2011

Pre-Design Scoping Study

Old Henry Road Improvement and Extension

Mile Points:

New Route

Item Number:

05-367.20

Prepared By:

Kentucky Transportation Cabinet

Department of Highways District 5

Division of Planning

August 15, 2011

Table of Contents

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

I. INTRODUCTION

A. Study Purpose

The purpose of the Data Needs Analysis (DNA) is to address the nine elements of Purpose and Need as defined by the National Environmental Policy Act (NEPA) in order to develop a draft Purpose and Need Statement for the project. This study will also provide a more defined project scope, possible alternatives, planning-level cost estimates for the alternatives, an identification of possible environmental impacts, and other information that will be beneficial in the Project Development phase of this project.

B. Location

This project is located in eastern Jefferson County and western Oldham County. The western end of the project is near the I-265/KY 3084 (Old Henry Road) interchange. The eastern end of the project is KY 362 (Ash Avenue). The project includes the existing Old Henry Road and an extension that will connect Old Henry Road to KY 362 (Ash Avenue). The total length of the project is approximately 2 miles. A map detailing the project area can be seen below in Figure 1. Maps of the project area, including topographic and orthographic can be found in Appendix A.

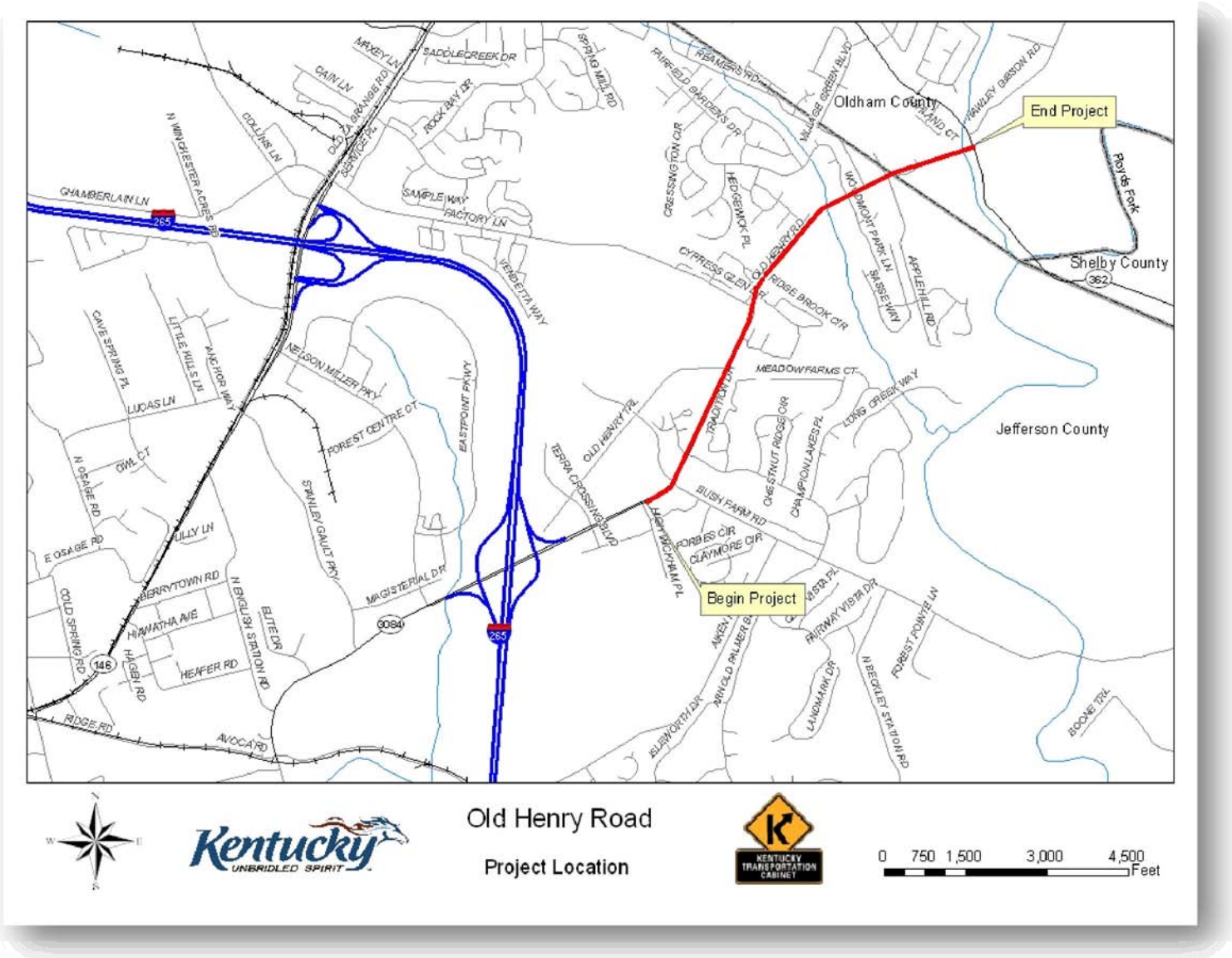

Figure 1: Project Location

II. PROJECT PURPOSE AND NEED

A. Legislation

The following is a description of the project as it is listed in the Six Year Highway Plan:

- Item #05-367.00

Phase	Fund	Year	Estimate
R:	SB2	2011	8,000,000
U:	SB2	2012	3,300,000
C:	SP	2012	4,000,000
	Total:		15,300,000

CONSTRUCT NEW ROUTE FROM OLD HENRY INTERCHANGE AT I-265 TO CRESTWOOD BYPASS. (98CCR)(2004BOPP)(10CCN)

This project has changed since it was listed in the 2010 Enacted State Highway Plan. The project's current item # is 05-367.20 and will now terminate at KY 362 (Ash Avenue) instead of KY 22 near KY 329B (Crestwood Bypass). In addition, the $4,000,000 that is programmed in for construction is not expected to be available for the project. That means there is likely $11,300,000 currently available to fund the project. Additional funds may have to be requested for the project. Refer to Appendix B for the complete listing of the project in the Six Year Highway Plan. In addition, the project is listed in Kentuckiana Regional Planning and Development Agency's (KIPDA) Transportation Improvement Program (TIP). KIPDA is the local Metropolitan Planning Organization (MPO) for the area. An amendment has been added to the TIP to include the modified project. The listing of the project in the TIP is contained in Appendix C.

