Time-Spent-Following | | | |
|---|--------------------------------|---------------------------|--|
| Grade adjustment factor, fG PCE for trucks, ET | 0.94 | | |
| PCE for RVs, ER Heavy-vehicle adjustment factor, fHV | 1.0 | | |
| Two-way flow rate, (note-1) vp Highest directional split proportion (note-2) | 522 334 | pc/h | |
| Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np | 36.8 13.8 | ર | |
| Percent time-spent-following, PTSF | 50.6 | % | |
| Level of Service and Other Performance Measur | res | | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | B 0.17 197 692 3.9 | veh-mi veh-mi veh-h | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Capacity and Level of Service Analysis

Output from HCS+

Year 2030 Traffic Volumes with All Segments Rebuilt

Phone: Fax: E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 11/26/2007 Analysis Time Period Highway KY 100 From/To MP 16.34 to MP 19.115 Jurisdiction Simpson County Analysis Year 2030 Description Rebuild All Segments _____Input Data_____ Highway class Class 2 Highway class Class Z
Shoulder width 8.0 ft Peak-hour factor, PHF 0.88
Lane width 12.0 ft % Trucks and buses 12
Segment length 2.8 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 30
Grade: Length mi Access points/mi 10 용 용 ્ટ 10 /mi Up/down Two-way hourly volume, V 641 veh/h Directional split 64 / 36 % _______Average Travel Speed______ Grade adjustment factor, fG 0.93 PCE for trucks, ET 1.9 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.903 Two-way flow rate, (note-1) vp 868 pc/h Highest directional split proportion (note-2) 556 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 60.0 mi/h Adj. for lane and shoulder width, fLS 0.0 mi/h Adj. for access points, fA 2.5 mi/h Free-flow speed, FFS 57.5 mi/h

mi/h

mi/h

49.2

Adjustment for no-passing zones, fnp 1.5

Average travel speed, ATS

| Percent Time-Spent-Following | | | |
|---|----------------------------------|---------------------------|--|
| Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV | 0.94 1.5 1.0 | | |
| Two-way flow rate, (note-1) vp Highest directional split proportion (note-2) | 821 525 | pc/h | |
| Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np Percent time-spent-following, PTSF | | % | |
| | | % | |
| Level of Service and Other Performance Measures | | | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | C 0.27 510 1795 10.4 | veh-mi veh-mi veh-h | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Fax:

Phone:

E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 11/26/2007 Analysis Time Period Highway KY 100 From/To MP 0 to MP 3.339 Jurisdiction Allen County Analysis Year 2030 Description Rebuild All Segments _____Input Data_____ Highway class Class 2 Highway class Class Z
Shoulder width 8.0 ft Peak-hour factor, PHF 0.88
Lane width 12.0 ft % Trucks and buses 12
Segment length 3.3 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 30
Grade: Length mi Access points/mi 16 용 용 ્ટ 16 /mi Up/down Two-way hourly volume, V 641 veh/h Directional split 64 / 36 % ______Average Travel Speed______ Grade adjustment factor, fG 0.93 PCE for trucks, ET 1.9 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.903 Two-way flow rate, (note-1) vp 868 pc/h Highest directional split proportion (note-2) 556 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 60.0 mi/h Adj. for lane and shoulder width, fLS 0.0 mi/h Adj. for access points, fA 4.0 mi/h Free-flow speed, FFS 56.0 mi/h Adjustment for no-passing zones, fnp 47.7 mi/h 1.5 Average travel speed, ATS mi/h

| Percent Time-Spent-Following | | | |
|---|---|---------------------------|--|
| Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Two-way flow rate, (note-1) vp Highest directional split proportion (note-2) Base percent time-spent-following, BPTSF | 0.94 1.5 1.0 0.943 821 525 51.4 | pc/h | |
| Adj.for directional distribution and no-passing zones, fd/np Percent time-spent-following, PTSF | | % | |
| Level of Service and Other Performance Measures | | | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | C 0.27 601 2115 12.6 | veh-mi veh-mi veh-h | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Fax:

Phone:

E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 11/26/2007 Analysis Time Period Highway KY 100 From/To MP 3.339 to MP 6.586 Allen County Jurisdiction Analysis Year 2030 Description Rebuild All Segments _____Input Data_____ Highway class Class 2 Highway class Class 2
Shoulder width 8.0 ft Peak-hour factor, PHF 0.88
Lane width 12.0 ft % Trucks and buses 12
Segment length 3.2 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 30
Grade: Length mi Access points/mi 12 용 용 ્ટ 12 /mi Up/down Two-way hourly volume, V 469 veh/h Directional split 64 / 36 % _____Average Travel Speed_____ Grade adjustment factor, fG 0.93 PCE for trucks, ET 1.9 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.903 Two-way flow rate, (note-1) vp 635 pc/h Highest directional split proportion (note-2) 406 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 60.0 mi/h Adj. for lane and shoulder width, fLS 0.0 mi/h Adj. for access points, fA 3.0 mi/h Free-flow speed, FFS 57.0 mi/h 50.1 Adjustment for no-passing zones, fnp 1.9 mi/h Average travel speed, ATS mi/h

| Percent Time-Spent-Following | | | |
|---|---------------------------------|---------------------------|--|
| Grade adjustment factor, fG | 0.94 | | |
| PCE for trucks, ET PCE for RVs, ER | 1.0 | | |
| Heavy-vehicle adjustment factor, fHV Two-way flow rate,(note-1) vp Highest directional split proportion (note-2) | 0.943 601 385 | pc/h | |
| Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np Percent time-spent-following, PTSF | | % | |
| | | % | |
| Level of Service and Other Performance Measures | | | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | B 0.20 426 1501 8.5 | veh-mi veh-mi veh-h | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax: E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 11/26/2007 Analysis Time Period Highway KY 100 From/To MP 6.586 to MP 10.228 Jurisdiction Allen County Analysis Year Description Rebuild All Segments _____Input Data_____ Highway class Class 2 Highway class Class 2
Shoulder width 8.0 ft Peak-hour factor, PHF 0.88
Lane width 12.0 ft % Trucks and buses 12
Segment length 3.6 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 30
Grade: Length mi Access points/mi 15 용 용 ્ટ 15 /mi Up/down Two-way hourly volume, V 537 veh/h Directional split 64 / 36 % _____Average Travel Speed______ Grade adjustment factor, fG 0.93 PCE for trucks, ET 1.9 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.903 Two-way flow rate, (note-1) vp 727 pc/h Highest directional split proportion (note-2) 465 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 60.0 mi/h Adj. for lane and shoulder width, fLS 0.0 mi/h Adj. for access points, fA 3.8 mi/h Free-flow speed, FFS 56.3 mi/h 48.8 Adjustment for no-passing zones, fnp 1.8 mi/h

mi/h

Average travel speed, ATS

| Percent Time-Spent-Following | | | |
|--|---|---------------------------|--|
| Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER Heavy-vehicle adjustment factor, fHV Two-way flow rate,(note-1) vp Highest directional split proportion (note-2) Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np Percent time-spent-following, PTSF | 0.94 1.5 1.0 0.943 688 440 45.4 11.5 56.9 | pc/h % | |
| Level of Service and Other Performance Measur | | | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | C 0.23 549 1933 11.2 | veh-mi veh-mi veh-h | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Phone: Fax: E-Mail: _____Two-Way Two-Lane Highway Segment Analysis______ Analyst Thomas Witt Agency/Co. KYTC Planning Date Performed 11/26/2007 Analysis Time Period Highway KY 100 From/To MP 10.229 to MP 11.931 Allen County Jurisdiction Analysis Year Description Rebuild All Segments _____Input Data_____ Highway class Class 2 Highway class Class Z
Shoulder width 8.0 ft Peak-hour factor, PHF 0.88
Lane width 12.0 ft % Trucks and buses 12
Segment length 1.7 mi % Recreational vehicles 0
Terrain type Rolling % No-passing zones 30
Grade: Length mi Access points/mi 15 용 용 ્ટ 15 /mi Up/down Two-way hourly volume, V 599 veh/h Directional split 64 / 36 % _____Average Travel Speed_____ Grade adjustment factor, fG 0.93 PCE for trucks, ET 1.9 PCE for RVs, ER 1.1 Heavy-vehicle adjustment factor, 0.903 811 pc/h Two-way flow rate, (note-1) vp Highest directional split proportion (note-2) 519 pc/h Free-Flow Speed from Field Measurement: Field measured speed, SFM mi/h Observed volume, Vf veh/h Estimated Free-Flow Speed: Base free-flow speed, BFFS 60.0 mi/h Adj. for lane and shoulder width, fLS 0.0 mi/h Adj. for access points, fA 3.8 mi/h Free-flow speed, FFS 56.3 mi/h

Adjustment for no-passing zones, fnp 1.6

Average travel speed, ATS

48.3

mi/h

mi/h

| Percent Time-Spent-Following | | | |
|---|---------------------------------|---------------------------|--|
| Grade adjustment factor, fG PCE for trucks, ET PCE for RVs, ER | 0.94 1.5 1.0 | | |
| Heavy-vehicle adjustment factor, fHV Two-way flow rate, (note-1) vp Highest directional split proportion (note-2) | 0.943 768 492 | pc/h | |
| Base percent time-spent-following, BPTSF Adj.for directional distribution and no-passing zones, fd/np Percent time-spent-following, PTSF | | % | |
| Level of Service and Other Performance Measures | | | |
| Level of service, LOS Volume to capacity ratio, v/c Peak 15-min vehicle-miles of travel, VMT15 Peak-hour vehicle-miles of travel, VMT60 Peak 15-min total travel time, TT15 | C 0.25 289 1018 6.0 | veh-mi veh-mi veh-h | |

- If vp >= 3200 pc/h, terminate analysis-the LOS is F.
 If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

APPENDIX G RESOURCE AGENCY RESPONSES

Table of Contents

- 1) U.S. Coast Guard
- 2) U.S. Department of Health & Human Services
- 3) State Historic Preservation Office
- 4) Kentucky Department of Agriculture
- 5) Kentucky Environmental and Public Protection Cabinet
 - a) Department for Environmental Protection
 - b) Division of Waste Management
 - c) Division for Air Quality
 - d) Kentucky State Nature Preserves Commission
 - e) Department of Fish and Wildlife Resources
 - f) Department for Natural Resources
 - g) Division of Water
- 6) Kentucky Division for Air Quality
- 7) Kentucky Division of Conservation
- 8) Kentucky Department for Natural Resources
- 9) Kentucky Division of Waste Management
- 10) Kentucky Department of Fish and Wildlife Resources
- 11) Kentucky State Police
- 12) Kentucky Vehicle Enforcement
- 13) Kentucky Transportation Cabinet, Permits Branch
- 14) Kentucky Transportation Cabinet, Office of Special Programs
- 15) Kentucky Transportation Cabinet, Division of Construction
- 16) Kentucky Transportation Cabinet, Geotechnical Branch
- 17) Kentucky Geological Survey

1222 Spruce Street St. Louis, MO 63103-2832 Staff Symbol: dwb Phone: (314)269-2378 Fax: (314)269-2737 Fmail:

SEP 2 0 2007

16591.1/KY 100 September 14, 2007

Mr. Daryl Greer Director, Division of Planning Kentucky Transportation Cabinet Frankfort, KY 40622

Subj: KY 100 IMPROVEMENT PROJECT, ALLEN AND SIMPSON COUNTIES

Dear Mr. Greer:

Please refer to your correspondence of August 31, 2007. We have determined that the proposed improvements will involve work over the Buck, Drake, Smyrna, Lick, and Ramble Creeks. Pursuant to the Coast Guard Authorization Act of 1982, the subject project does not involve bridges over navigable waters of the United States. Therefore, a Coast Guard bridge permit is not required for this project.

We appreciate the opportunity to comment on the project.

Sincerely,

ROGER K. WIEBUSCH

Bridge Administrator

By direction of the District Commander





RECEIVED

Centers for Disease Control and Prevention (CDC) Atlanta GA 30333

OCT 192007

October 10, 2007

Mr. Daryl J. Greer, P.E. Director, Division of Planning Kentucky Transportation Cabinet 200 Metro Street Frankfort, KY 40622

Dear Mr. Greer:

This is in response to your Advance Notification for the Planning Study, Allen and Simpson Counties, KY 100 Improvements from KY 622 in Simpson County to US 31E in Allen County. We are responding on behalf of the Department of Health and Human Services (DHHS), U.S. Public Health Service.

We understand that KY 100 is presently a rural two-lane major collector that will link employment, education, governmental, health, and recreational service centers in Allen and Simpson Counties. We are pleased to see that one of the primary goals of this project is to improve safety and traffic flow in this corridor and commend your desire to reduce crash-related injuries. Injury prevention is also a specific concern for us. While the area is presently rural, we believe that as the project alternatives are developed, consideration should be given to forecasted population growth along this corridor. Appropriate transportation infrastructure for future development along this corridor will help ensure reduced injuries for drivers, transit users, bicyclists, and pedestrians for years to come.

Although we have no other project specific comments to offer at this time, we do recommend that the topics listed below be considered during the NEPA process along with other necessary topics, and addressed if appropriate. Mitigation plans which are protective of the environment for the purpose of improving public health should be described in the DEIS wherever warranted.

AREAS OF POTENTIAL PUBLIC HEALTH CONCERN:

I. Air Quality

- dust control measures during project construction, and mitigation of potential releases of air toxins after project completion
- compliance with air quality standards

II. Water Quality/Quantity

- special consideration to private and public potable water supply, including ground and surface water resources
- ground and surface water contamination (e.g. runoff)
- compliance with water quality and wastewater treatment standards

III. Wetlands and Flood Plains

- · potential contamination of underlying aquifers
- construction within flood plains which may endanger human health
- contamination of the food chain

Page 2 - Mr. Daryl J. Greer, P.E.

IV. Hazardous Materials/Wastes

- identification and characterization of hazardous/contaminated sites
- safety plans/procedures, including use of pesticides/herbicides; worker training
- spill prevention, containment, and countermeasures plan

V. Non-Hazardous Solid Waste/Other Materials

measures regarding solid waste generation, reduction, and disposal should be considered

VI. Noise

 identify projected elevated noise levels and sensitive receptors (i.e. residential, schools, hospitals) and appropriate mitigation plans during and after construction

VII. Occupational Health and Safety

compliance with appropriate criteria and guidelines to ensure worker safety and health

VIII. Land Use -- Community and Neighborhood Impacts

- special consideration and planning for pedestrian infrastructure, including sidewalks that are continuous, accessible, safe, and aesthetically pleasing.
- adequate pedestrian crossings that are convenient and easily identified by motorists
- sufficiently marked, continuous lanes and infrastructure needs for bicyclists
- ADA accessibility compliance for all project areas
- consideration of beneficial and adverse long-term land use impacts, including the potential influx of people into the area as a result of a project and associated impacts
- demographic special considerations (e.g. hospitals, nursing homes, day care centers, schools)
- special consideration and appropriate mitigation for necessary relocation and other potential adverse impacts to residential areas, community cohesion, community services

IX. Environmental Justice

- identify minority groups in study area
- · economic and health characteristics of study area residents and workers
- federal requirements emphasize the issue of environmental justice to ensure equitable environmental protection regardless of race, ethnicity, or economic status, so that no segment of the population bears a disproportionately high or adverse share of the human health or environmental effects attributable to a proposed project. (Executive Order 12898)

While this is not intended to be an exhaustive list of possible impact topics, it provides a guide for typical areas of potential public health concern which may be applicable to this project. Any health related topic which may be associated with the proposed project should receive consideration when developing the draft and final EISs. Please furnish us with one copy of the draft document when it becomes available for review.

Sincerely yours,

Andrew L. Dannenberg, MD, MPH

(Jedni L Dannaby

Associate Director for Science

Division of Emergency and Environmental Health Services

National Center for Environmental Health

Centers for Disease Control and Prevention



RECEIVED

OCT 10 2007

State Historic Preservation Officer

COMMERCE CABINET KENTUCKY HERITAGE COUNCIL

Ernie Fletcher Governor The State Historic Preservation Office 300 Washington Street Frankfort, Kentucky 40601 Phone (502) 564-7005 Fax (502) 564-5820 www.kentucky.gov October 3, 2007

Secretary **Donna M. Neary**Executive Director and

George Ward

Mr. Daryl Greer, Director Division of Planning Kentucky Transportation Cabinet 200 Mero Street, 5th Floor Frankfort, KY 40622

Re: Planning Study, KY 100 Improvements from KY 622 in Simpson County to US 31 E in Allen County (Item No. 3-8303.00)

Dear Mr. Greer:

The State Historic Preservation Office has received a request for comments regarding the above-referenced planning study. There are many cultural resources within the project area, including surveyed sites as well as many historic resources that have yet to be evaluated to be professional architectural historians. Additionally, there are a number of previously recorded archeological sites within the project corridor, and most of this area has never been surveyed by professional archaeologists.

Dependent upon the funding source, whether federally-funded or subject to Corps of Engineers permits, the Section 106 Review Process must be completed. A full survey of both archaeological and cultural resources should be conducted and submitted to this office for review, via the KYTC Central Office Division of Environmental Analysis.

We look forward to reviewing the archaeological and cultural resource reports. If you have questions regarding these comments, please contact Janie-Rice Brother of my staff at (502) 564-7005, extension 121.

Sincerely,

Donna M. Neary, Executive Director Kentucky Heritage Council and State Historic Preservation Officer

Cc: David Waldner, KYTC-DEA Amanda Abner, KYTC-DEA



Richie Farmer, Commissioner 32 Fountain Place Frankfort, KY 40601



Kentucky Department of Agriculture

A Consumer Protection And Service Agency

Phone: (502) 564-5126
Fax: (502) 564-5016
E-mail: richie-farmer@ky.gov

RECEIVED

RECEIVED

SEP 11 2007

September 10, 2007

Mr. Daryl Greer, P.E. Director, Division of Planning Kentucky Transportation Cabinet 200 Mero Street, Station W5-05-01, Frankfort, KY 40622

Re: Planning Study

Allen and Simpson Counties

KY 100 Improvements from KY 622 in Simpson County

To US 31E in Allen County

Item No. 3-8303.00

Dear Mr. Greer:

Please be advised that this agency has no specific concerns or issues concerning the above-noted project.

Sincerely,

Ann Stewart
Staff Assistant









OUT 10 2007

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Ernie Fletcher Governor

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
300 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-2150
FAX (502)564-4245
www.dep.ky.gov

Teresa J. Hill Secretary

Cheryl A. Taylor Commissioner

October 9, 2007

Mr. Daryl J. Greer, P.E., Director Division of Planning Kentucky Transportation Cabinet 200 Mero Street Frankfort, KY 40622

Re: Planning Study Allen and Simpson Counties KY 100 Improvements from KY 622 in Simpson County to US 31E in Allen County Item No. 3-8303.00 (SERO 2007-21)

Dear Mr. Greer,

The Environmental and Public Protection Cabinet 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 5 of the reviewing agencies. Comments were received from the Kentucky Divisions of Waste Management, and Air Quality, the Kentucky Nature Preserves Commission, the Department of Natural Resources, and the Department of Fish and Wildlife Resources.

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

Sincerely,

Larry C. Taylor

State Environmental Review Officer

Enclosures



COMMONWEALTH OF KENTUCKY STATE ENVIRONMENTAL REVIEW PROCESS

Project Number: SERO 2007 -21

Initial Coordination Effort

REVIEWING AGENCIES:

Project Title:

Planning Study Allen and Simpson Counties KY 100 Improvements from KY 622 in Simpson County to US 31E in Allen County Item No. 3-8303.00

The following Commonwealth of Kentucky agencies make up the State Environmental Review Process. Their response is listed below. Agencies that did not receive the document for review or did not respond are also noted.