B. Project Status

The project has been in KIPDA's Metropolitan Transportation Plan (MTP) since 1999. The project was initially intended to begin near the I-265/ KY 3084 (Old Henry Road) interchange and terminate at KY 22 near KY 329B (Crestwood Bypass). This would allow for access between the interchange and Crestwood, KY. In addition, the roadway was planned to have 5 lanes. The 5 lanes included a median or left turn lane in the middle with two lanes in each direction. This project was expected to be open to the public in 2020. Furthermore, both Jefferson and Oldham Counties initiated their own subarea studies of Old Henry Road in 2000 and 2003 respectively. Both of these studies stressed the need for upgraded roads in the area.

In December of 2010 a new breakout project was formed by the Kentucky Transportation Cabinet (KYTC) that significantly altered the original project. The modified project will now terminate at KY 362 (Ash Avenue). Furthermore, the number of lanes has been decreased

from 5 to 3. The 3 lanes include a two way left turn lane in the middle with one lane in each direction. Construction is expected to begin on the project near the end of 2014. Refer to Appendix D for letters from the current and past Oldham County Judge Executives stating the need for this modified project.

The original project is currently listed on the Unscheduled Projects List (UPL):

- Construct new four-lane route from the Old Henry Road interchange at I-265 to KY 22 in the vicinity of KY 329B. To include provisions for bicyclists and pedestrians.

The Project Identification Form (PIF) for the original project is located in Appendix E.

C. System Linkage

The project will create a new route that will connect into the existing 5 lane section of KY 3084 (Old Henry Road) to the west and KY 362 (Ash Avenue) to the east (see Figure 2). The existing KY 3084 is a two mile stretch that spans approximately one mile on both sides of the I-265/KY 3084 (Old Henry Road) interchange. Numerous developments have occurred in the proximity of the interchange. These include industrial sites, commercial sites, office spaces, outpatient medical facilities, and residential areas. Further out from the interchange in the direction of Ash Avenue the area mostly contains residential developments. Many of these residential areas rely on the interchange for access to the interstate system. The new route would provide a viable connection to the interchange. In addition, some traffic from Pewee Valley and Crestwood in Oldham County would likely use the new route instead of the congested KY 146. The road would also improve the access to the interstate for nearby residents in Shelby County.

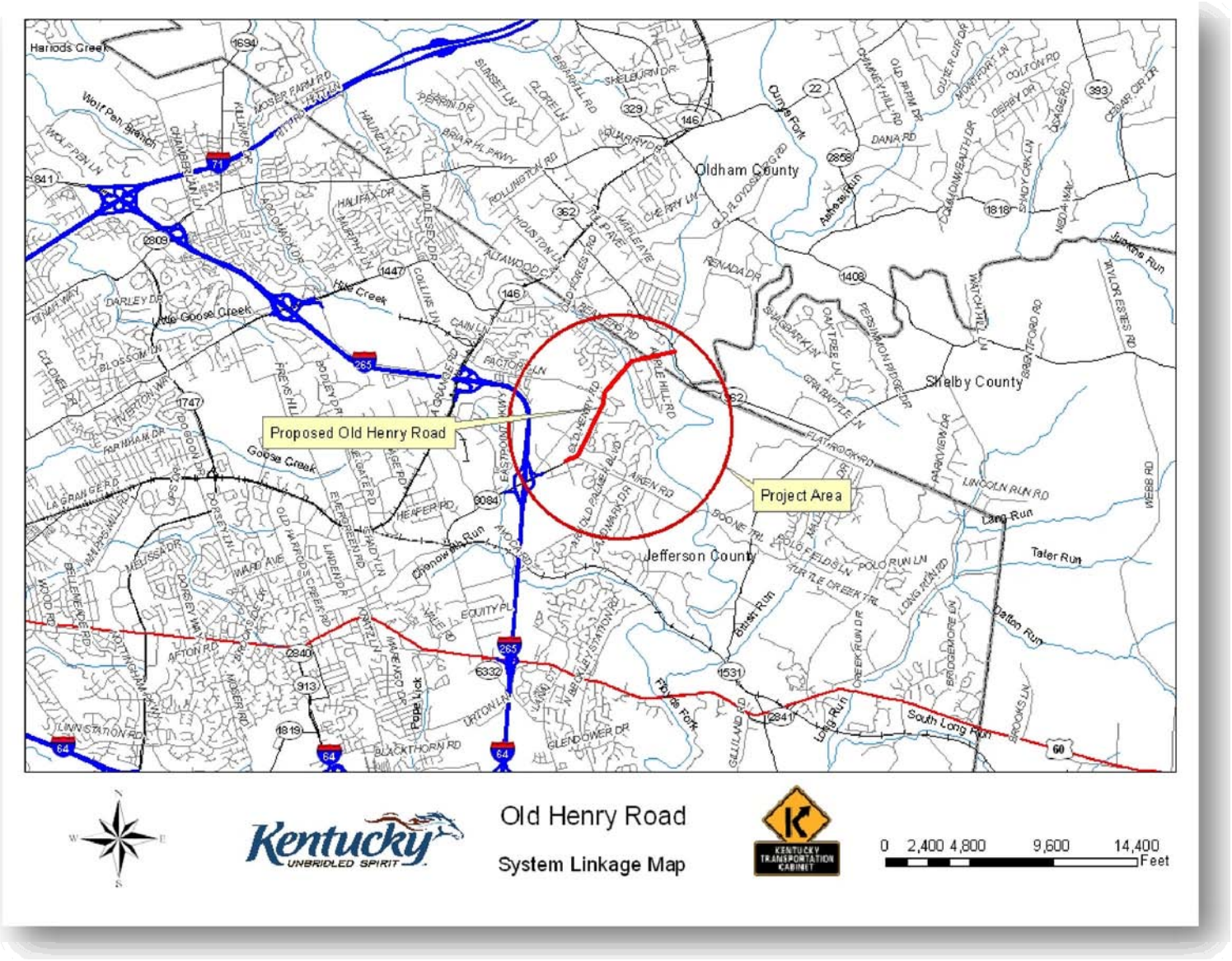

Figure 2: System Linkage

KY 3084 in this section can be summarized by the following roadway classifications:

- Functional Classification – Urban Minor Arterial Street
- State System – State Secondary
- Truck Weight Classification – A (44,000 lbs maximum)
- Not on the National Highway System
- Not on the National Truck Network
- Not a designated Bike Route

The new route is being designed as an Urban Collector which will filter vehicles to the Urban Minor Arterial section and interchange.

D. Modal Interrelationships

According to data the truck traffic that currently exists on KY 3084 is negligible. Additional truck traffic should be minimal due to the new route being built since the area served is largely residential. However, truck traffic could increase near the interchange due to continuing industrial development or from trucks using the new route as a shortcut to access the interstate. Also the new route will not affect any railroads. However, a small airstrip is located adjacent to the existing Old Henry Road and may be impacted by the project. This will require additional study in the future to determine how much of the airstrip will be taken and how much land will need to be added to the far end for the airstrip to remain in regulations. In addition, an interstate pipeline that carries natural gas is located near the project area but will be avoided.

Currently a 10 ft shared use path is planned to the north of the new route and a 5 ft sidewalk to the south. This would provide access for pedestrians and bicycles. Furthermore, the closest public transportation available near the project area is located to the west of the I-265/Old Henry Road interchange. It is unlikely that public transportation would include the new route when it is completed.

E. Social Demands and Economic Development

The majority of the land in the area is for residential use. However, near the interchange numerous industrial sites, commercial sites, office spaces, and outpatient medical facilities exist. This area has been growing rapidly since the interchange was built and there is still developable land in the area. The two mile stretch of KY 3084 serves this area and is a five lane road with a median or left turn lane in the middle. The new route will most likely serve the numerous residential sites that are located to the east of the interchange in Jefferson County and further into Oldham and Shelby Counties. Oldham County has also been growing rapidly and developable land still exists. In addition, the Kentucky State Women's Correctional Institute is located in Shelby County near Jefferson and Oldham Counties and will likely generate traffic to the new route.

F. Transportation Demand

The last actual traffic count on the section of KY 3084 east of the I-265/Old Henry Road interchange was performed in 2010 and had an average daily traffic (ADT) of 15,500 vehicles. The location of this traffic count station can be seen below in Figure 3. Historical data for this traffic count station only goes back to 2004 after the interchange was opened.

Refer to Table 1 for the traffic count data for this station from 2004 to 2010. The data suggests that traffic has been steadily increasing near the interchange. Also the interchange is the location of the largest amount of traffic. The computer estimated that the traffic count in 2011 would be 16,000 vehicles.