RESPONSE:

| REVIEWING AGENCIES; | RESPONSE: |
|---|-----------------------|
| Division of Water | No Response Received |
| Division of Waste Management | COMMENTS ATTACHED |
| Division for Air Quality | COMMENTS ATTACHED |
| Department for Public Health | Not Sent for Review |
| Cabinet for Economic Development | Not Sent for Review |
| Division of Forestry | . Not Sent for Review |
| Department of Parks | .Not Sent for Review |
| Department of Agriculture | . Not Sent for Review |
| Nature Preserves Commisssion | COMMENTS ATTACHED |
| Kentucky Heritage Council | No Response Received |
| Division of Conservation | No Response Received |
| Department for Natural Resources | COMMENTS ATTACHED |
| Department of Fish and Wildlife Resources | COMMENTS ATTACHED |
| Transportation Cabinet | Not Sent for Review |
| Department for Military Affairs | Not Sent for Review |

Division of Waste Management Comments

Project Number: SERO 2007-21

All solid waste generated by this project must be disposed at a permitted facility. If underground storage tanks are encountered they must be properly addressed. If asbestos, lead paint, and/or other contaminants are encountered during this project, they must be properly addressed.

Division for Air Quality Comments

Kentucky Division for Air Quality 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. Please note the Fugitive Emissions Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm.

Kentucky Division for Air Quality Regulation 401 KAR 63:005 states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm.

Finally, the projects listed in this document must meet the conformity requirements of the Clean Air Act as amended and the transportation planning provisions of Title 23 and Title 49 of United States Code.

The Division also suggests an investigation into compliance with applicable local government regulations.

Kentucky State Nature Preserve Commission Comments

Taylor, Larry (EPPC DEP COM)

From: Palmer-Ball, Brainard (EPPC OOS KNPC)

Sent: Wednesday, October 03, 2007 10:44 AM

To: Taylor, Larry (EPPC DEP COM)

Cc: Phil_DeGarmo@fws.gov; 'Mike_Floyd@fws.gov'

Subject: KSNPC response to SERO project

TO: Larry Taylor, EPPC, DEP

FROM: Brainard Palmer-Ball, Jr., KSNPC

DATE: October 3, 2007

RE: KY 100 improvements in Allen and Simpson counties

KSNPC has reviewed SERO 2007-21 (KY 100 project in Allen and Simpson cos.) and notes the presence of several KSNPC-listed species within the project area that could be impacted and that should be considered in planning. Most are aquatic species residing in tributaries to the Barren River such as Drakes Creek and Trammel Creek. Also, the federally threatened gray myotis is found throughout the project area and likely utilizes stream corridors extensively for foraging. Due to the presence of all of these species utilizing the aquatic resources of the project area, minimizing physical impacts to streams at crossings and water quality downstream from proposed crossings should be of paramount importance during the planning stage. This project would also be a very good one for the utilization of bridges at stream crossings with designs that afford roosting use by gray myotis.

Department of Fish and Wildlife Resources Comments



KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES COMMERCE CABINET

Ernie Fletcher Governor #1 Sportsman's Lane Frankfort, Kentucky 40601 Phone (502) 564-3400 1-800-858-1549 Fax (502) 564-0506 fw.ky.gov

George Ward Secretary

Dr. Jonathan W. Gassett Commissioner

September 28, 2007

Department for Environmental Protection Commissioner's Office Attn: Larry Taylor 14 Reilly Road Frankfort, KY 40601

RE: Planning Study

Allen & Simpson Counties

KY 100 Improvements from KY 622 in Simpson County to US 31E in Allen County

KYTC Item No. 3-8303.00

Dear Mr. Taylor:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) have received your request for the above-referenced information. The Kentucky Fish and Wildlife Information System indicate that the federally endangered gray bat, *Myotis grisescens* and Indiana bat, *Myotis sodalis* are known to occur within close proximity to the project area. Please be aware that our database system is a dynamic one that only represents our current knowledge of the various species distributions.

- The Indiana bat utilizes a wide array of habitats, including riparian forests, upland forest, and fencerows for both summer foraging and roosting habitat. Indiana bats typically roost under exfoliating bark, in cavities of dead and live trees, and in snags (i.e., dead trees or dead portions of live trees). Trees in excess of 16 inches diameter at breast height (DBH) are considered optimal for maternity colony roosts, but trees in excess of 9 inches DBH appear to provide suitable maternity roosting habitat. Trees in excess of 4 inches DBH may provide adequate roosting habitat. Removal of suitable Indiana bat roost trees due to construction of the proposed project should be completed between October 15 and March 31 in order to avoid impacting summer roosting Indiana bats. However, if any Indiana bat hibernacula are identified on the project area or are known to occur within 10 miles of the project area, we recommend the applicant only remove trees between November 15 and March 31 in order to avoid impacting Indiana bat "swarming" behavior.
- In areas where bats are known to occur, cave entrances, mine portals, and/or rock shelters that exist within the project area should be surveyed for potential use by such species as gray bats and Indiana bats. KDFWR recommends avoiding those areas that provide adequate habitat for bats.
- The proposed project is located within the Barren River (05110002) eight-digit Hydrologic Unit Code (HUC). The Barren River eight-digit HUC is designated in Kentucky's State Wildlife Action Plan (SWAP) as a "Mussel Priority Conservation Area" and a "Fish and Lamprey Conservation Area" due to the potential presence of several "Species of Greatest Conservation Need" located within Trammell Creek, the Middle Fork of Drakes Creek, and Sulphur Fork Creek. To minimize impacts to the aquatic resources located within the project area strict erosion control measures should be developed and implemented prior to construction to minimize siltation into streams and karst areas located within the project area. Such



erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed. To compensate for unavoidable impacts to streams, we recommend that possible stream mitigation sites be identified on-site or within the Barren River eight-digit HUC. Restoration of those sites should incorporate natural stream channel design along with the restoration of its associated riparian areas.

For more information on how to precede with the threatened/endangered species surveys please contact the US Fish and Wildlife Service Kentucky Field Office at (502) 695-0468.

It appears that the proposed project has the potential to impact wetland habitats. KDFWR recommends that you look at the appropriate US Department of Interior National Wetland Inventory Map (NWI) and the appropriate county soil surveys to determine where the proposed project may impact wetlands. Additionally, field verification may be needed to determine the extent and quality of wetland habitats within the project area. Any planning should include measures designed to eliminate and/or reduce impacts to wetland habitats. If impacts cannot be avoided, mitigation should be properly designed and proposed to offset the losses. KDFWR will recommend, at a minimum, a 2:1 mitigation ratio for any permanent loss or degradation of wetland habitats.

KDFWR recommends that you contact the appropriate US Army Corps of Engineers office and the Kentucky Division of Water prior to any work within the waterways or wetland habitats of Kentucky. Additionally, KDFWR recommends the following for the portions of the project that impact streams:

- Avoidance of impacts to intermittent and perennial streams if it is feasible.
- Channel changes located within the project area should incorporate natural stream channel design.
- If culverts are used, the culvert should be designed to allow the passage of aquatic organisms.
- Culverts should be designed so that degradation upstream and downstream of the culvert does not occur.
- Development/excavation during low flow period to minimize disturbances.
- Proper placement of erosion control structures below highly disturbed areas to minimize entry of silt into area streams and karst areas.
- Replanting of disturbed areas after construction, including stream banks, with native vegetation for soil stabilization and enhancement of fish and wildlife populations. We recommend a 100 foot forested buffer along each stream bank.
- Return all disturbed instream habitat to a stable condition upon completion of construction in the area.
- Preservation of any tree canopy overhanging any streams within the project area.

I hope this information proves helpful to you. If you have any questions or require additional information, please call me at (800) 852-0942 Extension 366.

Sincerely,

Cc:

Doug Dawson Wildlife Biologist III

Environmental Section File

Doug Damson



Department for Natural Resources Comments



ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Ernie Fletcher Governor Department for Natural Resources

2 Hudson Hollow Frankfort, Kentucky 40601 Phone: (502) 564-6940 Fax: (502) 564-5698 www.eppc.ky.gov www.dnr.ky.gov Teresa J. Hill Secretary

Susan C. Bush Commissioner

October 1, 2007

Mr. Larry Taylor Department for Environmental Protection Commissioner's Office 14 Reilly Road Frankfort, KY 40622

Subject: Planning Study

Allen and Simpson Counties

KY 100 Improvements from KY 622

in Simpson County to US 31E in Allen County

SERO 2007-21 Item No. 3-8303.00

Dear Mr. Taylor:

Thank you for the opportunity to comment on the planning study project located in Simpson and Allen Counties referenced in your communication of August 31, 2007. The Department for Natural Resources has reviewed records for the proposed planning study for the above project.

The Division of Forestry states that the Lloyd Wildlife Management Area (WMA) lies within the study area. There are approximately 366 acres of forestland located on the WMA, making it one of the largest contiguous forested blocks in the area. Another feature adding to the uniqueness of WMA is a small "old growth" forest located just north of Highway 491. These "old growth" forests are very rare throughout Kentucky. For these reasons, the Lloyd Wildlife Management Area should be protected as a unique environmental area.

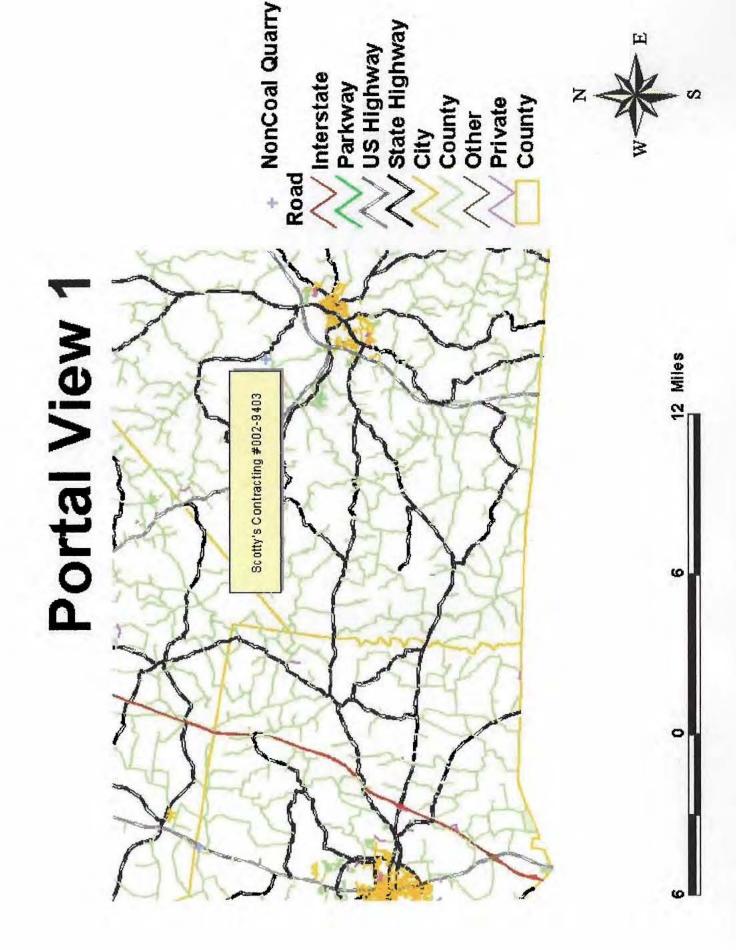
The Division of Mine Reclamation reports a limestone quarry located within one-half mile of the project on KY 1332 in Allen County. Please see the attached map for location and permit number.

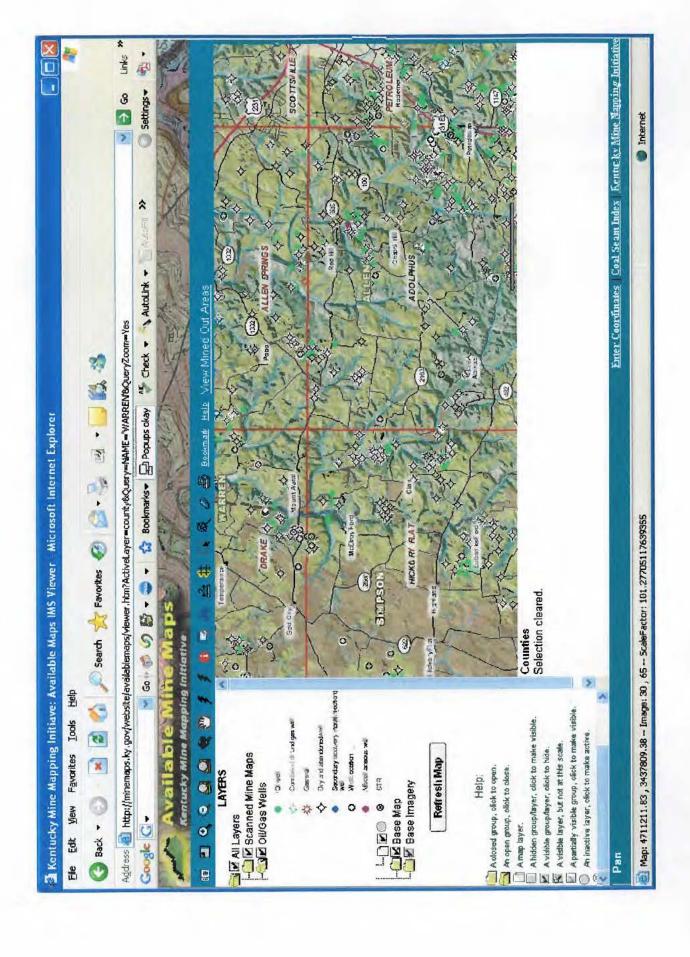
Finally, the Division of Oil and Gas Conservation confirms that this is an area of oil and gas activity. Enclosed is map of the area showing several oil and gas wells obtained from the Kentucky Mine Mapping Web site, http://minemaps.ky.gov. The Kentucky Geological Survey can provide an overlay with the wells plotted for this area. Should you have additional questions or concerns, please Linda Potter in my office at (502) 564-6940.

Sincerely,

Susan Bush Commissioner







Witt, Thomas (KYTC)

From:

Wilson, Jimmy (KYTC)

Sent:

Thursday, October 11, 2007 2:05 PM

To:

Witt, Thomas (KYTC)

Subject:

FW: MCAFEE E-MAIL SCAN ALERT!~FW: SERO 2007-021

From:

Greer, Daryl (KYTC)

Sent:

Wednesday, October 10, 2007 11:16 AM Ross, Steve (KYTC); Wilson, Jimmy (KYTC)

To: Subject:

FW: MCAFEE E-MAIL SCAN ALERT!~FW: SERO 2007-021

Attachment to follow....

From:

Taylor, Larry (EPPC DEP COM)

Sent:

Wednesday, October 10, 2007 11:08 AM

To:

Greer, Daryl (KYTC)

Subject:

MCAFEE E-MAIL SCAN ALERT!~FW: SERO 2007-021

Attachment file: SERO 2007-021.doc; 10-05-07.doc Scanner Detected: Suspicious Extensions (Virus)

Action taken: Moved (Clean failed because the virus could be new)

Daryl,

I sent a letter to you in the last couple of days on the Planning Study for Improvements on KY 100. I received the attached comments from the Division of Water after sending the letter.

Larry C. Taylor

Environmental Scientist IV

Office of the Commissioner

Department for Environmental Protection

14 Reilly Road

Frankfort, KY 40601

(502) 564-2150 x. 112

(502) 564-4245 (fax)

From: Murphy, Joel (EPPC DEP DOW) Sent: Tuesday, October 09, 2007 4:13 PM To: Taylor, Larry (EPPC DEP COM) Subject; SERO 2007-021

Joel Murphy

Environmental Technologist III

Project and Administration Section

Kentucky Division of Water

(502) 564-3410 ext. 661

Witt, Thomas (KYTC)

From:

Sent:

Wilson, Jimmy (KYTC) Thursday, October 11, 2007 2:06 PM

To:

Witt, Thomas (KYTC)

Subject:

MCAFEE E-MAIL SCAN ALERT!~FW: SERO 2007-021

Attachment file: SERO 2007-021.doc; 10-05-07.doc Scanner Detected: Suspicious Extensions (Virus)

Action taken: Moved (Clean failed because the virus could be new)

From:

Greer, Daryl (KYTC)

Sent:

Wednesday, October 10, 2007 11:16 AM Ross, Steve (KYTC); Wilson, Jimmy (KYTC)

To: Subject:

FW: SERO 2007-021

From:

Taylor, Larry (EPPC DEP COM)

Sent: To:

Wednesday, October 10, 2007 11:08 AM

Subject:

Greer, Daryl (KYTC) FW: SERO 2007-021

Witt, Thomas (KYTC)

From:

Wilson, Jimmy (KYTC) Thursday, October 11, 2007 3:18 PM Sent:

Witt, Thomas (KYTC) FW: SERO 2007-021 To: Subject:

Attachments: SERO 2007-021.doc

From: Greer, Daryl (KYTC)

Wednesday, October 10, 2007 11:16 AM Ross, Steve (KYTC); Wilson, Jimmy (KYTC) FW: SERO 2007-021 Sent: To:

Subject:

From:

Taylor, Larry (EPPC DEP COM) Wednesday, October 10, 2007 11:08 AM Greer, Daryl (KYTC) FW: SERO 2007-021 Sent:

To: Subject:

SERO

007-021.doc (29 KE

Planning Study for Improvements to KY 100

Endorsement:

A request for review of the Planning Study for improvements to KY 100 in Allen and Simpson Counties, Kentucky was received on September 10, 2007. The Division of Water (DOW) completed this review and found that the information provided warranted an endorsement of this project. Below are the comments that were received.

Water Quality Branch:

Trammel Fork will be affected by this project. Trammel Fork is listed as a Coldwater Habitat, Exceptional Water, and Reference Reach Stream. The Department of Transportation should be made aware of these listings.

Groundwater Branch:

Allen and Simpson counties are located in a karst region, characterized by thin soil mantles, sinkholes, sinking streams, and soluble limestone. As a consequence, the infiltration of surface water into the subsurface can be rapid and groundwater flow through solutionally-enlarged conduits can likewise be rapid. For example, groundwater flow in Kentucky karst has been recorded as high as 1,300 feet per hour. Such rapid and unfiltered flow of surface water into the subsurface can pollute groundwater. Therefore, the Division of Water recommends that experienced karst hydrogeologists review the area to ensure that groundwater will not be adversely affected by this project.

To protect the area's groundwater, the measures found in the following should be adhered to: KYTC Best Management Practices, the Kentucky Department of Highways Standard Specifications, and the KYTC Generic Groundwater Protection Plan. If, during construction, these measures are found to be inadequate, KYTC is strongly encouraged to consult with the Kentucky Geological Survey and the Division of Water in the development of any measures that may be necessary. In particular, newly-developed and innovative "rain garden" technology could be applied to protect and beautify transportation corridors in karst and other environmentally sensitive areas.

Water Resources Branch:

No stream construction permit required.





DCT 0 9 2007

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Ernie Fletcher Governor Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601-1403

Teresa J. Hill Secretary

October 1, 2007

Mr. Daryl J. Greer, P.E. Director, Division of Planning Kentucky Transportation Cabinet 200 Mero Street, 5th Floor Frankfort, Kentucky 40622

Dear Mr. Greer:

The Division has reviewed the planning study for evaluating proposed improvements to KY 100 in Allen and Simpson Counties from KY 622 east of Franklin to US 31E in Scottsville, Item Number 3-8303.00. The following Kentucky Administrative Regulations apply to this proposed project:

Kentucky Division for Air Quality 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. Please note the Fugitive Emissions Fact Sheet located at http://www.air.ky.gov/homepage repository/e-Clearinghouse.htm.

Kentucky Division for Air Quality Regulation 401 KAR 63:005 states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. Open burning may be utilized for the Burning Sheet expressed purposes listed on the Open Fact http://www.air.ky.gov/homepage repository/e-Clearinghouse.htm. Although, vegetative matter accumulated by land clearing is included as a permissible method of disposal, the Division encourages the use of chipping and grinding in order to avoid excessive particulate emissions in the immediate vicinity of the project.



Mr. Daryl Greer Page 2 October 1, 2007

Finally, the projects listed in this document must meet the conformity requirements of the Clean Air Act as amended and the transportation planning provisions of Title 23 and Title 49 of United States Code.

The Division also suggests an investigation into compliance with applicable local government regulations.

Every effort should be made to maintain compliance with the preceding regulations and requirements. The Division also suggests an investigation into compliance with applicable regulations in the local governments. If there are any questions relating to this matter, please contact Joe Forgacs at (502) 573-3382 extension 309.

Sincerely,

John S. Lyons

Director

JSL/jmf





OCT 11 2007.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Ernie Fletcher Governor

October 9, 2007

Division of Conservation 375 Versailles Road Frankfort, Kentucky 40601 Phone (502) 573-3080 Fax (502) 573-1692 www.conservation.kv.gov Teresa J. Hill Secretary

Stephen A. Coleman Director

Mr. Daryl Greer, P.E. Director, Division of Planning Kentucky Transportation Cabinet 200 Mero Street, 5th Floor Frankfort, KY 40622

Subject: Planning Study for KY 100 Improvements in Simpson and Allen Counties

Dear Mr. Greer:

As requested, the Division of Conservation has reviewed the planning study to improve KY 100 beginning at the intersection of KY 100/KY 622 in Simpson County and ending at the intersection of KY 100/US 31E in Allen County. We would like to provide the following comments and express concerns that may be helpful in this initial data-gathering stage.

There are no agricultural districts or agricultural conservation easements established in the project area, therefore land enrolled in the Agricultural District Program or PACE Program will not have to be mitigated by the Department of Transportation.

We would like to see the issue of the loss of farmland addressed. 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. There are three documents that could be utilized to identify these farmland designations: the Soil Survey Allen County (NRCS 1989), Soil Survey of Simpson County (NRCS 1985) and Important Farmland Soils of Kentucky (NRCS 1981). All documents are available through this office. The soil survey information for both counties can also be downloaded at the following web sites: http://soildatamart.nrcs.usda.gov/ or http://soildatamart.nrcs.usda.gov/ or

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 the perennial and intermittent streams that this project could impact.



Mr. Daryl Greer, P.E. October 9, 2007 Page Two

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 Allen or Simpson County Conservation Districts, the Kentucky Division of Water, or this office. Also, an electronic version of the Kentucky Erosion Prevention and Sediment Control Field Guide is available online at http://www.water.ky.gov/sw/nps/Publications.htm

We appreciate the opportunity to comment on this project. If you have any questions, please contact this office any time.

Sincerely,

Stephen A. Coleman, Director

Kentucky Division of Conservation

SAC/MD/aeh





OCT 0 2 2007

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Ernie Fletcher Governor Department for Natural Resources

2 Hudson Hollow Frankfort, Kentucky 40601 Phone: (502) 564-6940 Fax: (502) 564-5698 www.eppc.ky.gov www.dnr.ky.gov Teresa J. Hill Secretary

Susan C. Bush Commissioner

October 1, 2007

Mr. Daryl Greer, P.E. Director of the Division of Planning Kentucky Transportation Cabinet 200 Mero Street Frankfort, KY 40622

Subject: Planning Study

Allen and Simpson Counties

KY 100 Improvements from KY 622

in Simpson County to US 31E in Allen County

Item No. 3-8303.00

Dear Mr. Greer:

Thank you for the opportunity to comment on the planning study project located in Simpson and Allen Counties referenced in your communication of August 31, 2007. The Department for Natural Resources has reviewed records for the proposed planning study for the above project.

The Division of Forestry states that the Lloyd Wildlife Management Area (WMA) lies within the study area. There are approximately 366 acres of forestland located on the WMA, making it one of the largest contiguous forested blocks in the area. Another feature adding to the uniqueness of WMA is a small "old growth" forest located just north of Highway 491. These "old growth" forests are very rare throughout Kentucky. For these reasons, the Lloyd Wildlife Management Area should be protected as a unique environmental area.

The Division of Mine Reclamation reports a limestone quarry located within one-half mile of the project on KY 1332 in Allen County. Please see the attached map for location and permit number.

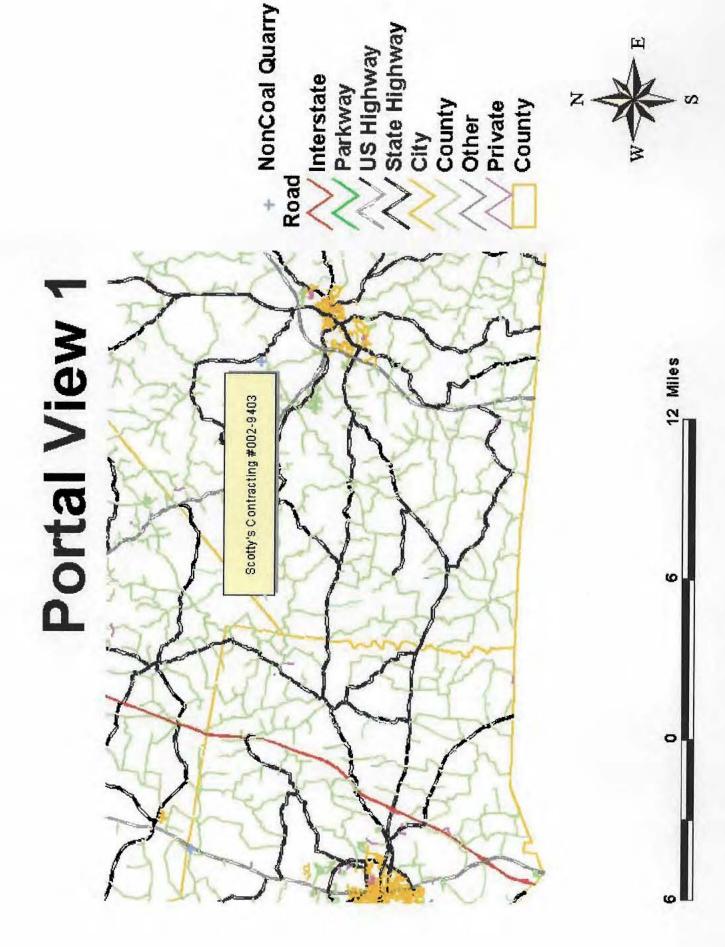
Finally, the Division of Oil and Gas Conservation confirms that this is an area of oil and gas activity. Enclosed is map of the area showing several oil and gas wells obtained from the Kentucky Mine Mapping Web site, http://minemaps.ky.gov. The Kentucky Geological Survey can provide an overlay with the wells plotted for this area. Should you have additional questions or concerns, please Linda Potter in my office at (502) 564-6940.

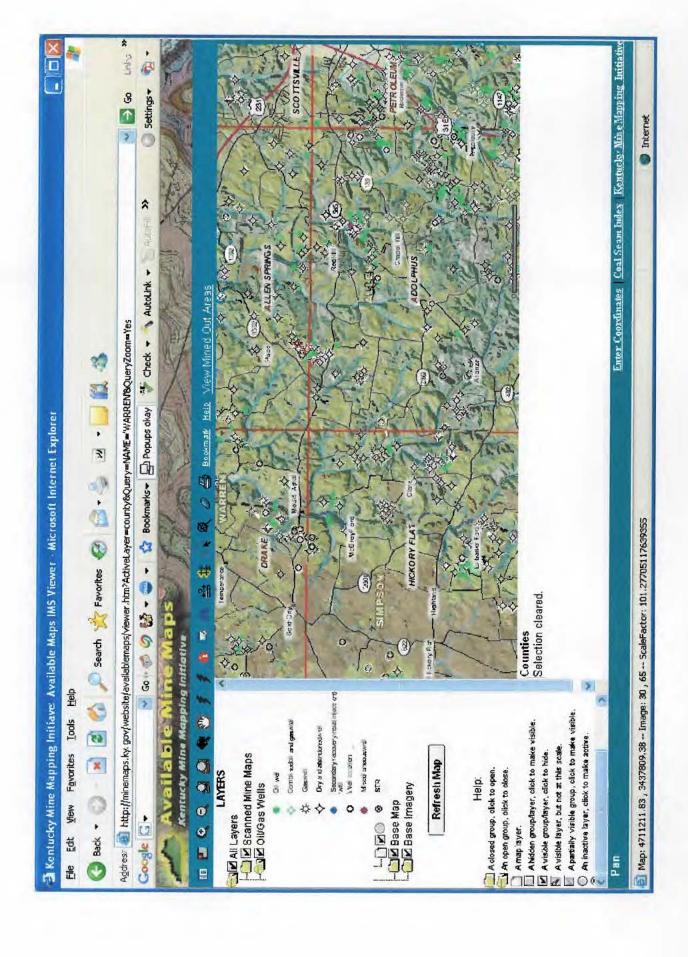
Sincerely,

Susan Bush Commissioner

m C. Bush







From:

Gilbert, George (EPPC DEP DWM)

Sent:

Thursday, September 20, 2007 10:00 AM

To:

Witt, Thomas (KYTC)

Cc:

Scott, R. Bruce (EPPC DEP DWM); Gruzesky, Ron (EPPC DEP DWM); Cooley, Tony (EPPC DEP DWM); Webb, April (EPPC DEP DWM); Tan, Wilson (EPPC DEP DWM); Sherkat, Fazi (EPPC DEP DWM); Daniell, Robert (EPPC DEP DWM); McGuffey, Robbie (EPPC DEP

DWM); Maybriar, Jon (EPPC DEP DWM)

Subject:

KY 100 Study Simpson County

Attachments: FW: KY 100 Road Study Simpson County; FW: KY 100 Road Study Simpson County; RE: KY

100 Road Study Simpson County; FW: KY 100 Road Study Simpson County

Here are the comments from the operating branches of the Division of Waste Management in EPPC. The fourth e-mail is from Hazardous Waste. Please contact me if you have any questions.

Sincerely,

George F. Gilbert, P.E. Environmental Engineer Consultant Director's Office Division of Waste Management Department for Environmental Protection Environmental and Public Protection Cabinet 14 Reilly Rd. Frankfort KY 40601 (502) 564-6716 (502) 564-8158, ext. 217 Direct Dial (502) 598-9860 Mobile (502) 564-4049 FAX

From: Daniell, Robert (EPPC DEP DWM)

Sent: Friday, September 07, 2007 12:52 PM

To: Gilbert, George (EPPC DEP DWM)

Cc: Baase, Dawn (EPPC DEP DWM); Terry, Lori (EPPC DEP DWM)

Subject: FW: KY 100 Road Study Simpson County

FYI...nothing we can find on the UST front.....

Rob Daniell, Manager Underground Storage Tank Branch 81 C. Michael Davenport Blvd. Frankfort, KY 40601 (502) 564-5981

From: Baase, Dawn (EPPC DEP DWM)
Sent: Friday, September 07, 2007 11:22 AM

To: Daniell, Robert (EPPC DEP DWM)
Cc: Terry, Lori (EPPC DEP DWM)

Subject: RE: KY 100 Road Study Simpson County

Rob.

I don't believe we have anything that would effect this one.

Dawn Langford Baase

AEI Section, USTB Division of Waste Management 81 C. Michael Davenport Blvd Frankfort, KY 40601 phone: 502-564-5981 ext. 250 fax: 502-564-5047

From: Daniell, Robert (EPPC DEP DWM)
Sent: Friday, September 07, 2007 10:31 AM

To: Baase, Dawn (EPPC DEP DWM)
Cc: Terry, Lori (EPPC DEP DWM)

Subject: FW: KY 100 Road Study Simpson County

Dawn, here's another one from George. Please see what you can find...thanks.

Rob Daniell, Manager Underground Storage Tank Branch 81 C. Michael Davenport Blvd. Frankfort, KY 40601 (502) 564-5981

From: Gilbert, George (EPPC DEP DWM)
Sent: Friday, September 07, 2007 9:46 AM

To: Sherkat, Fazi (EPPC DEP DWM); Webb, April (EPPC DEP DWM); Gruzesky, Ron (EPPC DEP DWM); Daniell,

Robert (EPPC DEP DWM); Maybriar, Jon (EPPC DEP DWM)

Cc: McGuffey, Robbie (EPPC DEP DWM)
Subject: KY 100 Road Study Simpson County

Please review the attachments and send me your sites and comments by COB Fri., Sept. 14. Thanks.

Sincerely,

George F. Gilbert, P.E.
Environmental Engineer Consultant
Director's Office
Division of Waste Management
Department for Environmental Protection
Environmental and Public Protection Cabinet
14 Reilly Rd.
Frankfort KY 40601
(502) 564-6716
(502) 564-8158, ext. 217 Direct Dial
(502) 598-9860 Mobile
(502) 564-4049 FAX

From:

Sherkat, Fazi (EPPC DEP DWM)

Sent:

Friday, September 07, 2007 3:14 PM

To:

Gilbert, George (EPPC DEP DWM)

Cc:

Fisher, Tina (EPPC DEP DWM); Scott, R. Bruce (EPPC DEP DWM); Bryant, Allan (EPPC

DEP DWM); Maybriar, Jon (EPPC DEP DWM)

Subject:

FW: KY 100 Road Study Simpson County

Attachments: KY 100 ltr docs.pdf; KY 100 Env Map.pdf; Simpson County Sites.xls

George,

Attached is the list of the SF sites in Simpson County. I have talked to Tina to see if she is okay to generate these reports from TEMPO. For that matter, anyone else can also take the few easy steps below to generate the report for DOT inquiries. Fazi

- Select Standard Reports under Report Too bar
- 2. Highlight ReportTool.exe and click Open
- 3. In login screen reenter your password (first name)
- 4. In report Screen select Superfund Site Counts with Details Report and double click it
- 5. Al County will appear under Parameter
- Select =(Equal) under Operator dropdown menu
- Select the count of interest under value dropdown menu and click ADD Condition and finally click Run Report

From: Gilbert, George (EPPC DEP DWM)
Sent: Friday, September 07, 2007 9:46 AM

To: Sherkat, Fazi (EPPC DEP DWM); Webb, April (EPPC DEP DWM); Gruzesky, Ron (EPPC DEP DWM); Daniell,

Robert (EPPC DEP DWM); Maybriar, Jon (EPPC DEP DWM)

Cc: McGuffey, Robbie (EPPC DEP DWM)
Subject: KY 100 Road Study Simpson County

Please review the attachments and send me your sites and comments by COB Fri., Sept. 14. Thanks.

Sincerely,

George F. Gilbert, P.E.

Environmental Engineer Consultant

Director's Office

Division of Waste Management

Department for Environmental Protection

Environmental and Public Protection Cabinet

14 Reilly Rd.

Frankfort KY 40601

(502) 564-6716

(502) 564-8158, ext. 217 Direct Dial

(502) 598-9860 Mobile

(502) 564-4049 FAX

| | SI St SI Zip | KY 40202 | | KY 42134 | KY 42134 | | KY 42134 | | KY 42134 | | | KY | | | | | | | | KY 42431 | KY 42283 | KY 42134 | | |
|-------------------------------------|------------------------------|-----------------------|---|--|--|--|--|--|---|---|--|---|---|--------------------------------------|----------------------------------|---|---|---|---|---|---|---|--------------|--|
| | SI Addr Line 2 SI City | Franklin | Franklin | US 31W NORTH Franklin | Franklin | | Franklin | Simpson | Franklin | | | FI-65 | | | | | | | 3805 Adairville Roar Franklin | Franklin | South Union | Franklin | | |
| | SI Addr Line 1 | 721 BLACKJACK ROAD | HWY 100 | 2320 BOWLING GREEN RD, US 31W NORTH | 2929 SCOTTSVILLE RD | NONE | ROBEY STREET | Ditmore rd | 104 CLAIRE AVE | NONE | NONE | HWY 100 2.8 MILES EAST OF I-65 | NONE | NONE | NONE | NONE | NONE | NONE | Bayles Bros. Grocery 3 | Black Jack Road | Albert Elliot Road | 1100 South Main Street | | |
| | SI Long. SI Lat. | -86.56250 36.73681 | -86.57722 36.72194 | -86.57500 36.75694 | -86.57000 36.73000 | | -86.57722 36.72222 | -86.54694 36.73360 | -86.57694 36.73056 | | | | | -86.57722 36.72222 | -86.57722 36.72222 | -86.57722 36.72222 | -86.57722 36.72222 | -86.57722 36.72222 | -86.50000 36.72000 | -86.57661 36.72336 | -86.64750 39.82853 | -86.34251 36.42640 | | |
| | Closure Dt S | | 11/01/2006 | | 08/09/2002 | | 12/27/2001 | 04/07/2007 | | | | | | 10/20/1998 | 10/28/1999 | 08/13/1996 | 11/25/1998 | 08/12/1994 | | 01/21/2005 | 03/15/2006 | | | |
| | Closure Option (| | Option C Restored | | Option C Restored | | Option C Restored | Referred | | | | | | Option C Restored | Unfounded | Option A No Action I | Option A No Action 1 | Option C Restored | | Option C Restored | Option C Restored | | | |
| | m# St Decription Site Status | | Franklin WWTP (Closed: Changed 11/1/06 to Option C-Re: State Superfund Closed | POLYKEN (KENDALL) State Superfund Active | SPEEDWAY SPILL / EMRO MARKETING (Closed: Reston Petroleum Cleanup Closed | TRIPLE M LAND FARMS, INC. State Superfund Active | TYCO ELECTRONICS (Closed: Restored) Petroleum Cleanup Closed | (closed; referred to SW 4-07-07) FRANKLIN SANITARY LA State Superfund Closed | S. C. JOHNSON WAX (DRACKETT) State Superfund Active | FRANKLIN OLD LANDFILL, CITY OF State Superfund Active | NEWPORT PUMPING STATION State Superfund Active | GUMM PROPERTY, JAMES State Superfund Active | DOWNING JAMES B. & CO. OF KY, INC. State Superfund Active | FRANKLIN 2 1917 (Closed: Restored) | FUEL CENTERS (Closed: Unfounded) | SCHNEIDER TRUCKING (Closed: No Action Necessary) Petroleum Cleanup Closed | WESTPOINT / COASTAL EXPRESS (Closed: No Action N Petroleum Cleanup Closed | OLD SOUTH DINER (Closed: Restored) State Superfund Closed | AAZZ2: Exempt that USTB referral to SFB | AAZZ1: Abandoned Waste Paint Drum off Blackiack Rd State Superfund Closed | AAZZ1. Historical O _I Several containers abandoned along roadside State Superfund Closed | e oil di Express Lube illegally discharging waste oil | | |
| Facility | Group Not/Com# | AAZZ1. 34481 | AAZZ1, 11774 | AAZZ1, 20544 | AAZZ1: 42118 | AAZZ1, 17853 | AAZZ1, 15394 | AAZZ2, 17851 | AAZZ1. 30441 | AAZZ1. 17845 | AAZZ1:17848 | AAZZ1.17852 | AAZZ1, 17846 | AAZZ1.20205 | AAZZ1.38689 | AAZZ1:39863 | AAZZ1:50834 | AAZZ1:34319 | AAZZ2: Exempt | AAZZ1. Abandor | AAZZ1. Historica | AAZZ1. Waste o | | |
| Selected Repr Al County = 'Simpson' | AIID Al Name SI County | Engine Components USA | 3972 Franklin WWTP Simpson | iality Adhesives LI | 3980 Pilot Travel Center 46 Simpson | nc | | | 39913 Lawmac Environmental Simpson | IIII | | | 52265 James B Downing & Co of KY Inc Simpson | 52879 Texas Gas - Simpson Co Simpson | 52886 Fuel Centers Simpson | 52926 Schneider Trucking Simpson | 53055 Coastal Express Simpson | 53645 Old South Diner Simpson | cery | | 76758 Albert Elliot Rd Abandoned Contai Simpson | 79352 Express Lube Simpson | Total Number | |

From: Gruzesky, Ron (EPPC DEP DWM)

Sent: Wednesday, September 19, 2007 10:29 AM

To: Gilbert, George (EPPC DEP DWM)

Subject: RE: KY 100 Road Study Simpson County

Sorry, I though I copied you on Tony Cooley's e-mail that there were no historic landfills along the route....