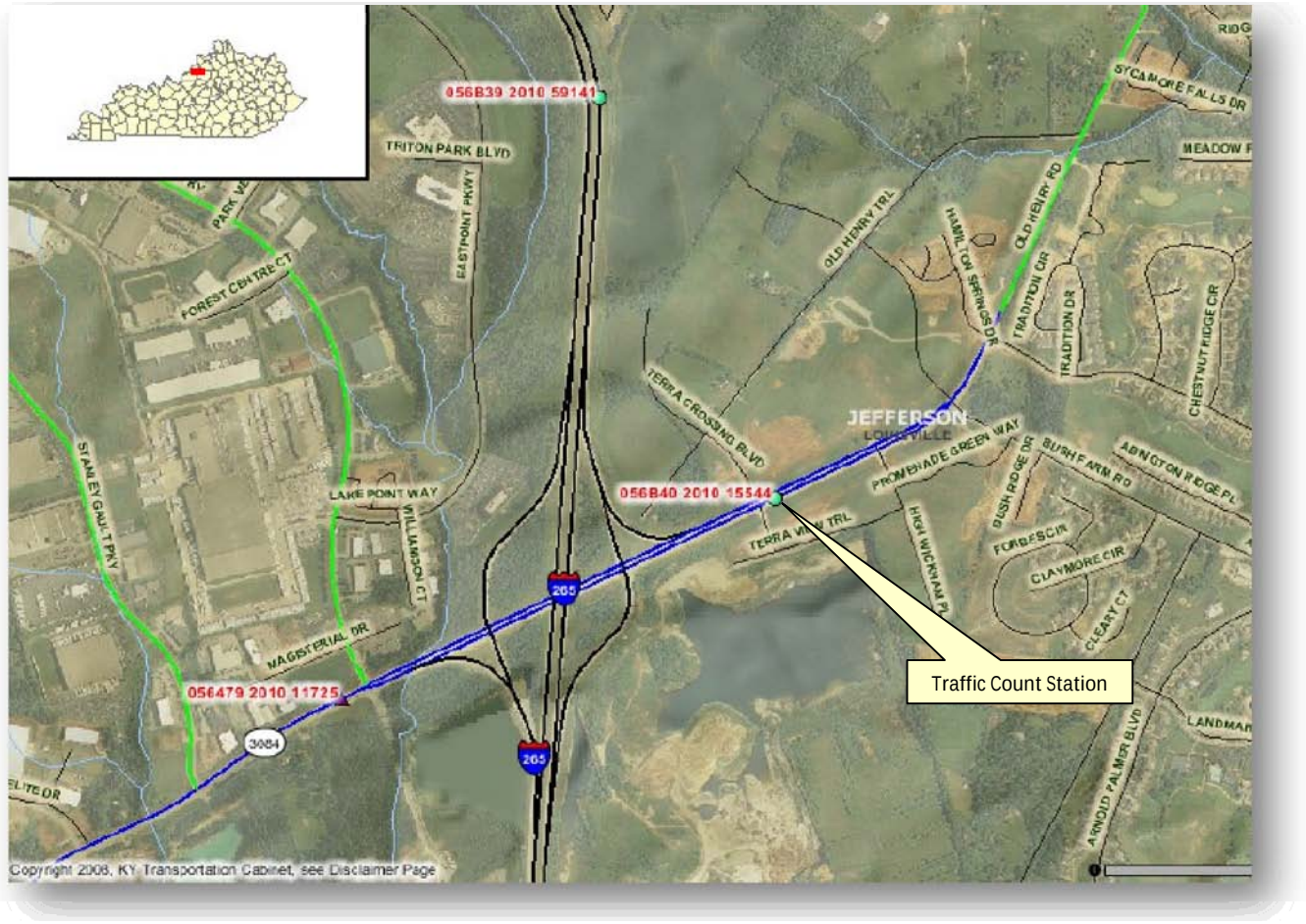

Figure 3: Traffic Count Location

Table 1: Traffic Count Data

I-265 Interchange to Bush Farm Road Traffic Counts	
Year	ADT
2004	9,050
2005	13,100
2006	13,900
2007	14,800
2008	-
2009	-
2010	15,500

In addition to this data, KIPDA has done an extensive traffic forecast for the new section of Old Henry Road. This traffic forecast from KIPDA can be found in Appendix F. The KIPDA study examines how adding the Old Henry Road extension would affect traffic on roads near the project as well as the amount of traffic on the same roads if the project was not built. The forecast includes data for 2030 and 2035. Data is included for a 3 lane urban minor arterial and a 3 or 5 lane urban collector. However, it was determined that the new road would act more like an urban collector than an urban minor arterial and contain 3 lanes. Thus the 3 lane urban collector data is of most importance to this project.

The data from the KIPDA traffic forecast shows that if the Old Henry Road project is not built then the traffic on Factory Lane, Reamers Road, and Village Green Boulevard will increase largely. Traffic on Bush Farm Road will increase slightly. If the Old Henry Road project is built the growth of traffic on these roads will be decreased. In addition, there will be a large increase in traffic on Old Henry Road if the project is built. Hawley Gibson Road and sections of Ash Avenue will also see an increase in traffic due to the road being built. A summary of the KIPDA traffic forecast is included below in Figure 4.

Figure 4: Summary of the KIPDA Traffic Forecast

G. Capacity

The two mile stretch of KY 3084 that currently exists on both sides of the interchange is adequate to handle the current amount of traffic. There should not be any upgrade needed to this section of roadway since it has been built in the last decade and contains two lanes in each direction. The Vehicle/Service Flow (V/SF) for this section of roadway is 0.3, which is adequate.

Old Henry Road will be upgraded from a 2 lane road that is not sufficient to a 3 lane road that will meet the 45 mile per hour design criteria. According to the traffic forecast the road should be able to meet the future traffic demand as a 3 lane urban collector. In addition, the road will have a two way left turn lane in the middle which will enable the road to handle higher amounts of traffic more efficiently. The new 3 lane Old Henry Road should be able to handle an average daily traffic (ADT) of up to 20,000 vehicles.

With the addition of the Old Henry Road extension traffic demand on Bush Farm Road, Factory Lane, Reamers Road, and Village Green Boulevard should be lessened. These roads should not need any improvements to handle more capacity. Traffic demand will likely increase on Hawley Gibson Road and Ash Avenue once the project is built. Oldham County has already made improvements to Hawley Gibson to better accommodate vehicles. Upgrades to Ash Avenue may also be needed in the future if traffic demand surpasses the forecast.

H. Safety

Collision data was obtained from the KY State Police database of collisions from a time period of July 20, 2008 to July 20, 2011. In total 78 collisions resulting in 11 injuries occurred on Old Henry Road and the section that is KY 3084 in this three year span. This includes the section of the road that is to the east and west of the interchange. This data is contained in Appendix G. A summary of the collision data to the east of the interchange (where the project is located) can be seen below in Figure 5.

Figure 5: Collisions on Old Henry Road (07/20/2008 to 07/20/2011)

It appears that a large amount of the collisions occur at the 90 degree curve where Factory Lane and Old Henry Road meet. A spot analysis for this section of the road can be seen in Figure 6. The details of the spot analysis are located below in Table 2. This curve will be corrected by the project. The curve near Bush Farm Road where KY 3084 ties in to the existing 2 lane section of Old Henry Road should also be improved by the project. This section contains a superelevation that does not meet the design guidelines. Similar to the 90 degree curve there appears to be an increase in collisions at this location. The spot analysis for this section of the road can be seen in Figure 7 and the details are located below in Table 3. In addition, Old Henry Road will be designed for a 45 mile per hour design speed as a 3 lane urban collector. This will be a major improvement over the existing Old Henry Road, resulting in a much safer road to travel. Furthermore, extending Old Henry Road to Ash Avenue will take the majority of the vehicles off of Village Green Boulevard, which has been used as a connection between Old Henry Road and Ash Avenue. This will greatly increase the safety in the area since Village Green Boulevard is a residential street that is not intended to handle many vehicles.