Ron Gruzesky, P.E. Manager, Solid Waste Branch Kentucky Dept. for Environmental Protection 502/564-6716 ext. 240

From: Gilbert, George (EPPC DEP DWM)

Sent: Wednesday, September 19, 2007 9:46 AM

To: Gruzesky, Ron (EPPC DEP DWM)

Subject: FW: KY 100 Road Study Simpson County

I have everybody's response but SWB. Can you give me comments by COB Thur?

From: Gilbert, George (EPPC DEP DWM)
Sent: Friday, September 07, 2007 9:46 AM

To: Sherkat, Fazi (EPPC DEP DWM); Webb, April (EPPC DEP DWM); Gruzesky, Ron (EPPC DEP DWM); Daniell,

Robert (EPPC DEP DWM); Maybriar, Jon (EPPC DEP DWM)

Cc: McGuffey, Robbie (EPPC DEP DWM)
Subject: KY 100 Road Study Simpson County

Please review the attachments and send me your sites and comments by COB Fri., Sept. 14. Thanks.

Sincerely,

George F. Gilbert, P.E.

Environmental Engineer Consultant

Director's Office

Division of Waste Management

Department for Environmental Protection

Environmental and Public Protection Cabinet

14 Reilly Rd.

Frankfort KY 40601

(502) 564-6716

(502) 564-8158, ext. 217 Direct Dial

(502) 598-9860 Mobile

(502) 564-4049 FAX

From:

Tan, Wilson (EPPC DEP DWM)

Sent:

Wednesday, September 19, 2007 3:22 PM

To:

Gilbert, George (EPPC DEP DWM)

Cc:

Jump, John (EPPC DEP DWM); Webb, April (EPPC DEP DWM)

Subject:

FW: KY 100 Road Study Simpson County Attachments: KY 100 ltr docs.pdf; KY 100 Env Map.pdf

George,

I like to let you know that DWM has no comments regarding the road study. Sorry for the delay. Thanks.

Wilson

From: Gilbert, George (EPPC DEP DWM) Sent: Friday, September 07, 2007 9:46 AM

To: Sherkat, Fazi (EPPC DEP DWM); Webb, April (EPPC DEP DWM); Gruzesky, Ron (EPPC DEP DWM); Daniell,

Robert (EPPC DEP DWM); Maybriar, Jon (EPPC DEP DWM)

Cc: McGuffey, Robbie (EPPC DEP DWM) Subject: KY 100 Road Study Simpson County

Please review the attachments and send me your sites and comments by COB Fri., Sept. 14. Thanks.

Sincerely,

George F. Gilbert, P.E. Environmental Engineer Consultant Director's Office Division of Waste Management Department for Environmental Protection Environmental and Public Protection Cabinet 14 Reilly Rd. Frankfort KY 40601 (502) 564-6716 (502) 564-8158, ext. 217 Direct Dial (502) 598-9860 Mobile (502) 564-4049 FAX





DCT 0 3 2007

KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES COMMERCE CABINET

Ernie Fletcher Governor #1 Sportsman's Lane Frankfort, Kentucky 40601 Phone (502) 564-3400 1-800-858-1549 Fax (502) 564-0506 fw.ky.gov George Ward Secretary

Dr. Jonathan W. Gassett Commissioner

September 28, 2007

Daryl J. Greer, P. E. Director Division of Planning Kentucky Transportation Cabinet 200 Mero Street Frankfort, KY 40622

RE:

Planning Study

Allen & Simpson Counties

KY 100 Improvements from KY 622 in Simpson County to US 31E in Allen County

KYTC Item No. 3-8303.00

Dear Mr. Greer:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) have received your request for the above-referenced information. The Kentucky Fish and Wildlife Information System indicate that the federally endangered gray bat, *Myotis grisescens* and Indiana bat, *Myotis sodalis* are known to occur within close proximity to the project area. Please be aware that our database system is a dynamic one that only represents our current knowledge of the various species distributions.

- The Indiana bat utilizes a wide array of habitats, including riparian forests, upland forest, and fencerows for both summer foraging and roosting habitat. Indiana bats typically roost under exfoliating bark, in cavities of dead and live trees, and in snags (i.e., dead trees or dead portions of live trees). Trees in excess of 16 inches diameter at breast height (DBH) are considered optimal for maternity colony roosts, but trees in excess of 9 inches DBH appear to provide suitable maternity roosting habitat. Trees in excess of 4 inches DBH may provide adequate roosting habitat. Removal of suitable Indiana bat roost trees due to construction of the proposed project should be completed between October 15 and March 31 in order to avoid impacting summer roosting Indiana bats. However, if any Indiana bat hibernacula are identified on the project area or are known to occur within 10 miles of the project area, we recommend the applicant only remove trees between November 15 and March 31 in order to avoid impacting Indiana bat "swarming" behavior.
- In areas where bats are known to occur, cave entrances, mine portals, and/or rock shelters that exist within the project area should be surveyed for potential use by such species as gray bats and Indiana bats. KDFWR recommends avoiding those areas that provide adequate habitat for bats.
- The proposed project is located within the Barren River (05110002) eight-digit Hydrologic Unit Code (HUC). The Barren River eight-digit HUC is designated in Kentucky's State Wildlife Action Plan (SWAP) as a "Mussel Priority Conservation Area" and a "Fish and Lamprey Conservation Area" due to the potential presence of several "Species of Greatest Conservation Need" located within Trammell Creek, the Middle Fork of Drakes Creek, and Sulphur Fork Creek. To minimize impacts to the aquatic resources located within the project area strict erosion control measures should be developed



and implemented prior to construction to minimize siltation into streams and karst areas located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed. To compensate for unavoidable impacts to streams, we recommend that possible stream mitigation sites be identified on-site or within the Barren River eight-digit HUC. Restoration of those sites should incorporate natural stream channel design along with the restoration of its associated riparian areas.

For more information on how to precede with the threatened/endangered species surveys please contact the US Fish and Wildlife Service Kentucky Field Office at (502) 695-0468.

It appears that the proposed project has the potential to impact wetland habitats. KDFWR recommends that you look at the appropriate US Department of Interior National Wetland Inventory Map (NWI) and the appropriate county soil surveys to determine where the proposed project may impact wetlands. Additionally, field verification may be needed to determine the extent and quality of wetland habitats within the project area. Any planning should include measures designed to eliminate and/or reduce impacts to wetland habitats. If impacts cannot be avoided, mitigation should be properly designed and proposed to offset the losses. KDFWR will recommend, at a minimum, a 2:1 mitigation ratio for any permanent loss or degradation of wetland habitats.

KDFWR recommends that you contact the appropriate US Army Corps of Engineers office and the Kentucky Division of Water prior to any work within the waterways or wetland habitats of Kentucky. Additionally, KDFWR recommends the following for the portions of the project that impact streams:

- Avoidance of impacts to intermittent and perennial streams if it is feasible.
- Channel changes located within the project area should incorporate natural stream channel design.
- If culverts are used, the culvert should be designed to allow the passage of aquatic organisms.
- Culverts should be designed so that degradation upstream and downstream of the culvert does not occur.
- Development/excavation during low flow period to minimize disturbances.
- Proper placement of erosion control structures below highly disturbed areas to minimize entry of silt into area streams and karst areas.
- Replanting of disturbed areas after construction, including stream banks, with native vegetation for soil stabilization and enhancement of fish and wildlife populations. We recommend a 100 foot forested buffer along each stream bank.
- Return all disturbed instream habitat to a stable condition upon completion of construction in the area.
- Preservation of any tree canopy overhanging any streams within the project area.

I hope this information proves helpful to you. If you have any questions or require additional information, please call me at (800) 852-0942 Extension 366.

Sincerely,

Doug Dawson

Wildlife Biologist III

Cc: Environmental Section File







OCT 0 1 2007

Ernie Fletcher Governor 919 Versailles Road Frankfort, Kentucky 40601 www.kentucky.gov John (Jack) Adams Commissioner

September 27, 2007

Daryl J. Greer, P.E. Director, Division of Planning Kentucky Transportation Cabinet 200 Mero Street, 5th Floor Frankfort, KY 40622

RE: Planning Study:

KY 100 Improvements/Allen & Simpson Counties

Dear Mr. Greer:

KY 100 has been a roadway that concerns the Kentucky State Police due to the number of crashes that occur. We have identified KY 100 in Allen and Simpson Counties as a "High Crash Roadway". We have utilized directed patrol and selective enforcement in an effort to reduce crashes on KY 100.

I would provide the following statistics for 2007 year to date:

- KY 100 Allen County MPO.000 12.654 16 Crashes
- KY 100 Simpson County MP 16.340 19.115
 6 Crashes

Traffic volume will continue to increase due to population growth and increased industrial development in the area. KY 100 is the primary East – West route for both counties. Also, due to its intersection with I-65, KY 100 has significant commercial vehicle traffic that will continue to increase.



Page Two Correspondence September 27, 2007

There are also areas along the roadway where the shoulder drops steeply away and could contribute to a crash. The proposed project would serve to improve the safety of travelers on this roadway.

If I may be of further assistance, please feel free to contact me.

Caprain Bill Payton, Unit 24 Commander, Post Three Kentucky State Police 3119 Nashville Road

Bowling Green, KY 42102-0068

BP:lc COLC0056





SEP 26 2007

JUSTICE AND PUBLIC SAFETY CABINET

Ernie Fletcher Governor Kentucky Vehicle Enforcement Frankfort, Kentucky 40601 BG Norman E. Arflack Secretary

> Gregory G. Howard Commissioner

September 25, 2007

Mr. Daryl J. Greer, P.E. Division of Planning Transportation Cabinet 200 Mero Street, 5th Floor Frankfort, KY 40622

Dear Mr. Greer:

We are in receipt of your letter requesting any input that Kentucky Vehicle Enforcement might have in regards to a planning study in Allen and Simpson counties, KY 100 improvements from KY 622 in Simpson County to US 31E in Allen County, item no. 3-8303.00.

After having my staff research the matter, we do not see any concerns as it relates to our agency. In fact, we occasionally receive calls about KY 100 because it is considered a non-designated highway which only allows truck with dimensions no greater than 8 feet wide and 65 feet overall length. The call is usually about a citation the company has received because they are not aware of the restrictions and there are no signs restricting the route.

If you need any further information, please do not hesitate to let us know.

Sincerely,

Gregofy G. Howard

Commissioner

Department of Kentucky Vehicle Enforcement





RECEIVED

SEP 192007

Ernie Fletcher Governor Frankfort, Kentucky 40622 www.kentucky.gov Bill Nighbert Secretary

Marc Williams Commissioner of Highways

MEMORANDUM

TO:

Daryl J. Greer, P.E.

Director

Division of Planning

FROM:

Cass T. Napier, P.E. (

Branch Manager

Permits

DATE:

September 17, 2007

RE:

Allen & Simpson Counties

KY 100, Franklin to Scottsville

Item No. 3-8303.00

The Permits Branch has reviewed the data provided for subject study site and wish to offer the following.

- We urge the Cabinet to classify this project and all new projects as partially or fully controlled access facilities.
- Assuming the project is partial control access, we encourage all possible access points be set on the plans in accordance with 603 KAR 5:120, even if they are not to be constructed at that time.
- When buying R/W for this and all reconstruction routes, assuming the access control is partial
 control, new deed for all adjoining property owners need to be executed to identify the access
 control even if no new R/W is acquired.
- In addition, we would like to make every effort possible to have the design speed to be the same as anticipated posted speed when the project is complete.
- We would like to see access control fence installed with the project.
- If the proposed roadway is to be on the N. H. S., early notification of the final line and grade is needed. This enables us to monitor outdoor advertising devices prior to road construction being completed.
- Please notify this office if the proposed roadway is to be placed on the National Highway System. This information is needed to assist this office in regulating the installation of any outdoor advertising device.

Thank you for the opportunity to verbalize our concerns.

CTN/pm







OCT 01 2007

TRANSPORTATION CABINET

Frankfort, Kentucky 40622 www.kentucky.gov

Bill Nighbert Secretary

Crystal Murray Ducker
Deputy Secretary

INTRA-DEPARTMENTAL MEMO

TO:

Ernie Fletcher

Governor

Daryl J. Greer, P.E.

Director

Division of Planning

FROM:

Tiffani Jackson

Bicycle and Pedestrian Coordinator

Office of Special Programs

DATE:

September 28, 2007

SUBJECT:

Comments on Planning study of KY 100 from KY 622 to US 31E

After reviewing the project information for the planning study of KY 100, I have the following comments that I feel should be taken into consideration when identifying improvements for this stretch of roadway:

- Any improvements made to KY 100 should incorporate the safety needs of bicyclists and
 pedestrians that may travel the road. After studying the enclosed maps and seeing that
 small communities, churches and schools either lie on or near KY 100, having safe
 bicycle and pedestrian accommodations will give the community another option for
 transportation to and from their destinations.
- KY 100 is in close proximity to two KYTC designated bike routes (Southern Lakes and Mammoth Cave). Currently there is a varying shoulder width of approximately 2-4 feet. My recommendation is to incorporate a minimum of 4 ft of paved shoulder width (after any rumble strips that are installed) to accommodate any cyclists that may choose to use the road to travel between Allen and Simpson Counties. This shoulder width may also serve as a way for pedestrians to safely travel the roadway if sidewalks are not available.
- Incorporate proper signage for both bicyclists and pedestrians who may be traveling this roadway.

Tiffani Jackson





TRANSPORTATION CABINET

Ernie Fletcher Governor Frankfort, Kentucky 40622 www.kentucky.gov Bill Nighbert Secretary

Marc Williams

Commissioner of Highways

MEMORANDUM

TO:

Daryl J. Greer, P.E.

Director

Division of Planning

FROM:

Greta Smith, P.E.

Director

Division of Construction

DATE:

October 1, 2007

SUBJECT:

Planning Study

Allen & Simpson Counties

KY 100 Improvements from KY 622 in Simpson County

to US 31E in Allen County

Item No. 3-8303.00

In reply to your request for comments from the Division of Construction pertaining to the subject Planning Study, representatives from Central Office Construction and District 3 Construction have made an inspection of the subject corridor.

Because of the narrow typical section of the present corridor, it is critical that enough easement is given to properly maintain one lane of traffic for the duration of the construction phases. A total closure of this route would prove detrimental to the traveling public and their good-will towards the Cabinet.

Thank you for the opportunity to review this planning study.



MEMORANDUM

P-015-2007

TO: Daryl Greer, P.E.

Director

Division of Planning

FROM: William Broyles, PE

Geotechnical Engineering

Branch Manager

Division of Structural Design

BY: Michael Blevins, P.G.

Geotechnical Branch

DATE: October 18, 2007

SUBJECT: Allen & Simpson County

KY 100 Improvements From KY 622 in Simpson County to 31E in Allen County

Item # 03-8303.00 E-Mars # 7968901D Planning Study

GEOLOGIC OVERVIEW

The Geotechnical Branch has completed a review of the Geologic Quadrangle Maps for Hickory Flat, Adolphus and Petroleum. The Study area is underlain by Quaternary Alluvium and bedrock of the Mississippian System, which include the St. Louis Limestone, Salem and Warsaw Limestones and the Fort Payne Formation.

The alluvium is mainly encountered along the major stream valleys and consists of poorly sorted gravel, sand, silt and clay ranging from 0-30 feet in thickness across the study area.

The St. Louis Limestone consists of limestone and siltstone. The limestone contains numerous balls and nodules of chert and is at times silty and argillaceous in zones. The siltstone occurs as beds or lenses 6 inches thick up to 3 feet thick and is calcareous and dolomitic. The formation should suitable for most roadway applications. Sinkholes are common in this formation and the majority of the surface drainage is through the subsurface.

The Salem & Warsaw Formation is mainly limestone and siltstone interbedded. The limestone is thick bedded and is commonly cross-bedded. The siltstone is massive to thin bedded and argillaceous. Sinkholes may be encountered but are not as common as in the St. Louis Limestone. The formation should be suitable for most roadway applications.

Memorandum Daryl Greer October 18, 2007 Page-2-

The Fort Payne is made up of siltstone, shale and limestone; is interbedded and varies widely in proportion throughout the formation. Some parts of the formation may be suitable for roadway applications. Sinkholes may be encountered but are not common.

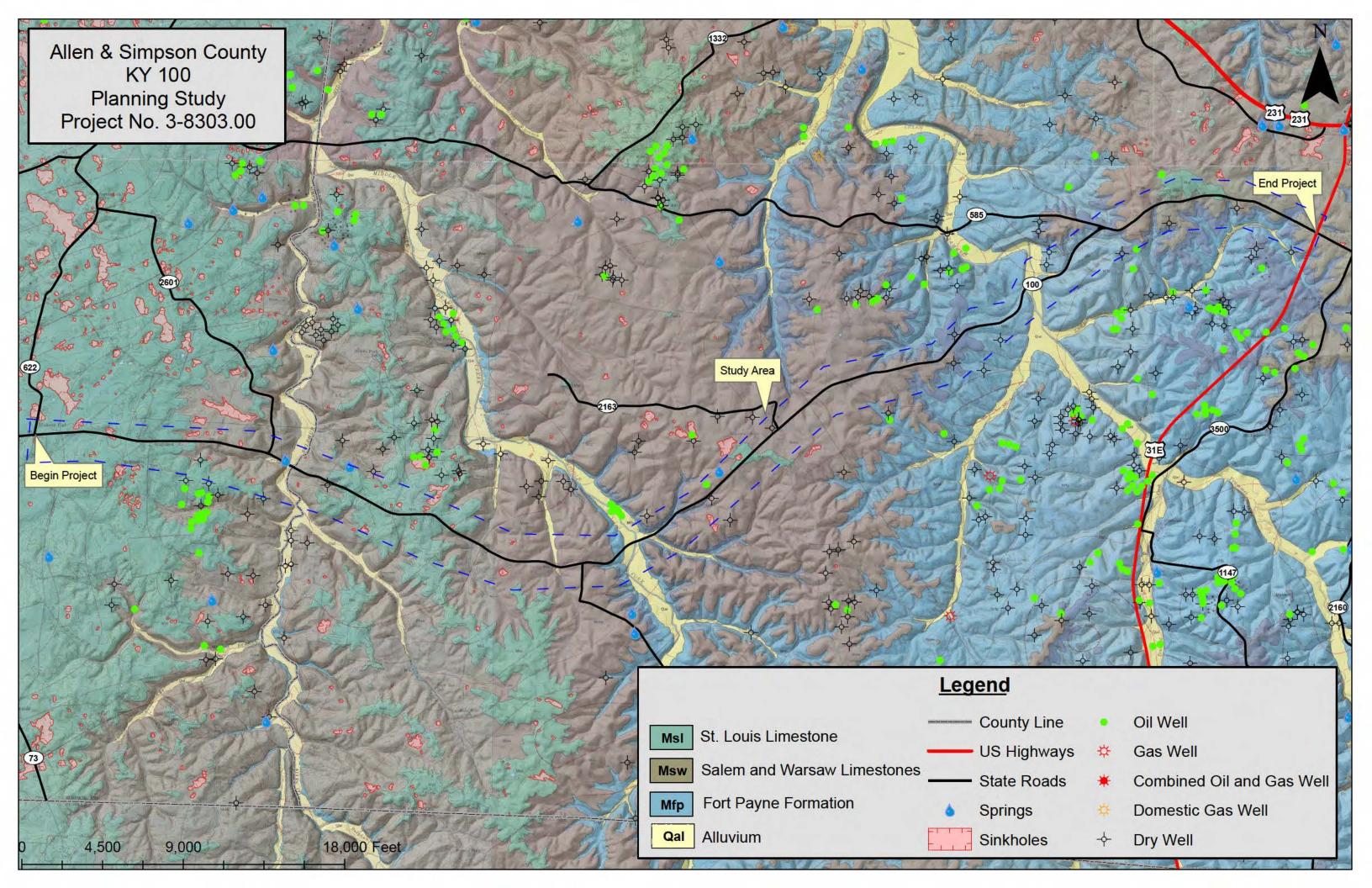
These formations are shown on the attached Geologic quadrangle map.

Oil and gas wells are indicated throughout all three quadrangles. The locations should be research further for potential impacts if new alignments are chosen.

CONCERNS

The Branch does not have any major concerns at this time. Sinkholes may be the only concern.

If there are any questions, please advise.





RECEIVED OCT 08 2007

Kentucky Geological Survey

Research
228 Mining & Mineral Resources Bldg.
Lexington, KY 40506-0107
Phone: (859) 257-5500
Fax: (859) 257-1147
www.uky.edu/kgs

October 4, 2007

Daryl J. Greer, P.E. Director, Division of Planning Kentucky Transportation Cabinet 200 Mero St. Frankfort, KY 40622

Dear Mr. Greer:

This letter is to summarize any geologic concerns for the planning study:

Allen and Simpson Counties.

Ky. 100 Improvements from Ky. 622 in Simpson County to U.S. 31E in Allen County.

Item No. 03-8303.00

Physiographic Region

The study area is in the Mississippian Plateau (Pennyroyal or Pennyrile) physiographic region, which is underlain by limestone, siltstone, shale, chert, clay, silt, sand, and rock fragments.

Land-Use Planning Map

For good geologic (with physical parameters) overview for the study area, refer to the county land-use planning map at www.uky.edu/KGS.

On the home page, click on GIS and Maps.

On this page, click on County Land-Use Planning Maps.

On this page, click on the county of interest on the index map. A viewable and downloadable pdf of the county land-use map will be displayed.

Karst Potential

The study area (more to the western end) might encounter karst features such as sinkholes and caves.

Landslide Potential

The study area would not encounter any pre- or post-landslide hazard.



Unconsolidated Sediments

The study area would not encounter unconsolidated sediments such as clay, silt, sand, gravel, and chert rubble in the streams.

Resource Conflicts

The study area should not encounter resource conflicts such as prior ownership of property for quarrying or mining, but might encounter oil and gas wells.

Materials Suitability

The thicker limestones in the study area might be a suitable for road construction. Some limestones may be clayey and dolomitic in composition, which would cause the limestone to expand when wet. Chert within the limestone will decrease the suitability of the limestone for use as road gravel.

Fault Potential

The study area would not encounter faulted areas.

Earthquake Ground Motions

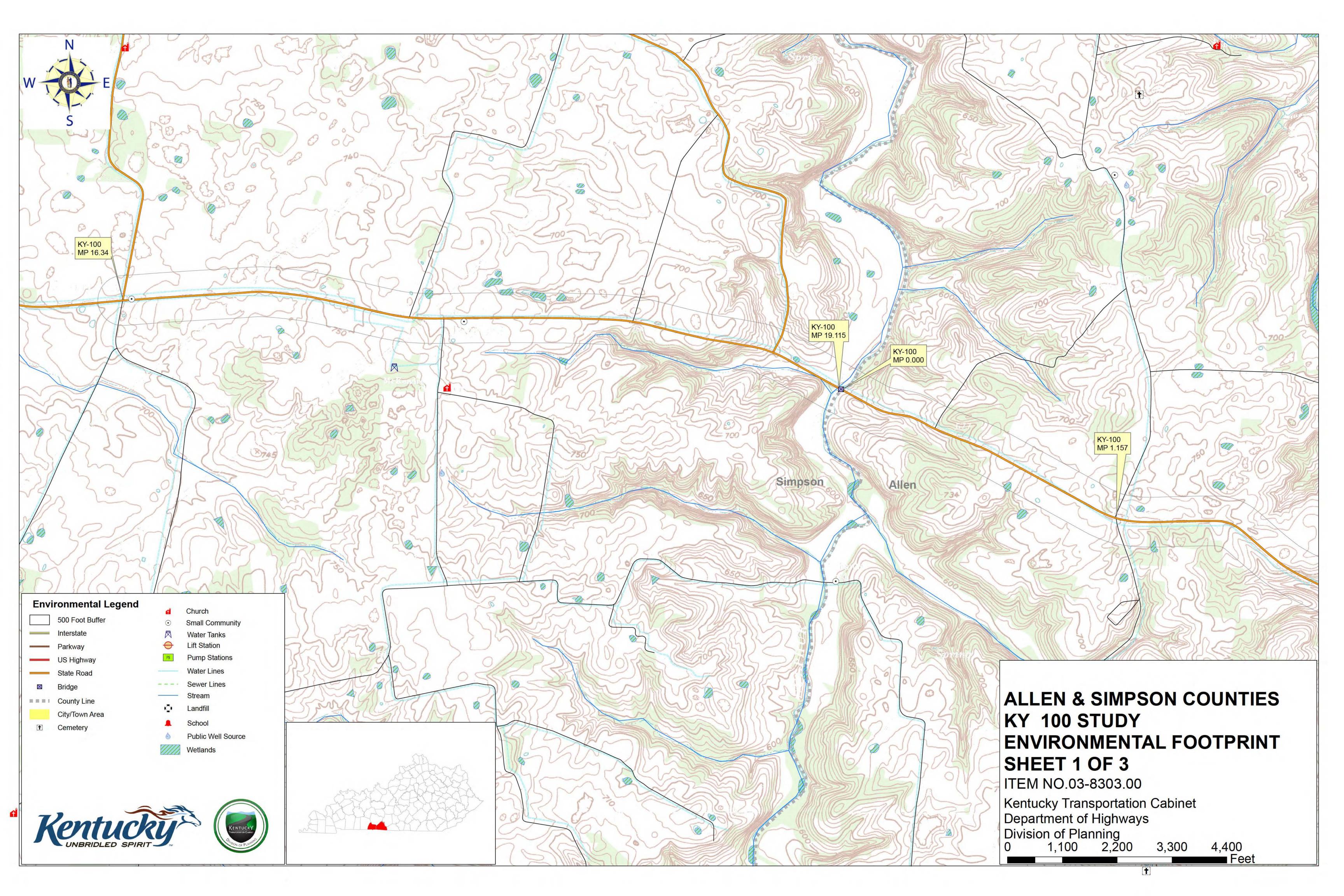
The study area has a probable peak ground acceleration (PGA) due to earthquake ground motion of 0.09g. There would be a minimal potential for liquefaction or slope failure in the unconsolidated sediments at or near streams by bedrock ground motion.

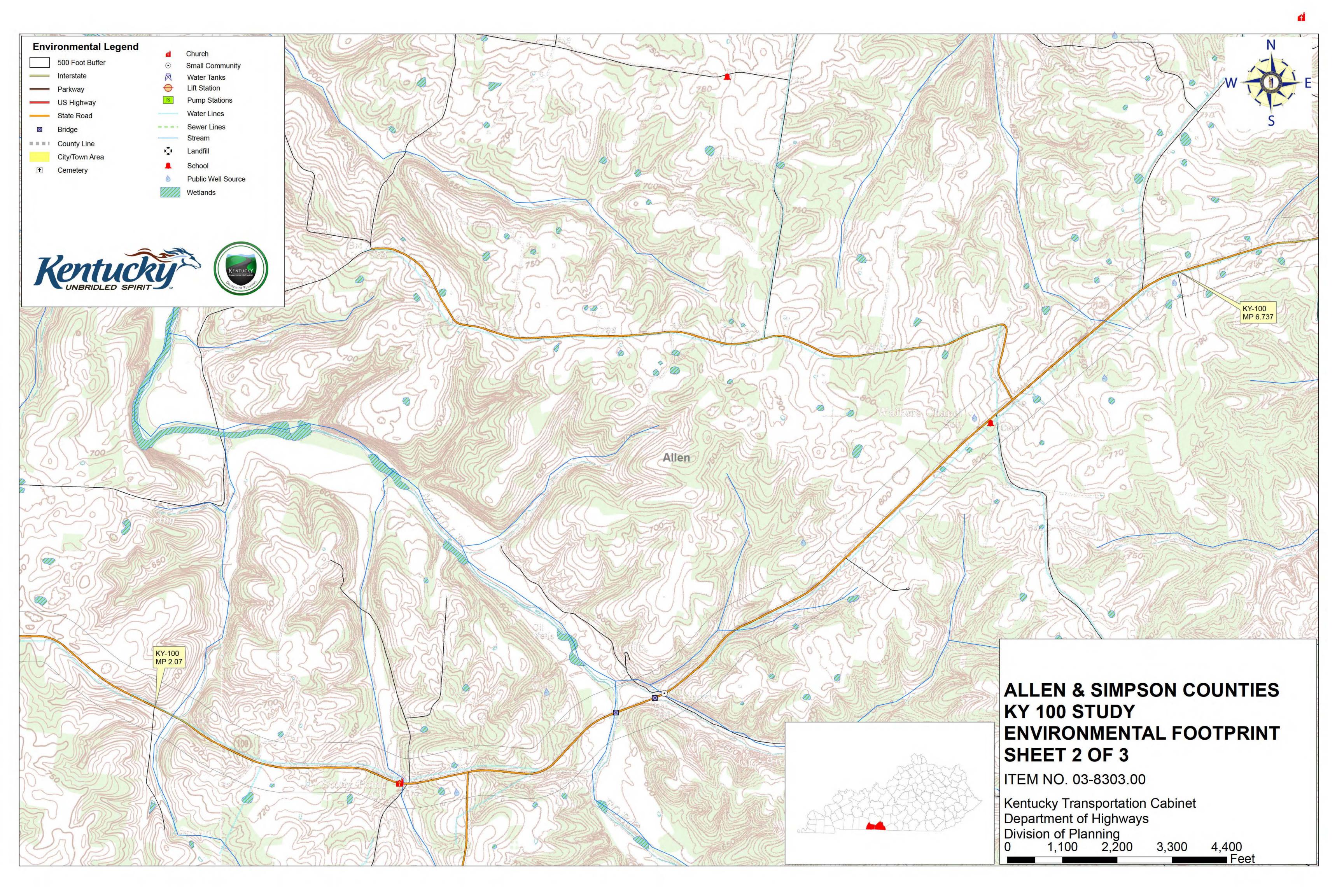
Sincerely,

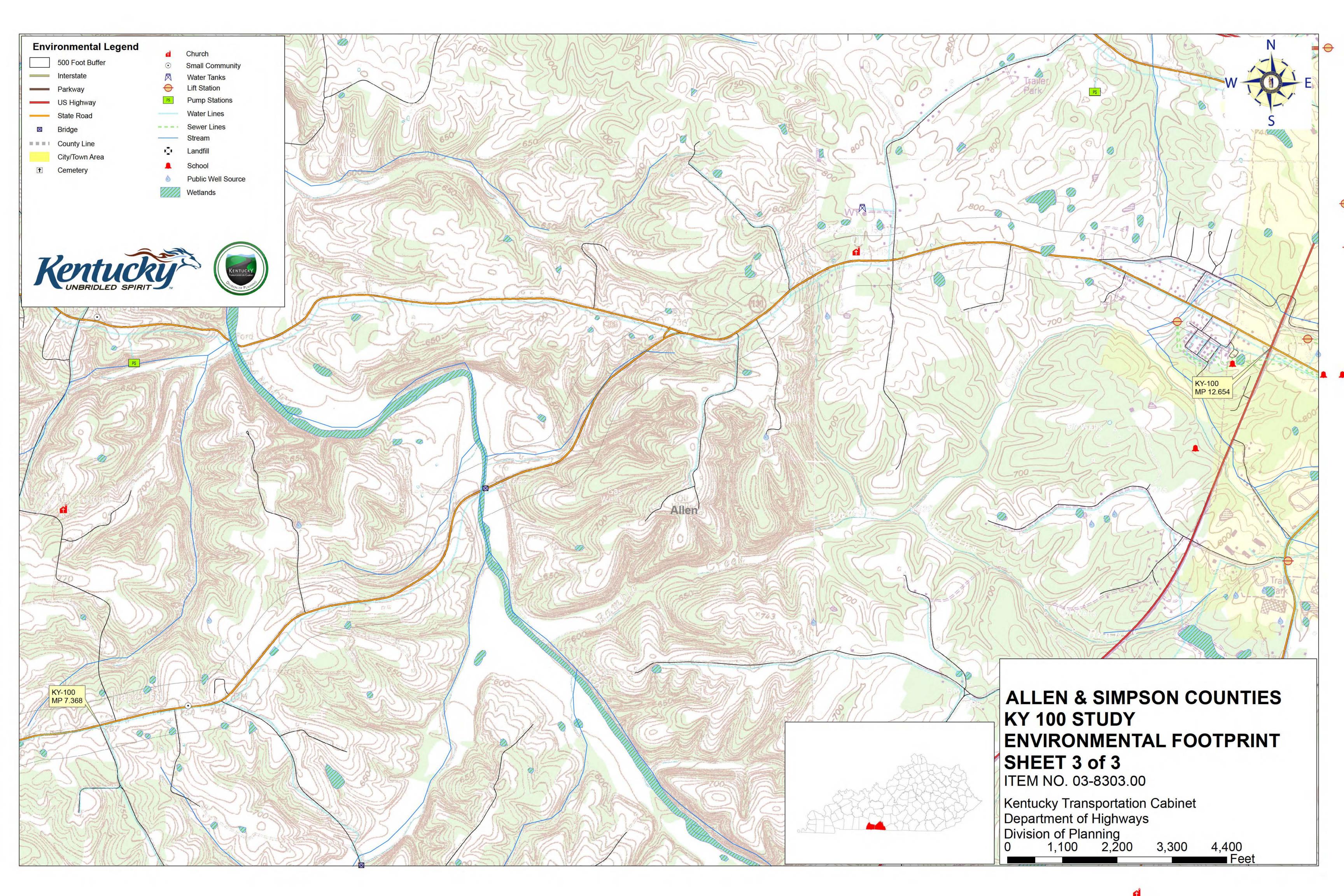
Richard A. Smath

Geologist

APPENDIX H ENVIRONMENTAL OVERVIEW









Division of Environmental Analysis

Environmental Review Considerations for Division of Planning Studies

| | | whether the Area/Corridor(s)/Alternatives selection might potentially be influenced by wn information or reasonable extrapolations from available data. | | | | | | | | | |
|-------------|--|---|--|--|--|--|--|--|--|--|--|
| | | • | | | | | | | | | |
| Y | N | Archaeology | | | | | | | | | |
| | | Are there known archaeological sites within the proposed study areas that are either | | | | | | | | | |
| | | listed or potentially eligible for listing to the NRHP? | | | | | | | | | |
| \boxtimes | | Are there study areas that, due to certain landform characteristics, have a higher | | | | | | | | | |
| | | potential for sites, especially NRHP eligible archaeological sites? | | | | | | | | | |
| | \boxtimes | Are there study areas that could be recommended as having a lower potential for sites, | | | | | | | | | |
| | | especially NRHP eligible archaeological sites? | | | | | | | | | |
| | | Does the distribution of sites suggest anything of importance to project location | | | | | | | | | |
| | | selection? | | | | | | | | | |
| | | Are there any special concerns/considerations/circumstances that should be | | | | | | | | | |
| | considered early in project development, such as a historical structure surv | | | | | | | | | | |
| | | would further identify potential issues from an archaeological perspective? | | | | | | | | | |
| | • | any areas that should be avoided, if possible, to minimize resource impacts. Unless the | | | | | | | | | |
| | | s noted above are equally distributed across all alternatives, corridors or study areas | | | | | | | | | |
| | | be so noted below), provide a specific explanation of varying degrees by which the | | | | | | | | | |
| | | idied would be influenced or affected by the known or potential resource(s). | | | | | | | | | |
| | | nts: Potential corridor crosses several different landforms, many of which have a high | | | | | | | | | |
| | | I to contain historic and prehistoric sites. All historic structures have potential to | | | | | | | | | |
| | | intact historic archaeological deposits. | | | | | | | | | |
| Y | N | Cultural Historic Resources | | | | | | | | | |
| | | Are there known historic sites, districts, objects or structures within the proposed | | | | | | | | | |
| | | corridors that are either listed or potentially eligible for listing to the NRHP? | | | | | | | | | |
| | | Has historic context of the area been developed that would allow the elimination of | | | | | | | | | |
| Ш | | any buildings, districts, structures or objects that meet the 50 year old NRHP | | | | | | | | | |
| | | criterion? | | | | | | | | | |
| | \boxtimes | Are there study areas that could be recommended as having a lower potential for | | | | | | | | | |
| | | historic sites, especially NRHP eligible historic sites? | | | | | | | | | |
| | \boxtimes | Does the distribution of sites suggest anything of importance to project location selection? | | | | | | | | | |
| Ide | ntify | any areas that should be avoided, if possible, to minimize resource impacts. Unless the | | | | | | | | | |
| | concerns noted above are equally distributed across all alternatives, corridors or study areas | | | | | | | | | | |
| (sho | ould | be so noted below), provide a specific explanation of varying degrees by which the | | | | | | | | | |
| area | e etii | idied would be influenced or affected by the known or potential resource(s) | | | | | | | | | |

| Cor | nmei | nts: | | | | | | | | | | | |
|------------------------|-------------|---|--|--|--|--|--|--|--|--|--|--|--|
| Y | N | Socioeconomic | | | | | | | | | | | |
| | | Are there any low-income or minority communities identified within the proposed | | | | | | | | | | | |
| | | corridors? | | | | | | | | | | | |
| \boxtimes | | Are there Prime Farmland soils identified within the proposed corridors? | | | | | | | | | | | |
| $\overline{\boxtimes}$ | 同 | Are there any communities and/or business districts within the proposed corridors? | | | | | | | | | | | |
| | | Are there any public recreation areas, such as parks or waterfowl refuges, located within the proposed corridors? | | | | | | | | | | | |
| \boxtimes | П | Can one or more of the proposed corridors be recommended as having a lower | | | | | | | | | | | |
| | | potential for impacts to any of the resources identified above? | | | | | | | | | | | |
| | | any areas that should be avoided, if possible, to minimize resource impacts. Unless the | | | | | | | | | | | |
| | | s noted above are equally distributed across all alternatives, corridors or study areas | | | | | | | | | | | |
| | | be so noted below), provide a specific explanation of varying degrees by which the | | | | | | | | | | | |
| | | died would be influenced or affected by the consideration of this known or potential | | | | | | | | | | | |
| | act. | 4. I 1 2° 1 . | | | | | | | | | | | |
| | | nts: Input based on office research only. Data needs to be confirmed with the ance of a Socioeconomic Baseline. | | | | | | | | | | | |
| Y | N | Air Quality | | | | | | | | | | | |
| 1 | | Is the project in a conforming plan? (Planning will identify if in a nonattainment area) | | | | | | | | | | | |
| | | Considering the project setting (urban/rural), design features (off ramps, etc.), and | | | | | | | | | | | |
| | | locations where traffic flow might be interrupted with signalization or other traffic | | | | | | | | | | | |
| | | control devices, is there reasonable potential for the project to have an Air Quality | | | | | | | | | | | |
| | | impact? | | | | | | | | | | | |
| M | | Is it expected that a base study or hot spot analysis will be required? | | | | | | | | | | | |
| Ide | ntify | any areas that should be avoided, if possible, to minimize air quality impacts. Unless | | | | | | | | | | | |
| | | erns noted above are equally distributed across all alternatives, corridors or study areas | | | | | | | | | | | |
| | | be so noted below), provide a specific explanation of varying degrees by which the | | | | | | | | | | | |
| | | idied would be influenced or affected by the consideration of this impact. | | | | | | | | | | | |
| | nmei | | | | | | | | | | | | |
| Coi | 1111101 | | | | | | | | | | | | |
| Y | N | Noise | | | | | | | | | | | |
| \boxtimes | | How many, what type and where are sensitive receptors within proximity to the | | | | | | | | | | | |
| | Ш | proposed project? | | | | | | | | | | | |
| | | Indicate whether a base study will be required based upon the project adding through- | | | | | | | | | | | |
| | | lane capacity. | | | | | | | | | | | |
| | | Will further study be required due to areas of the project anticipated to have a | | | | | | | | | | | |
| | \boxtimes | significant change in the vehicle types that drive the road? What type of and how | | | | | | | | | | | |
| ш | | much traffic will utilize the road? Is the traffic volume anticipated to be above 20,000 | | | | | | | | | | | |
| | | ADT? | | | | | | | | | | | |
| | \boxtimes | Will there be a significant change in the grade of the road with regard to braking noise | | | | | | | | | | | |
| | | and downshifting engine noise? | | | | | | | | | | | |
| \square | | With the spatial distribution of potential sensitive receptors, can recommendations be | | | | | | | | | | | |
| | ושו | made regarding project location selection? | | | | | | | | | | | |