Table 2: Spot Analysis of the 90 Degree Curve

MILEPOINT DERIVED	MOTOR VEHICLES INVOLVED	INJURED	WEATHER	ROADWAY CONDITION	DIRECTIONAL ANALYSIS	MANNER OF COLLISION	ROADWAY CHARACTER	LIGHT CONDITION
0.479	2	4	CLOUDY	WET	1 VEHICLE ENTERING/LEAVING ENTRANCE	ANGLE	CURVE & GRADE	DAYLIGHT
0.488	1	0	RAINING	WET	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	CURVE & GRADE	DAYLIGHT
0.508	2	0	RAINING	WET	SIDESWIPE COLLISION - OPPOSITE DIRECTION	SIDESWIPE-OPPOSITE DIRECTION	CURVE & HILLCREST	DAYLIGHT
0.51	2	0	RAINING	WET	VEHICLE GOING IN WRONG DIRECTION	SIDESWIPE-OPPOSITE DIRECTION	CURVE & GRADE	DAYLIGHT
0.511	2	0	RAINING	WET	SIDESWIPE COLLISION - OPPOSITE DIRECTION	SIDESWIPE-OPPOSITE DIRECTION	CURVE & GRADE	DARK-HWY NOT LIGHTED
0.513	1	0	RAINING	WET	COLLISION WITH FIXED OBJECT NON - INTERSECTION	SINGLE VEHICLE	CURVE & GRADE	DAYLIGHT
0.523	2	1	CLOUDY	DRY	1 VEHICLE ENTERING/LEAVING ENTRANCE	ANGLE	CURVE & GRADE	DUSK
0.529	2	0	CLEAR	DRY	ANGLE COLLISION - ONE VEHICLE TURNING LEFT	ANGLE	STRAIGHT & LEVEL	DAYLIGHT
0.536	2	0	CLOUDY	DRY	OTHER ROADWAY OR MID-BLOCK COLLISION	OPPOSING LEFT TURN	STRAIGHT & LEVEL	DAYLIGHT

Table 3: Spot Analysis of the Tie in Curve

MILEPOINT DERIVED	MOTOR VEHICLES INVOLVED	INJURED	WEATHER	ROADWAY CONDITION	DIRECTIONAL ANALYSIS	MANNER OF COLLISION	ROADWAY CHARACTER	LIGHT CONDITION
1.741	2	0	CLOUDY	WET	REAR END - ONE VEHICLE STOPPED	REAR END	CURVE & LEVEL	DAYLIGHT
1.758	1	0	CLEAR	DRY	COLLISION WITH FIXED OBJECT NON - INTERSECTION	SINGLE VEHICLE	STRAIGHT & LEVEL	DARK-HWY LIGHTED/OFF
1.796	2	0	CLOUDY	DRY	REAR END IN TRAFFIC LANES BOTH VEHICLES MOVING	REAR END	CURVE & LEVEL	DAYLIGHT
1.798	2	1	RAINING	WET	OPPOSITE DIRECTION - BOTH VEHICLES GOING STRAIGHT AHEAD	HEAD ON	STRAIGHT & LEVEL	DAYLIGHT
1.8	2	0	CLEAR	DRY	OPPOSITE DIRECTION - BOTH VEHICLES GOING STRAIGHT AHEAD	HEAD ON	CURVE & GRADE	DUSK
1.818	1	0	CLEAR	DRY	RAN OFF ROADWAY (1 VEHICLE WITH/EARTH EMBANKMENT/DITCH)	SINGLE VEHICLE	CURVE & GRADE	DAYLIGHT
1.874	2	0	CLEAR	DRY	SIDESWIPE COLLISION - OPPOSITE DIRECTION	SIDESWIPE-OPPOSITE DIRECTION	CURVE & LEVEL	DAYLIGHT