| Ider | ntify | any areas that should be avoided, if possible, to minimize noise impacts. Unless the | | | | | | | | | | |
|-------------|---|--|--|--|--|--|--|--|--|--|--|--|
| con | cerns | s noted above are equally distributed across all alternatives, corridors or study areas | | | | | | | | | | |
| (sho | ould | be so noted below), provide a specific explanation of varying degrees by which the | | | | | | | | | | |
| area | ıs stu | idied would be influenced or affected by the consideration of this impact. | | | | | | | | | | |
| Con | Comments: Potential minimal impacts to noise receptors. | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Y | N | Underground Storage Tanks/Hazardous Waste | | | | | | | | | | |
| | П | Are there any known or listed State or Federal Superfund sites within proximity to the | | | | | | | | | | |
| | | project and have they been addressed (closed)? | | | | | | | | | | |
| | | Are there any known or listed landfills, dumps or scrap yards within proximity to the project? | | | | | | | | | | |
| | | Have there been any reportable releases of regulated substances in or near the project | | | | | | | | | | |
| Ш | Ш | area and have they been addressed (closed)? | | | | | | | | | | |
| | | Suggest limited phase 1 work by the consultant (costs = \$1,500 to \$3,000) including | | | | | | | | | | |
| | Ш | ERD search – attach to planning document for review when submitted to DEA. | | | | | | | | | | |
| | | When provided by Planning, comment on information from the public with regard | | | | | | | | | | |
| | | specifically to UST/HAZ issues. For example, people may know of situations that | | | | | | | | | | |
| | | have been unreported and that may be of concern such as spills of chemicals, | | | | | | | | | | |
| | | unauthorized storage of discarded tires and materials, abandoned drum piles and | | | | | | | | | | |
| | | above ground tanks etc | | | | | | | | | | |
| Ider | ntify | any areas that should be avoided, if possible, to minimize impacts. Unless the concerns | | | | | | | | | | |
| note | ed ab | ove are equally distributed across all alternatives, corridors or study areas (should be so | | | | | | | | | | |
| note | ed be | elow), provide a specific explanation of varying degrees by which the areas studied | | | | | | | | | | |
| wou | ıld b | e influenced or affected by the consideration of this impact. | | | | | | | | | | |
| Con | nmei | nts: KYTC-DEA UST/HAZMAT requests performing a Phase I Assessment in order to | | | | | | | | | | |
| prov | vide | correct data to the above questions. | | | | | | | | | | |
| Y | N | Ecology | | | | | | | | | | |
| | | Is there potential for the project to effect endangered species? Have the USFWS, | | | | | | | | | | |
| \boxtimes | | KSNPC, and KDFWR species lists and/or websites identified any T&E species in the | | | | | | | | | | |
| | | project area? | | | | | | | | | | |
| \boxtimes | | Would stringent erosion controls and/or stream avoidance be required? | | | | | | | | | | |
| \boxtimes | | Are any outstanding resource, special use waters, etc., present in the project area? | | | | | | | | | | |
| \boxtimes | | Is habitat for any listed T&E species know to exist in the project area? | | | | | | | | | | |
| \boxtimes | | Would a biological assessment or habitat assessment be required? | | | | | | | | | | |
| Ider | ntify | any areas that should be avoided, if possible, to minimize impacts. Unless the concerns | | | | | | | | | | |
| note | ed ab | ove are equally distributed across all alternatives, corridors or study areas (should be so | | | | | | | | | | |
| note | ed be | elow), provide a specific explanation of varying degrees by which the areas studied | | | | | | | | | | |
| wot | ıld b | e influenced or affected by the consideration of this impact. | | | | | | | | | | |

Comments: Allen County has known maternity records for gray bat. Trammel Creek is a reference reach stream and a gray bat travel corridor. According to USFWS, gray bat, Indiana bat, clubshell mussel and fanshell mussel are all known to occur in Allen County, while rough pigtoe mussel has the potential to occur. Simpson County has ring pink mussel and littlewing pearly mussel as potentially occurring in addition to those species already listed. All of the listed mussel species utilize medium to large rivers. Clear spanning Trammel Creek would help minimize impacts to both bats and potentially mussels. Choosing an alignment that would require the least amount of tree cutting would also minimize impacts to bats as gray bats utilize forested riparian corridors and Indiana bats utilize trees with sloughing bark during the summer. Avoid open-throated sinkholes and caves to minimize impacts to bats.

| Ŷ | N | Permits |
|-------------|--------|---|
| \boxtimes | | Are any known or potential wetlands present in the project area? |
| \boxtimes | | Will floodplains be impacted by the project? |
| | | Will any of the following likely be required for any of the study areas: 401 permit, |
| \boxtimes | | 404 permit, ACE Section 10 permit, Coast Guard permit, FEMA map revision, other? |
| | | (specify below by study area |
| Ide | ntify | any areas that should be avoided, if possible, to minimize impacts. Unless the |
| con | cerns | s noted above are equally distributed across all alternatives, corridors or study areas |
| (sho | ould | be so noted below), provide a specific explanation of varying degrees by which the |
| area | ıs stu | idied would be influenced or affected by the consideration of this impact. |
| Cor | nmei | nts: |

POTENTIAL HISTORIC PROPERTY

Located at 7231 Scottsville Road Franklin, Kentucky 42134

The resident of this home, Mrs. Laura Mullins, contacted the Bowling Green Highway District Office and stated that the home and farm are on the National Register of Historic Places. Photographs of the property are included below.





APPENDIX I ENVIRONMENTAL JUSTICE

KY 100 ALTERNATIVES STUDY Allen and Simpson Counties

Environmental Justice Report

October 2007



Barren River Area Development District

For Division of Planning Kentucky Transportation Cabinet



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- 4.0 Census Data Analysis
- 5.0 Study Findings
- 6.0 Study Findings / **Population by Race**
- 7.0. Study Findings / **Population by Poverty Level**
- 8.0 Study Findings / **Population by Age Group**
- 9.0 Study Findings / Mennonite Communities
- 10.0 Conclusion
- APPENDIX 1: Planning Study Contact List
- APPENDIX 2: Methodology for Assessing Potential Environmental Justice

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- APPENDIX 4: Simpson County Map
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- APPENDIX 7: Census Data Map
- APPENDIX 8: Allen and Simpson County Census Data

1.0 INTRODUCTION

This document is an assessment of the community characteristics for the proposed improvements outlined in the KY 100 Corridor Study located in Allen and Simpson Counties (Appendix 3). The data used in this report has been compiled from a various number of sources including the U.S. Census Bureau *Census 2000*, Kentucky Transportation Cabinet Division of Planning, Kentucky State Data Center, local officials meeting, stakeholder meetings, and field observations of the project area. The information and results are intended to assist the Kentucky Transportation Cabinet in making informed and prudent transportation decisions in the project area, especially with regard to the requirements of Executive Order 12898¹, to ensure equal environmental protection to all groups potentially impacted by this project.

The following document outlines *Census 2000* statistics for the KY 100 Corridor Study in Allen and Simpson Counties using data tables and maps.

Census data was also compiled for Census divisions directly in and around the portion of the study area located on KY 100 between KY 622 and US 31E in Allen and Simpson Counties. Statistics are provided for minority, low-income, and elderly populations for the project area, nation, state, region, census tracts, and block groups.

2.0 WHAT IS ENVIRONMENTAL JUSTICE?

The U.S. EPA Office of Environmental Justice (EJ) defines EJ as:

"The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local and tribal programs and policies."

A disproportionately high and adverse effect on a minority or low-income population means an adverse effect that:

- 1. Is predominately borne by a minority population and/or low-income population, or
- 2. Will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

2.1 Definitions

USDOT Order 5610.2 on EJ, issued in the April 15, 1997 Federal Register defines what constitutes low income and minority populations.

• **Low-Income** is defined as a person whose median household income is at or below the U.S. Department of Health and Human Services poverty guidelines.

¹ Executive Order 12898 signed on February 11, 1994 states "...each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations..."

KY 100 Environmental Justice Review - October 2007

- Minority is defined as a person who is: (1) Black (a person having origins in any black racial groups of Africa); (2) Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); (3) Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or (4) American Indian and Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).
- **Low-Income Population** is defined as any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant geographically dispersed/transient persons who will be similarly affected by a proposed DOT program, policy or activity.
- **Minority Population** is defined as any readily identifiable group of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons who will be similarly affected by a proposed DOT program, policy or activity.

EO 12898 and USOT Order 5610.2 do not address consideration of the elderly population. However, the U.S. DOT encourages the study of these populations in EJ discussions and in accordance with EJ, Title VI of the Civil Rights Act of 1964 and the Kentucky Transportation Cabinet's advocacy of inclusive public involvement and equal treatment of all persons this study includes statistics for persons age 65+ that are within the project and comparison areas.

3.0 METHODOLOGY

For this study, data was collected by using the method outlined by the KYTC document, "Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies".

The primary sources of data were the U.S. Census Bureau *Census 2000*, Kentucky Transportation Cabinet Division of Planning, Kentucky State Data Center, local officials meeting, stakeholder meetings, and field observations of the project area. Statistics were compiled to present a detailed analysis of the community conditions for the KY 100 Corridor Study.

4.0 CENSUS DATA ANALYSIS

The U.S. Census Bureau defines geographical units as:

- Census Tract (CT) "A small, relatively permanent statistical subdivision of a county or statistically equivalent entity delineated for data presentation purposes by a local group of census data users or the geographic staff of a regional census center in accordance with Census Bureau guidelines. CTs generally contain between 1,000 and 8,000 people. CT boundaries are delineated with the intention of being stable over many decades, so they generally follow relatively permanent visible features. They may also follow governmental unit boundaries and other invisible features in some instances; the boundary of a state or county is always a census tract boundary."
- **Block Group (BG)** "A statistical subdivision of a CT. A BG consists of all tabulation blocks whose numbers begin with the same digit in a CT. BGs generally contain between 300 and 3,000 people, with an optimum size of 1,500 people."

• Census Block (CB) – "An area bounded on all sides by visible and/or invisible features shown on a map prepared by the Census Bureau. A CB is the smallest geographic entity for which the Census Bureau tabulates decennial census data."

The project and comparison area analysis include the percentages for minorities, low-income and elderly population levels for the census tract block group, Allen County, Simpson County, the Commonwealth of Kentucky and the United States.

5.0 STUDY FINDINGS

This Environmental Justice and Community Impact Report are to be used as a component of a Planning Study for the proposed highway transportation improvements to KY 100 in Allen and Simpson Counties from KY 622 (Hickory Flats) located outside of the City of Franklin to US 31E in Scottsville. This study is intended to help define the location and purpose of the project and better meet federal requirements regarding consideration of environmental issues as defined in the National Environmental Policy Act (NEPA).

The 2000 Census identifies four Census Tracts in this study area. These tracts are listed below and are illustrated in Appendix 8.

Allen County: Census Tract 9802

Census Tract 9803

Census Tract 9806

Simpson County: Census Tract 9701

Census Tract 9701 is located in Simpson County and encompasses the eastern portion county and borders the Allen County line. Census Tract 9802 encompasses the Northwestern portion of Allen County to the Simpson County line and borders to the southern portion of Monroe County to the Tennessee line. Census Tract 9904 encompasses the northeastern portion of Tompkinsville and covers the remainder of Monroe County to the Cumberland County line. See Appendix 5.

6.0 STUDY FINDINGS / POPULATION BY RACE

6.1 Allen County

The defined study area in Allen County encompasses portions of the following Census Tracts: 9802, 9803, and 9806. Following the review of key information, BRADD Staff met with local officials and community members to review maps and Census data related to the study area. Staff also drove the corridor for potential environmental justice concerns. The intent of these discussions was to confirm previous conclusions and solicit input into the process of developing this Environmental Justice Report.

The majority of Census Tracts and Block Groups in the study area contain minority populations that are only slightly higher than the county average, but considerably less than the state and national averages; however, there are a few particular Block Groups in the study area that warrant further discussion.

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Within Allen County, the predominate minority population is black or African American. Census Tract 9802, which only contains one Block Group, has a percentage of black population of 1.16%, which is somewhat higher than the county average of 0.81%. Census Tract 9802 is noticeably less than the state average of 7.27% and the national of 12.21%. Census Tract 9803 contains a percentage of black population of 1.83%, which again is slightly higher than the county average. Block Groups 1, 2, and 3 within Tract 9803 has a percentage of black or African American Alone of 2.89%, 2.55%, and 2.38% respectively. All three Block Groups are much higher than the county average. While this percentage is not as alarming, it should however be noted that a small concentration does exist in Census Tract 9803.

While the predominate minority population in Allen County is African American, there are other minority groups that raise concern. Block Group 2 of Census Tract 9803 has a percent Asian alone of 1.13%, which is above the county and state average of 0.15% and 0.72% respectively. Block Group 3 of Census Track 9803 also has a percent of Asian alone of 0.37%. This is not as significant as Block Group 2, but should be noted as a small concentration. Census Tract 9806 has a percent American Indian and Alaska Native alone of 0.21%, which is slightly higher than the county average of 0.06%. Block Group 1 within Census Tract 9806 has a percent American Indian and Alaska Native alone of 0.38%.

Block Groups 1 and 2 within Census Tract 9803 has a percent of Hispanic or Latino origin of 1.10% and 1.13% respectively, which is slightly higher than the county of 0.66%, but lower than the state average of 1.48% and national average of 12.52%. Census Tract 9806 has a 1.06% persons Hispanic or Latino origin and Block Groups 1 and 2 within the Census Tract has a percent Hispanic or Latino origin of 1.20% and 0.90% respectively. It should be noted that a small concentration of Hispanic population exists within the identified Census Tracts.

Meetings with local officials and community members resulted in the conclusion that small concentrations of the four minorities identified are located in the study area; however, the concentrations are small and it is not anticipated that the implementation of this project may have a disproportionate effect on minorities residing in the proposed study area.

BRADD Staff will continue to monitor racial composition in the study area and report any changes and/or developments that may occur in the future that could alter the findings of this report.

6.2 Simpson County

The defined study area in Simpson County encompasses portions of the following Census Tract: 9701. Following the review of key information, BRADD Staff met with local officials and community members to review maps and census data related to the study area. Staff also drove the corridor for potential environmental justice concerns. The intent of these discussions was to confirm previous conclusions and solicit input into the process of developing this Environmental Justice Report.

The predominate minority population in Simpson County is African American, however Census Tract 9701 and Block Groups 1 and 2 within the Tract are well below the county, state, and national average. However, there are other small minority groups that warrant discussion. Census Tract 9701 has a percent American Indian and Alaska Native alone of 0.37%, which is slightly above the county and state of 0.12% and 0.22% respectively. Block Group 1 of Census Track 9701 also has a percent of American Indian and Alaska Native alone of 0.64% and should be noted as a small concentration. Census Tract 9806 has a percent American Indian and Alaska Native alone of 0.21%, which is slightly higher than the county average of 0.6%. Block Group 1 within Census Tract 9806 has a percent American Indian and Alaska Native alone of 0.38%.

Block Group 1 within Census Tract 9701 has a percent of Hispanic or Latino origin of 1.29%, which is slightly higher than the county of 0.25%, but lower than the state average of 1.48% and national average of 12.52%. The Census Tract as a whole has a 0.73% persons Hispanic or Latino origin. It should be noted that a small concentration of Hispanic population exists within the Census Tracts.

Meetings with local officials and community members resulted in the conclusion that small concentrations of the two minorities identified are located in the study area; however, the concentrations are small and it is not anticipated that the implementation of this project may have a disproportionate effect on minorities residing in the proposed study area.

BRADD Staff will continue to monitor racial composition in the study area and report any changes and/or developments that may occur in the future that could alter the findings of this report.

7.0 STUDY FINDINGS / POPULATION BY POVERTY LEVEL

7.1 Allen County

The defined study area within Allen County encompasses portions of the following Census Tracts: 9802, 9803, and 9806. Block Groups 1 and 2 within Census Tract 9803 has a percentage of persons below the poverty level of 25.90% and 32.01%. This is significantly higher than the county average of 17.10%, state average of 15.37%, and the national average of 12.05%. Block Group 1 of Census Tract 9803 has the highest percentage of persons below poverty in Allen County. Several factors could be impacting this issue. Located near the City of Scottsville at mile point 12.55 just off of KY 100 on Hinton Avenue there is a senior center community. An apartment complex is located in Belmont Park area also. Census Tract 9806 has a percentage of persons below the poverty level of 17.76%, which is just slightly higher than the county average of 17.10%. Block Group 2 of Census Tract 9806 has a percentage of persons below the poverty level of 23.00%. Located near mile point 2 and mile point 7.4 on KY 100 near the Chapel Hill Road area, are potential mobile home parks. Small clusters of mobile homes are seen while driving the corridor. It should be noted that small concentrations of persons below the poverty level exist in the identified Census Tracts.

It should also be noted that these percentages are indeed comparable to many surrounding counties in this particular section of southern Kentucky. Discussions with local officials and community members resulted in the conclusion that concentrations of persons below the poverty level are located in the study area; however, it is not anticipated that the implementation of this project may have a disproportionate effect on the population of persons below poverty level residing in the proposed study area.

BRADD Staff will continue to monitor poverty levels in the study area and report any changes and/or developments that may occur in the future that could alter the findings of this report.

7.2 Simpson County

The defined study area within Simpson County encompasses portions of the following Census Tract: 9701. Census Tract 9701 percentages for persons below the poverty level are consistent with those of the county, state and nation. Based on the census data and other discussions, there seem to be no significant concentration of persons below the poverty level in this Census Tract.

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BRADD Staff will continue to monitor poverty levels in the study area and report any changes and/or developments that may occur in the future that could alter the findings of this report.

8.0 STUDY FINDINGS / POPULATION BY AGE GROUP

8.1 Allen County

The defined study area within Allen County encompasses Census Tracts 9802, 9803, and 9806. Census Tract 9802 percentages for the aging population are consistent with those of the county, state, and nation. Based on the census data and other discussions, there seem to be no significant concentration of a specific age group in this Census Tract.

Census Tracts 9803 has a higher percentage of persons 65 and over at 18.22%, which exceeds the county percentage of 13.70%, the state percentage of 12.08%, and the national percentage of 12.43%. Block Groups 1, 2, 3 and 4 of Census Tract 9803 in the study area all have percent persons 65 and over well above the county, state, and national. It should be noted that concentrations of elderly are present.

Discussions with local officials and community members resulted in the conclusion that additional concentrations of persons age 65 and over are not located in the study area; therefore, it is anticipated that the implementation of this project would not have a disproportionate effect on the population of persons age 65 and over residing in the proposed study area.

BRADD Staff will continue to monitor persons 65 and over in the study area and report any changes and/or developments that may occur in the future that could alter the findings of this report.

8.2 Simpson County

The defined study area within Simpson County encompasses Census Tract 9701. Census Tract 9701 percentages for the aging population are consistent with those of the county, state, and nation. Based on the census data and other discussions, there seem to be no significant concentration of a specific age group in this Census Tract.

BRADD Staff will continue to monitor persons 65 and over in the study area and report any changes and/or developments that may occur in the future that could alter the findings of this report.

9.0 STUDY FINDINGS / MENNONITE COMMUNITIES

9.1 Allen County

Noted Mennonite Communities are located between KY 100 and 585 and KY 1332 within the defined study area. There are two Mennonite communities located just off the KY 100 corridor that generate horse and buggy traffic. See Appendix 7.

Discussions with local officials and community members resulted in the conclusion that concentrations of Mennonites are located in the study area. It is not anticipated that the implementation of this project would have a disproportionate effect on the population of Mennonites residing in the proposed study area.

10.0 CONCLUSION

Following an extensive review of data obtained from the U.S. Census Bureau for income, race and age, discussions with local officials, and field observations, Barren River Area Development District staff has concluded that the following population concentrations were identified for concern the study area in Allen and Simpson Counties.

Analysis of the minority population data showed several of the block groups as having an identified concentration of some sort. Some were significant, some were only minor. The more significant concentrations identified were noted in the narrative analysis of the counties and are noted as follows: Census Tract 9802; Block Group 1, Census Tract 9803; Block Groups 1, 2, and 3, and Census Tract 9806; Block Group 1 all located in Allen County and Census Tract 9701; Block Group 1 of Simpson County. All areas within this study should be given full consideration in the planning process to achieve the goals put forth by the U. S. Department of Transportation (DOT). Although the minority concentrations identified above in this report have a higher percentage of population above the county, state and national average of minorities, there appears to be only small concentrations within the study area.

There were only small concentrations of persons below poverty level reported in Census Tracts 9803 and 9806 in Allen County. However, these percentages are not alarming, but should be noted. Discussions with local officials and a field review came to the conclusion that no concentration of individuals below the poverty level will be disproportionately affected by this project.

There appear to be few small concentrations of populations by age Allen County. Age analysis indicates that the distribution of elderly residents in Census Tract 9803 has a higher concentration of elderly, but the concentrations identified in Allen County should not be affected by improvements to this route.

Efforts were made to identify any high concentrations of a specific population. Community citizens, other ADD staff, local officials, and statistical data were all used in this process.

BRADD staff will continue to monitor the progress of this project and reevaluate the Environmental Justice Report to document any demographic and/or socioeconomic changes that may occur in and around the study area throughout the development of the project.

PLANNING STUDY CONTACT LIST

Bobby Young Allen County Judge Exec. P O BOX 115 Scottsville, KY 42164 Judge Jim Henderson Simpson County Judge Exec. P.O. Box 242 Franklin, KY 42135

Jeff Moore Dept. Of Highways District 3 900 Morgantown Road Bowling Green, KY 42102

Mayor Rob Cline City of Scottsville City-County Building Scottsville, KY 42164

Marty Chandler East Simpson County Magistrate

Mayor Jim Brown City of Franklin P.O. Box 2805 Franklin, KY 42135

Dennis Harper Allen County District 1 Magistrate Debbie McCarty BRADD Director of Aging Services P.O. Box 90005 Bowling Green, KY 42102

Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies

Reviewed: December 2006

The demographics of the affected area should be defined using U.S. Census data (Census tracts and block groups) and the percentages for minorities, low-income, elderly, or disabled populations should be compared to those for the following:

- Other nearby Census tracts and block groups,
- The county as a whole,
- The entire state, and
- The United States.

Information from PVA offices, social service agencies, local health organizations, local public agencies, and community action agencies can be used to supplement the Census data. Specifically, we are interested in obtaining the following information:

- Identification of community leaders or other contacts who may be able to represent these population groups and through which coordination efforts can be made.
- Comparison of the Census tracts and block groups encompassing the project area to other nearby Census tracts and block groups, county, state, and United States percentages.
- Locations of specific or identified minority, low-income, elderly, or disabled population groups within or near the project area. This may require some field reviews and/or discussions with knowledgeable persons to identify locations of public housing, minority communities, etc., to verify Census data or identify changes that may have occurred since the last Census. Examples would be changes due to new residential developments in the area or increases in Asian and/or Hispanic populations.
- Concentrations or communities that share a common religious, cultural, ethnic, or other background, e.g., Amish communities.
- Communities or neighborhoods that exhibit a high degree of community cohesion or interaction and the ability to mobilize community actions at the start of community involvement.
- Concentrations of common employment, religious centers, and/or educational institutions with members within walking distance of facilities.
- Potential effects, both positive and negative, of the project on the affected groups as compared to the non-target groups. This may include, but are not limited to:
 - 1. Access to services, employment or transportation.
 - 2. Displacement of persons, businesses, farms, or non-profit organizations.
 - 3. Disruption of community cohesion or vitality.
 - 4. Effects to human health and/or safety.

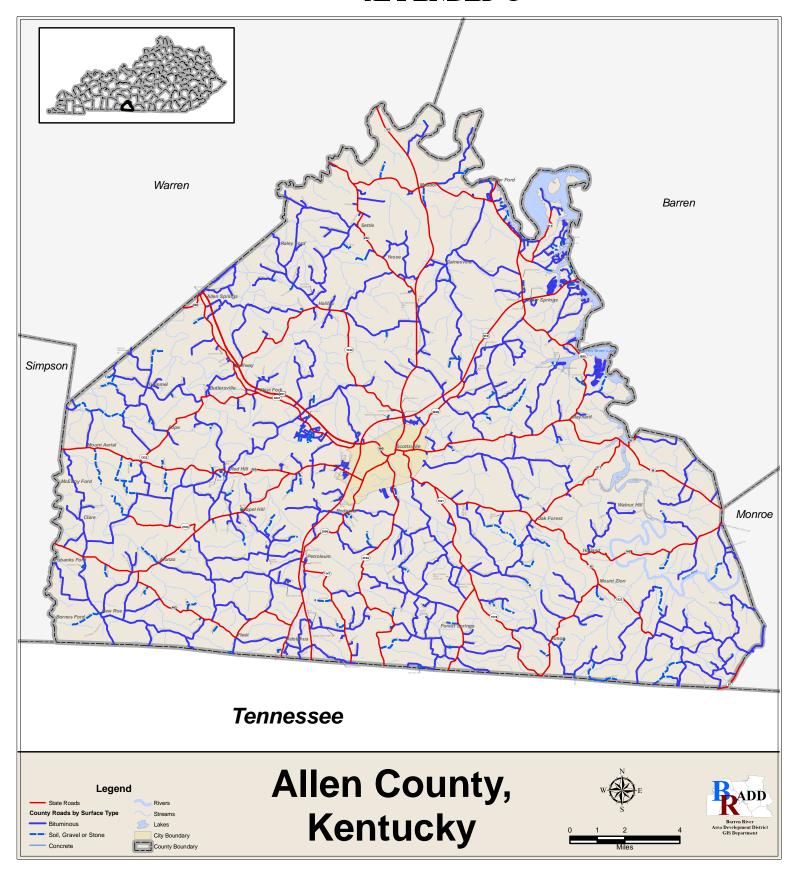
KY 100 Environmental Justice Review – October 2007 Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies

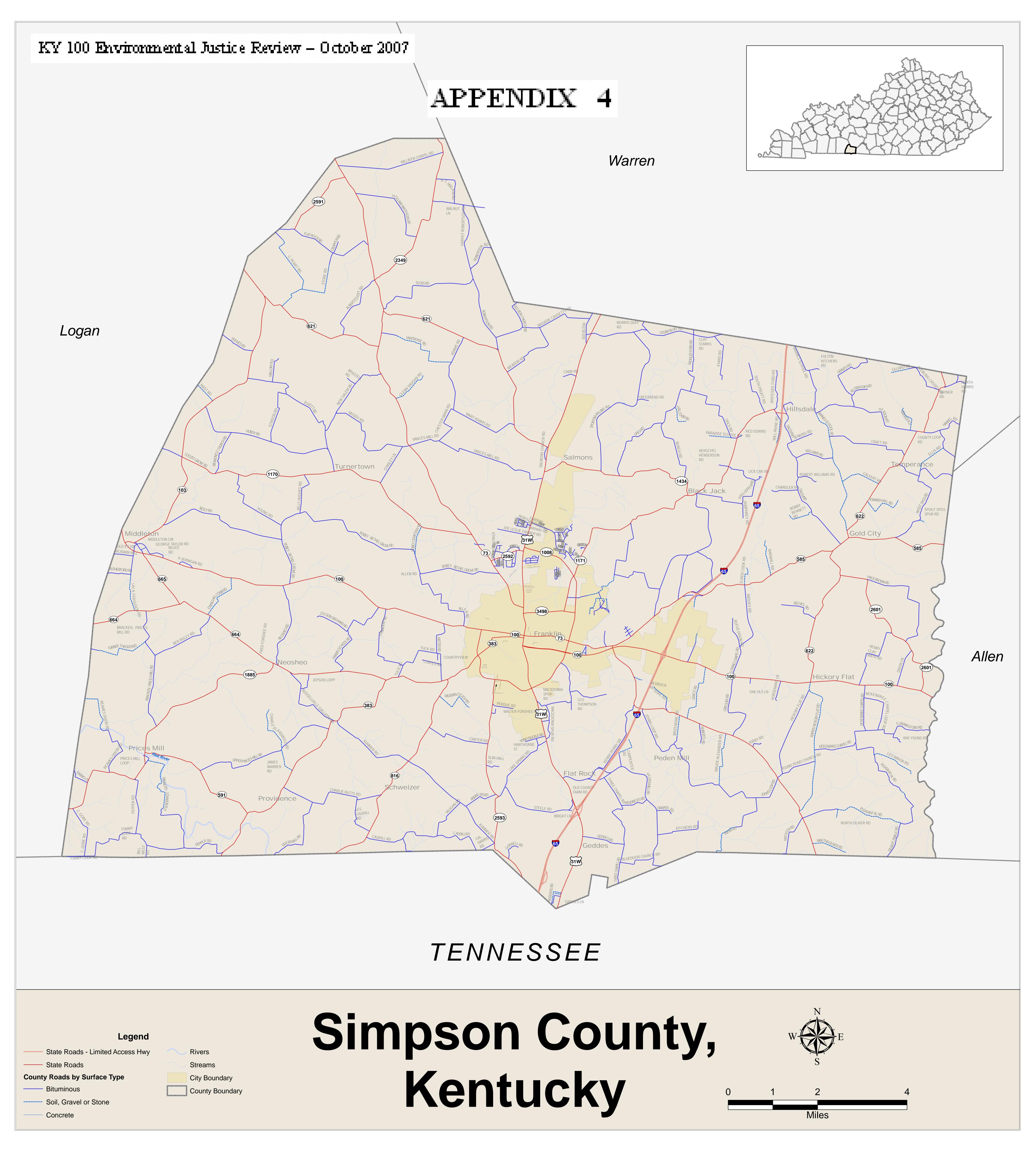
• Possible methods to minimize or avoid impacts on the target population groups.

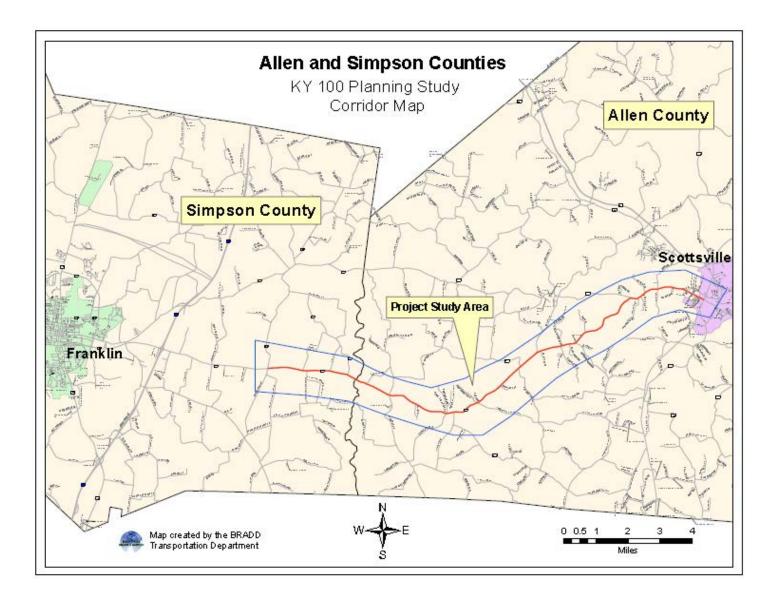
If percentages of these populations are elevated within the project area, it should be brought to the attention of the Division of Planning immediately so that coordination with affected populations may be conducted to determine the affected population's concerns and comments on the project. Also, with this effort, representatives of minority, elderly, low-income, or disabled populations should be identified so that, together, we can build a partnership for the region that may be incorporated into other projects. Also, we hope to build a Commonwealth-wide database of contacts. We are available to participate in any meetings with these affected populations or with their community leaders or representatives.

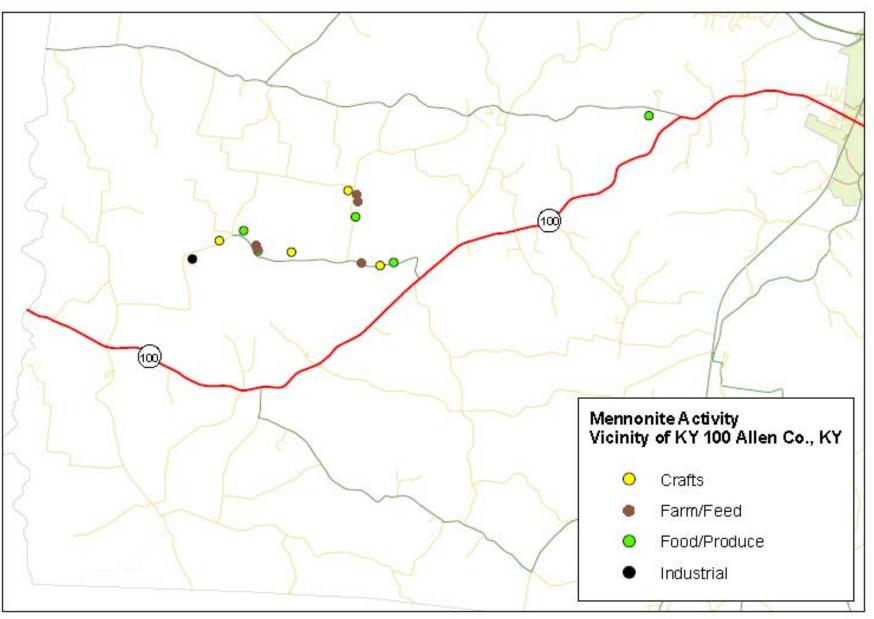
In identifying communities, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a geographically dispersed/transient set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect. The selection of the appropriate unit of analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as not to artificially dilute or inflate the affected population. A target population also exists if there is (1) more than one minority or other group present and (2) the percentages, as calculated by aggregating all minority persons, exceed that of the general population or other appropriate unit of geographic analysis.

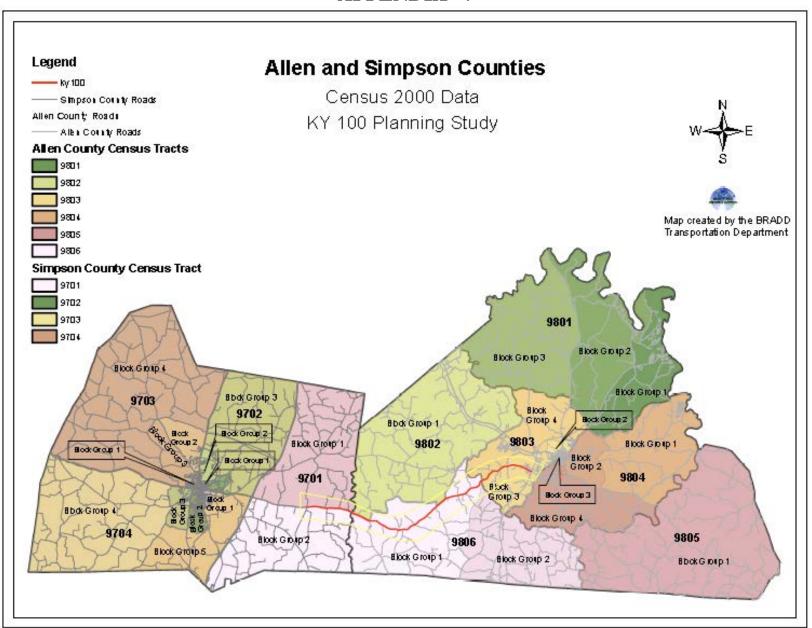
Maps should be included that show the Census tracts and block groups included in the analysis as well as the relation of the project area to those Census tracts and block groups.











APPENDIX 8: ALLEN COUNTY CENSUS DATA

| | ALLEN COUNTY | | | | | | | | | | | | | | |
|-------------------|---------------------|----------------|---------------------------|--|---------|--|---|----------------|---------------------------|--|---|--|--|--|--|
| REGION | TOTAL POPULATION | WHITE ALONE | PERCENT WHITE ALONE | BLACK OR AFRICAN AMERICAN ALONE | AFRICAN | AMERICAN INDIAN AND ALASKA NATIVE ALONE | PERCENT AMERICAN INDIAN AND ALASKA NATIVE ALONE | ASIAN ALONE | PERCENT ASIAN ALONE | NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE | PERCENT NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE | | | | |
| United States | 281,421,906 | 211,353,725 | 75.10% | 34,361,740 | 12.21% | 2,447,989 | 0.87% | 10,171,820 | 3.61% | 378,782 | 0.13% | | | | |
| Kentucky | 4,041,769 | 3,639,168 | 90.04% | 293,915 | 7.27% | 9,080 | 0.22% | 28,994 | 0.72% | 1,155 | 0.03% | | | | |
| Allen County | 17,800 | 17,474 | 98.17% | 145 | 0.81% | 10 | 0.06% | 26 | 0.15% | 0 | 0.00% | | | | |
| Census Tract 9801 | 2,852 | 2,832 | 99.30% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | | | | |
| Block Group 1 | 1,014 | 1,000 | 98.62% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | | | | |
| Block Group 2 | 762 | 756 | 99.21% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | | | | |
| Block Group 3 | 1,076 | 1,076 | 100% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | | | | |
| Census Tract 9802 | 2,234 | 2,190 | 98.03% | 26 | 1.16% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | | | | |
| Block Group 1 | 2,234 | 2,190 | 98.03% | 26 | 1.16% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | | | | |
| | | | | | | | | | | | | | | | |
| Census Tract 9803 | 4,253 | 4,108 | 96.59% | 78 | 1.83% | 0 | 0.00% | 14 | 0.33% | 0 | 0.00% | | | | |
| Block Group 1 | 726 | 684 | 94.21% | 21 | 2.89% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | | | | |
| Block Group 2 | 706 | 648 | 91.78% | 18 | 2.55% | 0 | 0.00% | 8 | 1.13% | 0 | 0.00% | | | | |
| Block Group 3 | 1,640 | 1,595 | 96.26% | 39 | 2.38% | 0 | 0.00% | 6 | 0.37% | 0 | 0.00% | | | | |
| Block Group 4 | 1,181 | 1,181 | 100% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | | | | |

Source: www.census.gov Summary File 3 (SF3)

Detailed Tables: P.6-Race, P.8-Sex by Age, P.87-Poverty Status in 1999 by Age

Summary File 3 (SF3)

APPENDIX 8: ALLEN COUNTY CENSUS DATA (Continued)