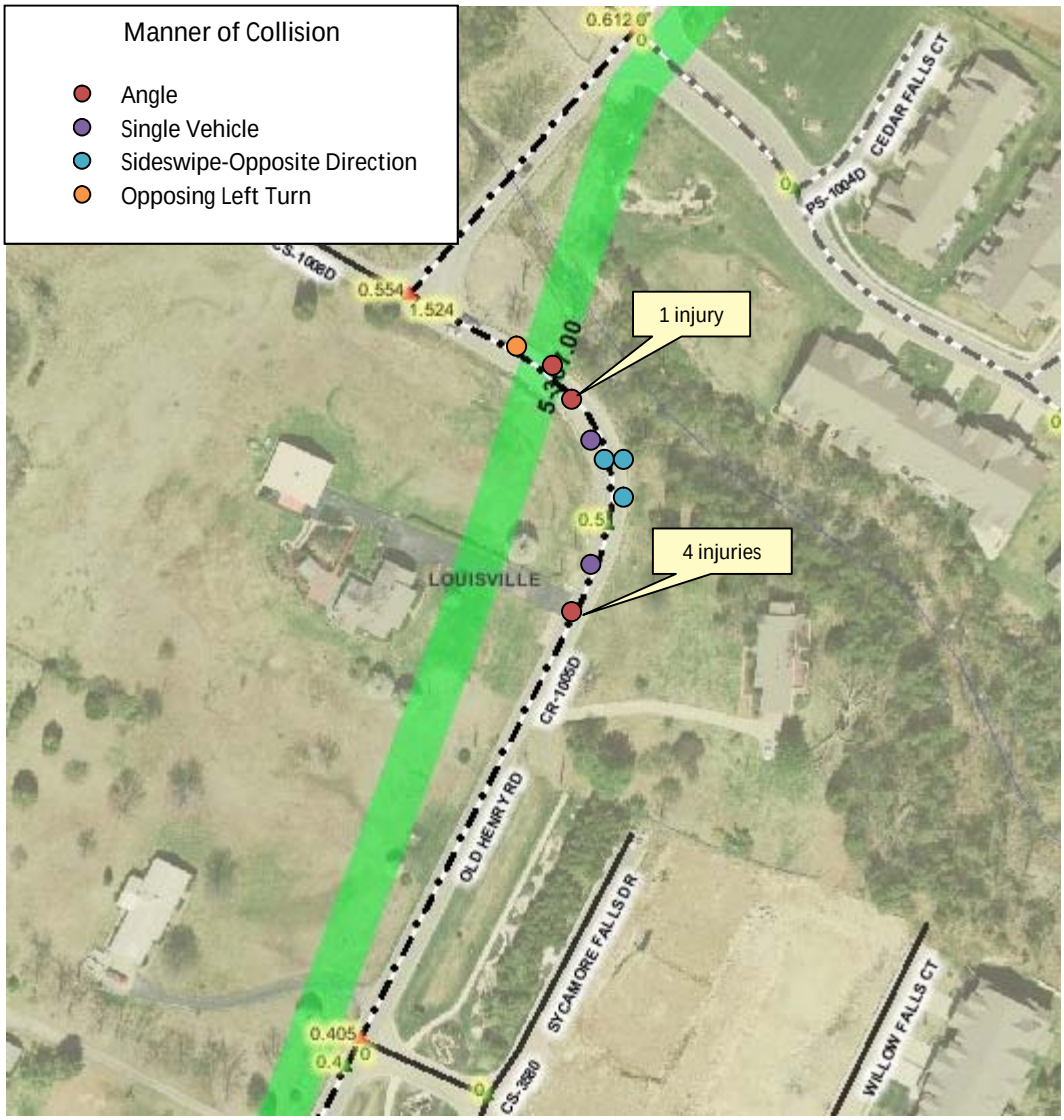

Figure 6: Spot Analysis of the 90 Degree Curve

Figure 7: Spot Analysis of the Tie in Curve

I. Roadway Deficiencies

The existing Old Henry Road has many deficiencies. These include 10 ft lanes, approximately 1 ft shoulders, and substandard geometrics. The section of Old Henry Road that is currently KY 3084 (near the interchange) has been built within the last decade and is adequate. There are 5 lanes on this section (2 lanes in each direction with a median or left turn lane in the middle). The road has 12 ft lanes and adequate shoulders. This 5 lane section ends near Bush Farm Road, which is where the deficient section of Old Henry Road begins. This is also where the project is proposed to tie in at. Substandard geometrics currently exist at this point, but should be corrected by the project.

The existing deficiencies of Old Henry Road will be improved by the project. The new Old Henry Road will contain 3 lanes (1 lane in each direction with a two way left turn lane in the middle). This will include 11 ft lanes, a 13 ft center lane, and a 2 ft curb and gutter for the shoulders. The proposed typical section for Old Henry Road can be found in Appendix H. This will drastically improve the current conditions of Old Henry Road, and the new road will meet the 45 mile per hour design speed. Meeting the 45 mile per hour design speed will include fixing the 90 degree curve that is located near Factory Lane. This is the site of many of the collisions on Old Henry Road. In addition, the proposed alignment will fix the poor superelevation near Bush Farm Road. This section of the road also contains a higher concentration of collisions.

Another major deficiency of Old Henry Road is that there is no good connection to the road from Oldham County and Shelby County. This leads to vehicles cutting through Village Green Boulevard to connect to Old Henry Road (see Figure 8). Currently this is the best way for vehicles to access Old Henry Road and the interchange from this location. However, Village Green Boulevard is a residential street and is not designed to carry large amounts of through traffic. This also creates a safety issue for the residents who live on Village Green Boulevard. Extending Old Henry Road to Ash Avenue will allow vehicles better access to Old Henry Road and the interchange while allowing Village Green Boulevard to function as it is intended. Additional reference to the lack of adequate connection and shortcut problem can be found in Appendix D, which contains a letter from the past Oldham County Judge Executive stating these issues. A letter from the current Oldham County Judge Executive is also contained that states the need for the project.