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|-------------------|---------------------|----------------|---------------------------|--|---|-----------|---|----------------|---------------------------|--|---|
| REGION | TOTAL POPULATION | WHITE ALONE | PERCENT WHITE ALONE | BLACK OR AFRICAN AMERICAN ALONE | PERCENT BLACK OR AFRICAN AMERICAN ALONE | ALASKA | PERCENT AMERICAN INDIAN AND ALASKA NATIVE ALONE | ASIAN ALONE | PERCENT ASIAN ALONE | NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE | PERCENT NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE |
| United States | 281,421,906 | 211,353,725 | 75.10% | 34,361,740 | 12.21% | 2,447,989 | 0.87% | 10,171,820 | 3.61% | 378,782 | 0.13% |
| Kentucky | 4,041,769 | 3,639,168 | 90.04% | 293,915 | 7.27% | 9,080 | 0.22% | 28,994 | 0.72% | 1,155 | 0.03% |
| Allen County | 17,800 | 17,474 | 98.17% | 145 | 0.81% | 10 | 0.06% | 26 | 0.15% | 0 | 0.00% |
| Census Tract 9804 | 4,227 | 4,174 | 98.75% | 41 | 0.97% | 0 | 0.00% | 12 | 0.28% | 0 | 0.00% |
| Block Group 1 | 981 | 981 | 100% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Block Group 2 | 982 | 970 | 98.78% | 0 | 0.00% | 0 | 0.00% | 12 | 1.22% | 0 | 0.00% |
| Block Group 3 | 703 | 662 | 94.17% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Block Group 4 | 1,561 | 1,561 | 100% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Census Tract 9805 | 1,323 | 1,295 | 97.88% | 0 | 0.00% | 4 | 0.30% | 0 | 0.00% | 0 | 0.00% |
| Block Group 1 | 1,323 | 1,295 | 97.88% | 0 | 0.00% | 4 | 0.30% | 0 | 0.00% | 0 | 0.00% |
| Census Tract 9806 | 2,911 | 2,875 | 98.76% | 0 | 0.00% | 6 | 0.21% | 0 | 0.00% | 0 | 0.00% |
| Block Group 1 | 1,589 | 1,593 | 99.65% | 0 | 0.00% | 6 | 0.38% | 0 | 0.00% | 0 | 0.00% |
| Block Group 2 | 1,322 | 1,292 | 97.73% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |

Source: www.census.gov Summary File 3 (SF3)

Detailed Tables: P.6-Race, P.8-Sex by Age, P.87-Poverty Status in 1999 by Age

Summary File 3 (SF3)

APPENDIX 8: ALLEN COUNTY CENSUS DATA (Continued)

| | 111111 | 1222 | | | COUNTY | <i>705 211</i> | | | | |
|-------------------|--------------------------|---|-------------------------|------------------------------------|---------------------------------|--|------------|--------------------------------------|--------------------------------------|---|
| REGION | SOME OTHER RACE ALONE | PERCENT SOME OTHER RACE ALONE | TWO OR MORE RACES | PERCENT TWO OR MORE RACES | HISPANIC OR LATINO ORIGIN | PRECENT HISPANIC OR LATINO ORIGIN | PERSONS | PERCENT PERSONS 65 AND OVER | PERSONS BELOW POVERTY LEVEL | PERCENT PERSONS BELOW POVERTY LEVEL |
| United States | 15,436,924 | 5.49% | 7,270,926 | 2.58% | 35,238,481 | 12.52% | 34,978,972 | 12.43% | 33,899,812 | 12.05% |
| Kentucky | 22,116 | 0.55% | 47,341 | 1.17% | 59,939 | 1.48% | 488,248 | 12.08% | 621,096 | 15.37% |
| Allen Co. | 0 | 0.00% | 145 | 0.81% | 119 | 0.66% | 2,440 | 13.70% | 3,045 | 17.10% |
| Census Tract 9801 | 0 | 0.00% | 20 | 0.70% | 22 | 0.77% | 371 | 13.00% | 461 | 16.16% |
| Block Group 1 | 0 | 0.00% | 14 | 1.32% | 22 | 2.17% | 142 | 14.00% | 239 | 23.57% |
| Block Group 2 | 0 | 0.00% | 6 | 0.79% | 0 | 0.00% | 98 | 12.86% | 125 | 16.40% |
| Block Group 3 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 106 | 9.85% | 97 | 9.01% |
| Census Tract 9802 | 0 | 0.00% | 18 | 0.81% | 16 | 0.72% | 236 | 10.56% | 343 | 15.35% |
| Block Group 1 | 0 | 0.00% | 18 | 0.81% | 16 | 0.72% | 236 | 10.56% | 343 | 15.35% |
| | | | | | | | | | | |
| Census Tract 9803 | 0 | 0.00% | 53 | 1.25% | 16 | 0.38% | 775 | 18.22% | 690 | 16.22% |
| Block Group 1 | 0 | 0.00% | 21 | 2.89% | 8 | 1.10% | 157 | 21.63% | 188 | 25.90% |
| Block Group 2 | 0 | 0.00% | 32 | 4.53% | 8 | 1.13% | 149 | 21.10% | 226 | 32.01% |
| Block Group 3 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 258 | 15.73% | 176 | 10.73% |
| Block Group 4 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 221 | 18.71 | 100 | 8.47% |

Source: www.census.gov Summary File 3 (SF3)

Detailed Tables: P.6-Race, P.8-Sex by Age, P.87-Poverty Status in 1999 by Age

Summary File 3 (SF3)

APPENDIX 8: ALLEN COUNTY CENSUS DATA (Continued)

| | ALLEN COUNTY | | | | | | | | | | | | | | |
|-------------------|--------------------------|---|-------------------------|------------------------------------|---------------------------------|--|------------|--------------------------------------|--------------------------------------|---|--|--|--|--|--|
| REGION | SOME OTHER RACE ALONE | PERCENT SOME OTHER RACE ALONE | TWO OR MORE RACES | PERCENT TWO OR MORE RACES | HISPANIC OR LATINO ORIGIN | PRECENT HISPANIC OR LATINO ORIGIN | PERSONS | PERCENT PERSONS 65 AND OVER | PERSONS BELOW POVERTY LEVEL | PERCENT PERSONS BELOW POVERTY LEVEL | | | | | |
| United States | 15,436,924 | 5.49% | 7,270,926 | 2.58% | 35,238,481 | 12.52% | 34,978,972 | 12.43% | 33,899,812 | 12.05% | | | | | |
| Kentucky | 22,116 | 0.55% | 47,341 | 1.17% | 59,939 | 1.48% | 488,248 | 12.08% | 621,096 | 15.37% | | | | | |
| Allen Co. | 0 | 0.00% | 145 | 0.81% | 119 | 0.66% | 2,440 | 13.70% | 3,045 | 17.10% | | | | | |
| Census Tract 9804 | 0 | 0.00% | 0 | 0.00% | 28 | 0.66% | 535 | 12.66% | 793 | 18.76% | | | | | |
| Block Group 1 | 0 | 0.00% | 0 | 0.00% | 13 | 1.33% | 137 | 13.97% | 186 | 18.96% | | | | | |
| Block Group 2 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 166 | 16.90% | 310 | 31.57% | | | | | |
| Block Group 3 | 0 | 0.00% | 0 | 0.00% | 15 | 2.13% | 72 | 10.24% | 100 | 14.22% | | | | | |
| Block Group 4 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 160 | 10.25% | 197 | 12.62% | | | | | |
| Census Tract 9805 | 0 | 0.00% | 24 | 1.81% | 6 | 0.45% | 221 | 16.70% | 241 | 18.22% | | | | | |
| Block Group 1 | 0 | 0.00% | 24 | 1.81% | 6 | 0.45% | 221 | 16.70% | 241 | 18.22% | | | | | |
| Census Tract 9806 | 0 | 0.00% | 30 | 1.03% | 31 | 1.06% | 302 | 10.37% | 517 | 17.76% | | | | | |
| Block Group 1 | 0 | 0.00% | 0 | 0.00% | 19 | 1.20% | 167 | 10.50% | 213 | 13.40% | | | | | |
| Block Group 2 | 0 | 0.00% | 30 | 2.27% | 12 | 0.90% | 135 | 10.21% | 304 | 23.00% | | | | | |

Source: www.census.gov Summary File 3 (SF3)

Detailed Tables: P.6-Race, P.8-Sex by Age, P.87-Poverty Status in 1999 by Age

Summary File 3 (SF3)

APPENDIX 8: SIMPSON COUNTY CENSUS DATA

| | SIMPSON COUNTY | | | | | | | | | | | | | | |
|-------------------|---------------------|----------------|---------------------------|--|---------|--|---|----------------|---------------------------|--|---|--|--|--|--|
| REGION | TOTAL POPULATION | WHITE ALONE | PERCENT WHITE ALONE | BLACK OR AFRICAN AMERICAN ALONE | AFRICAN | AMERICAN INDIAN AND ALASKA NATIVE ALONE | PERCENT AMERICAN INDIAN AND ALASKA NATIVE ALONE | ASIAN ALONE | PERCENT ASIAN ALONE | NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE | PERCENT NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE | | | | |
| United States | 281,421,906 | 211,353,725 | 75.10% | 34,361,740 | 12.21% | 2,447,989 | 0.87% | 10,171,820 | 3.61% | 378,782 | 0.13% | | | | |
| Kentucky | 4,041,769 | 3,639,168 | 90.04% | 293,915 | 7.27% | 9,080 | 0.22% | 28,994 | 0.72% | 1,155 | 0.03% | | | | |
| Simpson County | 16,405 | 14,403 | 87.80% | 1,752 | 10.68% | 19 | 0.12% | 86 | 0.52% | 0 | 0.00% | | | | |
| Census Tract 9701 | 1,910 | 1,854 | 97.07% | 11 | 0.58% | 7 | 0.37% | 0 | 0.00% | 0 | 0.00% | | | | |
| Block Group 1 | 1,086 | 1,041 | 95.86% | 0 | 0.00% | 7 | 0.64% | 0 | 0.00% | 0 | 0.00% | | | | |
| Block Group 2 | 961 | 761 | 79.19% | 147 | 15.30% | 12 | 1.25% | 0 | 0.00% | 0 | 0.00% | | | | |
| Census Tract 9702 | 3,939 | 3,608 | 91.60% | 231 | 5.86% | 12 | 0.30% | 5 | 0.13% | 0 | 0.00% | | | | |
| Block Group 1 | 2,234 | 2,190 | 98.03% | 26 | 1.16% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | | | | |
| Block Group 2 | 961 | 761 | 79.19% | 147 | 15.30% | 12 | 1.25% | 0 | 0.00% | 0 | 0.00% | | | | |
| Block Group 3 | 1,750 | 1,728 | 98.74% | 0 | 0.00% | 0 | 0.00% | 5 | | 0 | 0.00% | | | | |
| Census Tract 9703 | 4,610 | 3,721 | 80.72% | 877 | 19.02% | 0 | 0.00% | 0 | 0.33% | 0 | 0.00% | | | | |
| Block Group 1 | 717 | 338 | 47.14% | 379 | 52.86% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | | | | |
| Block Group 2 | 1,612 | 1,464 | 90.82% | 142 | 8.81% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | | | | |
| Block Group 3 | 1,030 | 737 | 71.55% | 293 | 28.45% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | | | | |
| Block Group 4 | 1,251 | 1,182 | 94.48% | 63 | 5.04% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | | | | |

Source: www.census.gov Summary File 3 (SF3)

Detailed Tables: P.6-Race, P.8-Sex by Age, P.87-Poverty Status in 1999 by Age

Summary File 3 (SF3)

APPENDIX 8: SIMPSON COUNTY CENSUS DATA (Continued)

| | | | | SIM | IPSON CO | UNTY | | ` | , | | |
|-------------------|---------------------|----------------|---------------------------|--|----------|-----------|---|----------------|---------------------------|--|---|
| REGION | TOTAL POPULATION | WHITE ALONE | PERCENT WHITE ALONE | BLACK OR AFRICAN AMERICAN ALONE | BLACK OR | ALASKA | PERCENT AMERICAN INDIAN AND ALASKA NATIVE ALONE | ASIAN ALONE | PERCENT ASIAN ALONE | NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE | PERCENT NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE |
| United States | 281,421,906 | 211,353,725 | 75.10% | 34,361,740 | 12.21% | 2,447,989 | 0.87% | 10,171,820 | 3.61% | 378,782 | 0.13% |
| Kentucky | 4,041,769 | 3,639,168 | 90.04% | 293,915 | 7.27% | 9,080 | 0.22% | 28,994 | 0.72% | 1,155 | 0.03% |
| Simpson County | 16,405 | 14,403 | 87.80% | 1,752 | 10.68% | 19 | 0.12% | 86 | 0.52% | 0 | 0.00% |
| Census Tract 9704 | 5,946 | 5,220 | 87.79% | 633 | 10.65% | 0 | 0.00% | 81 | 1.36% | 0 | 0.00% |
| Block Group 1 | 740 | 493 | 66.62% | 247 | 33.37% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Block Group 2 | 1,323 | 1,220 | 92.21% | 57 | 4.30% | 0 | 0.00% | 34 | 2.57% | 0 | 0.00% |
| Block Group 3 | 1,925 | 1,627 | 84.52% | 251 | 13.04% | 0 | 0.00% | 47 | 2.44% | 0 | 0.00% |
| Block Group 4 | 1,207 | 1,178 | 97.60% | 29 | 2.50% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% |
| Block Group 5 | 751 | 702 | 93.48% | 49 | 6.52% | 0 | 0.00% | 0 | 0.33% | 0 | 0.00% |
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Source: www.census.gov Summary File 3 (SF3)

Detailed Tables: P.6-Race, P.8-Sex by Age, P.87-Poverty Status in 1999 by Age

Summary File 3 (SF3)

APPENDIX 8: SIMPSON COUNTY CENSUS DATA (Continued)

| | SIMPSON COUNTY | | | | | | | | | | | | | |
|-------------------|--------------------------|---|-------------------------|------------------------------------|---------------------------------|--|------------|--------------------------------------|--------------------------------------|---|--|--|--|--|
| REGION | SOME OTHER RACE ALONE | PERCENT SOME OTHER RACE ALONE | TWO OR MORE RACES | PERCENT TWO OR MORE RACES | HISPANIC OR LATINO ORIGIN | PRECENT HISPANIC OR LATINO ORIGIN | PERSONS | PERCENT PERSONS 65 AND OVER | PERSONS BELOW POVERTY LEVEL | PERCENT PERSONS BELOW POVERTY LEVEL | | | | |
| United States | 15,436,924 | 5.49% | 7,270,926 | 2.58% | 35,238,481 | 12.52% | 34,978,972 | 12.43% | 33,899,812 | 12.05% | | | | |
| Kentucky | 22,116 | 0.55% | 47,341 | 1.17% | 59,939 | 1.48% | 488,248 | 12.08% | 621,096 | 15.37% | | | | |
| Simpson Co. | 10 | 0.06% | 135 | 0.82% | 41 | 0.25% | 2,174 | 13.25% | 1,854 | 11.30% | | | | |
| Census Tract 9701 | 0 | 0.00% | 38 | 1.99% | 14 | 0.73% | 113 | 5.92% | 181 | 9.48% | | | | |
| Block Group 1 | 0 | 0.00% | 38 | 3.50% | 14 | 1.29% | 60 | 5.52% | 121 | 11.14% | | | | |
| Block Group 2 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 53 | 6.43% | 60 | 7.28% | | | | |
| Census Tract 9702 | 5 | 0.13% | 78 | 1.98% | 7 | 0.18% | 458 | 11.63% | 302 | 7.67% | | | | |
| Block Group 1 | 5 | 0.40% | 20 | 1.63% | 0 | 0.00% | 264 | 21.50% | 68 | 5.54% | | | | |
| Block Group 2 | 0 | 0.00% | 41 | 4.27% | 0 | 0.00% | 70 | 7.28% | 179 | 18.63% | | | | |
| Block Group 3 | 0 | 0.00% | 17 | 0.97% | 7 | 0.40% | 124 | 7.09% | 55 | 3.14% | | | | |
| Census Tract 9703 | 0 | 0.00% | 12 | 0.26% | 11 | 0.23% | 819 | 17.77% | 655 | 14.20% | | | | |
| Block Group 1 | 0 | 0.00% | 0 | 0.00% | 11 | 1.53% | 116 | 16.19% | 114 | 15.90% | | | | |
| Block Group 2 | 0 | 0.00% | 6 | 0.37% | 0 | 0.00% | 238 | 14.76% | 214 | 13.28% | | | | |
| Block Group 3 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 292 | 28.35% | 179 | 17.38% | | | | |
| Block Group 4 | 0 | 0.00% | 6 | 0.48% | 0 | 0.00% | 173 | 13.83% | 148 | 11.83% | | | | |

Source: www.census.gov Summary File 3 (SF3)

Detailed Tables: P.6-Race, P.8-Sex by Age, P.87-Poverty Status in 1999 by Age

Summary File 3 (SF3)

APPENDIX 8: SIMPSON COUNTY CENSUS DATA (Continued)

| SIMPSON COUNTY | | | | | | | | | | | | |
|-------------------|--------------------------|---|-------------------------|------------------------------------|---------------------------------|-----------|------------|--------------------------------------|--------------------------------------|---|--|--|
| REGION | SOME OTHER RACE ALONE | PERCENT SOME OTHER RACE ALONE | TWO OR MORE RACES | PERCENT TWO OR MORE RACES | HISPANIC OR LATINO ORIGIN | OR LATINO | PERSONS | PERCENT PERSONS 65 AND OVER | PERSONS BELOW POVERTY LEVEL | PERCENT PERSONS BELOW POVERTY LEVEL | | |
| United States | 15,436,924 | 5.49% | 7,270,926 | 2.58% | 35,238,481 | 12.52% | 34,978,972 | 12.43% | 33,899,812 | 12.05% | | |
| Kentucky | 22,116 | 0.55% | 47,341 | 1.17% | 59,939 | 1.48% | 488,248 | 12.08% | 621,096 | 15.37% | | |
| Simpson Co. | 10 | 0.06% | 135 | 0.82% | 41 | 0.25% | 2,174 | 13.25% | 1,854 | 11.30% | | |
| Census Tract 9704 | 5 | 0.08% | 7 | 0.11% | 9 | 0.15% | 784 | 13.18% | 716 | 12.04% | | |
| Block Group 1 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 109 | 14.73% | 221 | 28.86% | | |
| Block Group 2 | 5 | 0.38% | 7 | 0.53% | 5 | 0.38% | 241 | 18.22% | 80 | 6.05% | | |
| Block Group 3 | 0 | 0.00% | 0 | 0.00% | 4 | 0.20% | 223 | 11.58% | 212 | 11.01% | | |
| Block Group 4 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 115 | 9.53% | 195 | 16.15% | | |
| Block Group 5 | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 96 | 12.78% | 8 | 1.06% | | |
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Source: www.census.gov Summary File 3 (SF3)

Detailed Tables: P.6-Race, P.8-Sex by Age, P.87-Poverty Status in 1999 by Age

Summary File 3 (SF3)

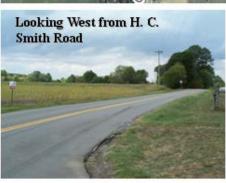
APPENDIX J SPOT IMPROVEMENT PHOTOGRAPHS

Spot Improvement Locations

H. C. Smith Road (Spot A)



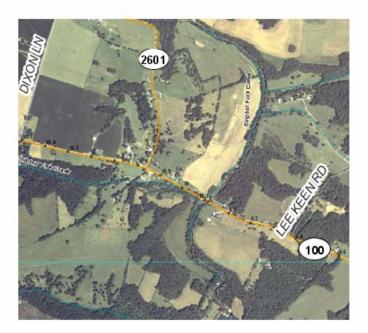








Sulphur Fork Bridge (Spot B)







New Roe Road & Clare Road (Spot C)











Stony Point Area (Spot D)



















New Buck Creek Road (Spot E)







KY 585 (Spot F)











Oliver Street (Spot G)









US 31E (Spot H)