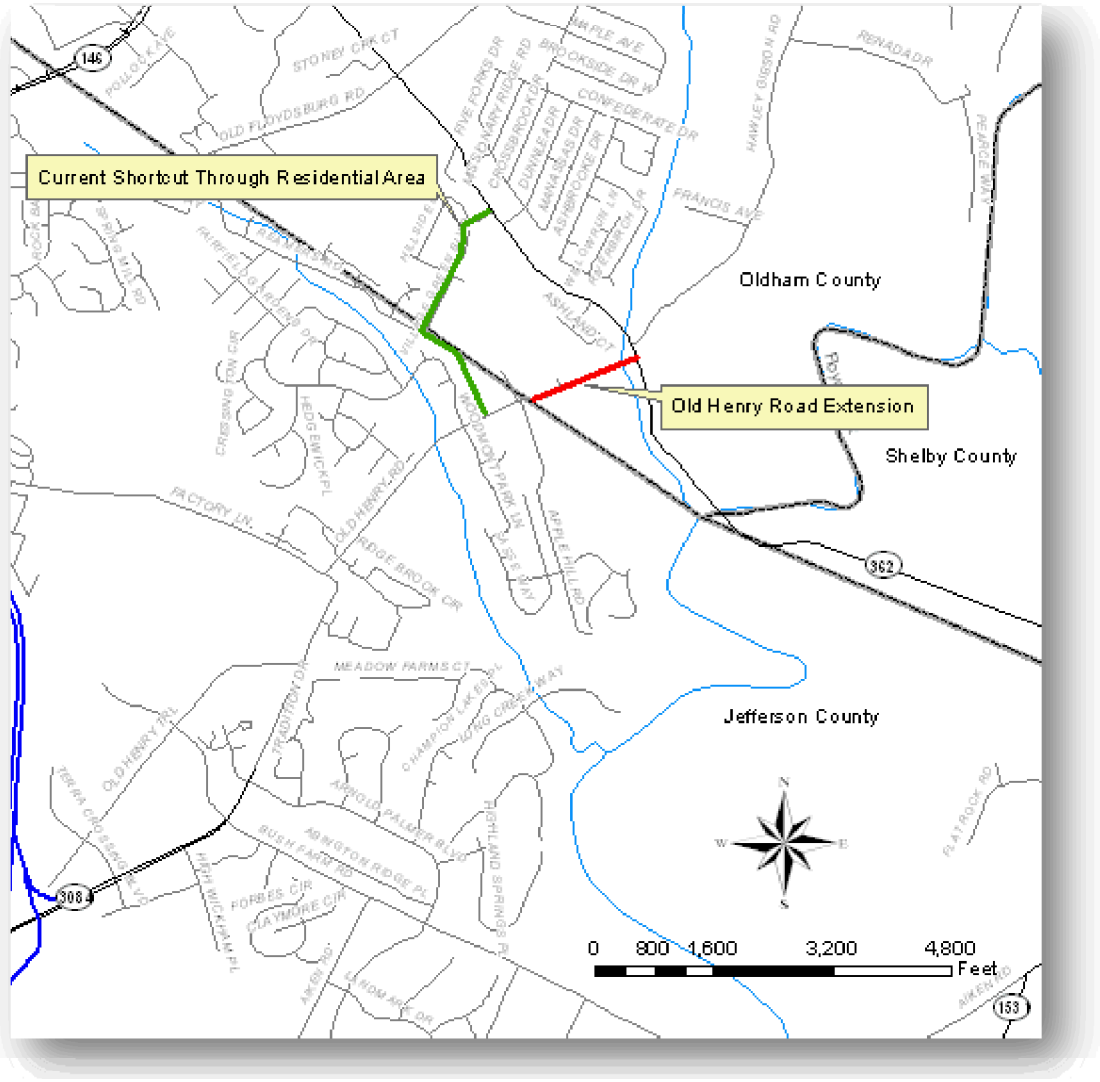

Figure 8: Current Route and Proposed Route to Access Old Henry Road

Another major issue is the drainage problems that occur near where the project terminates at Ash Avenue and along other sections of Ash Avenue. The drainage problems associated with this area have been well documented by the May 2011 KY 362 Drainage Study (see Appendix I) which was prepared for Oldham County. The new Old Henry Road will be raised approximately 10 ft near the intersection with Ash Avenue. This will require modifications to Ash Avenue to properly tie Ash Avenue into the raised extension of Old Henry Road. Raising the elevation by 10 ft should fix most of the problems in this area; however, there are other problem areas along Ash Avenue. According to the study the drainage issues start north of Missionary Ridge Drive and go to Floyds Fork. Some of these drainage problems found during the study occur outside the scope of the project, but it is important to mention them. Flood Insurance Rate Maps (FIRM) of this area can be found in Appendix J. Flooding

does not appear to be an issue along any other parts of the project. Figure 9 details the 100 year floodplain of the project area.

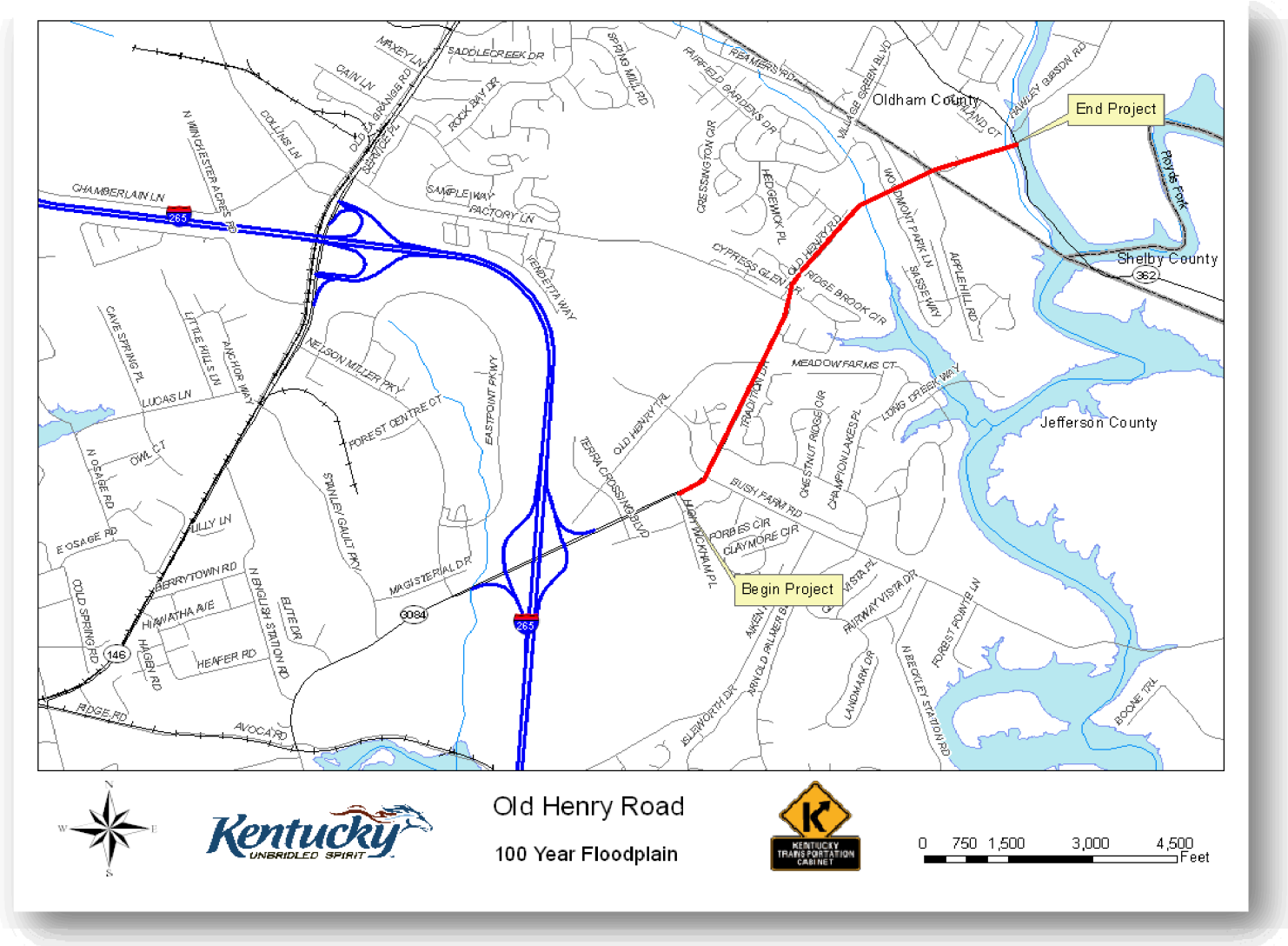

Figure 9: 100 Year Floodplain

The intersection at Ash Avenue and Old Floydsburg Road, which is north of the project, could also become a problem if traffic on Ash Avenue increases significantly due to the new Old Henry Road. This intersection has already been mentioned for improvements before, and sight distance has recently been improved at this intersection by trimming trees. This improved the intersection and may take care of future problems. Also a new intersection will be created due to the Old Henry Road extension. This intersection will likely be controlled by a stop sign on Old Henry Road. Hawley Gibson Road will also likely have a stop sign. If it is determined that Old Henry Road and Hawley Gibson Road should have a direct

connection, this intersection will change from two T intersections to a single 4-way intersection. This would require a 2-way stop or a 4-way stop. Additional analysis will need to be performed in the future to determine the best method for controlling this new intersection. Figure 10 contains a map of the deficiencies mentioned above.

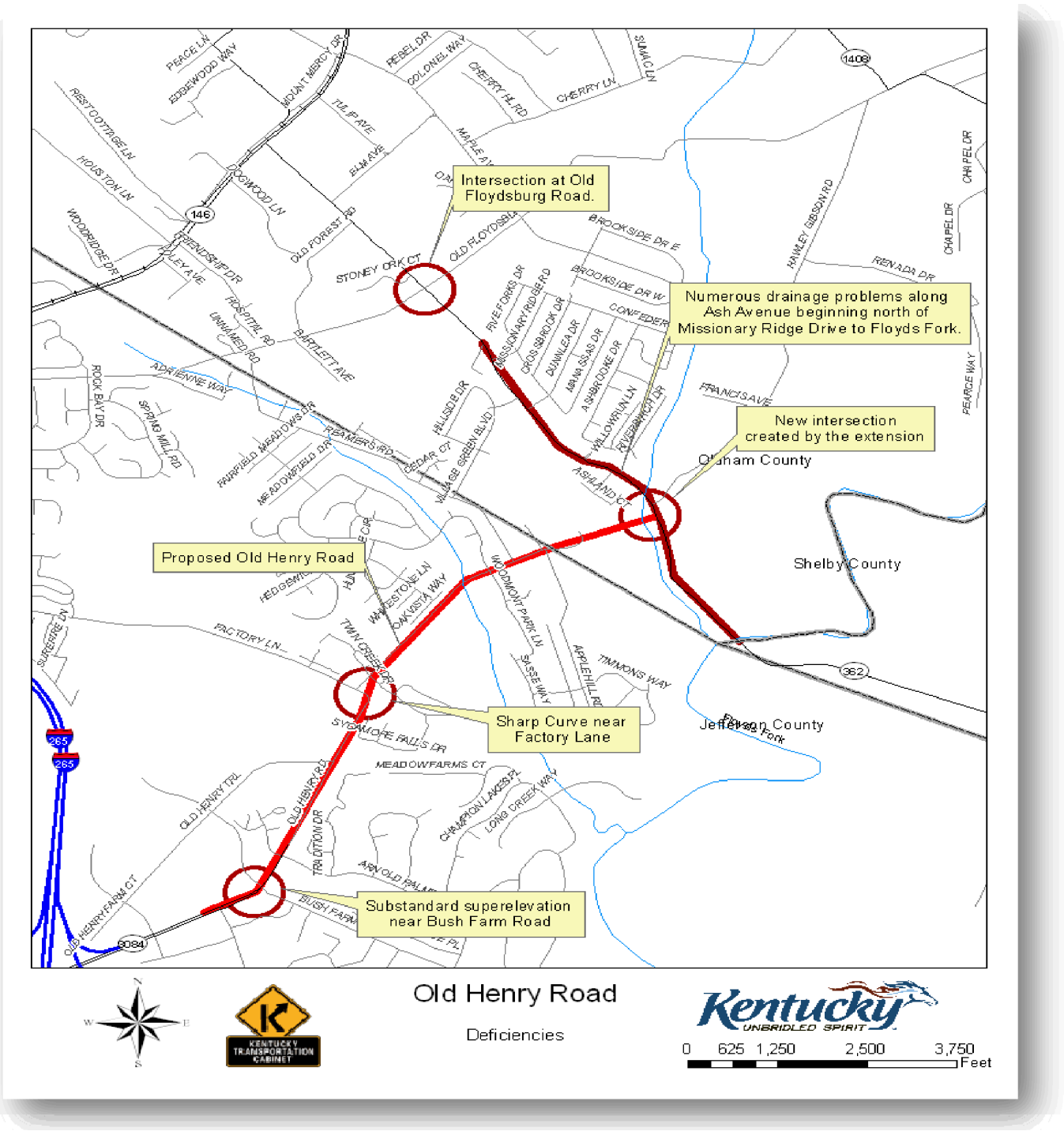

Figure 10: Deficiencies

III. DRAFT PROJECT PURPOSE AND NEED STATEMENT

Based upon the information presented in Section II of this report and discussion of the project team, the following Purpose and Need Statement was drafted for this project:

The purpose of this project is to provide better access to the I-265/Old Henry Road interchange for vehicles traveling from Oldham County, Shelby County, and far eastern Jefferson County that want to access the interstate (Figure 11). This project is needed because vehicles are using a residential street, Village Green Boulevard, to access Old Henry Road and the interchange. In addition, existing sections of Old Henry Road contain many deficiencies that need to be improved.

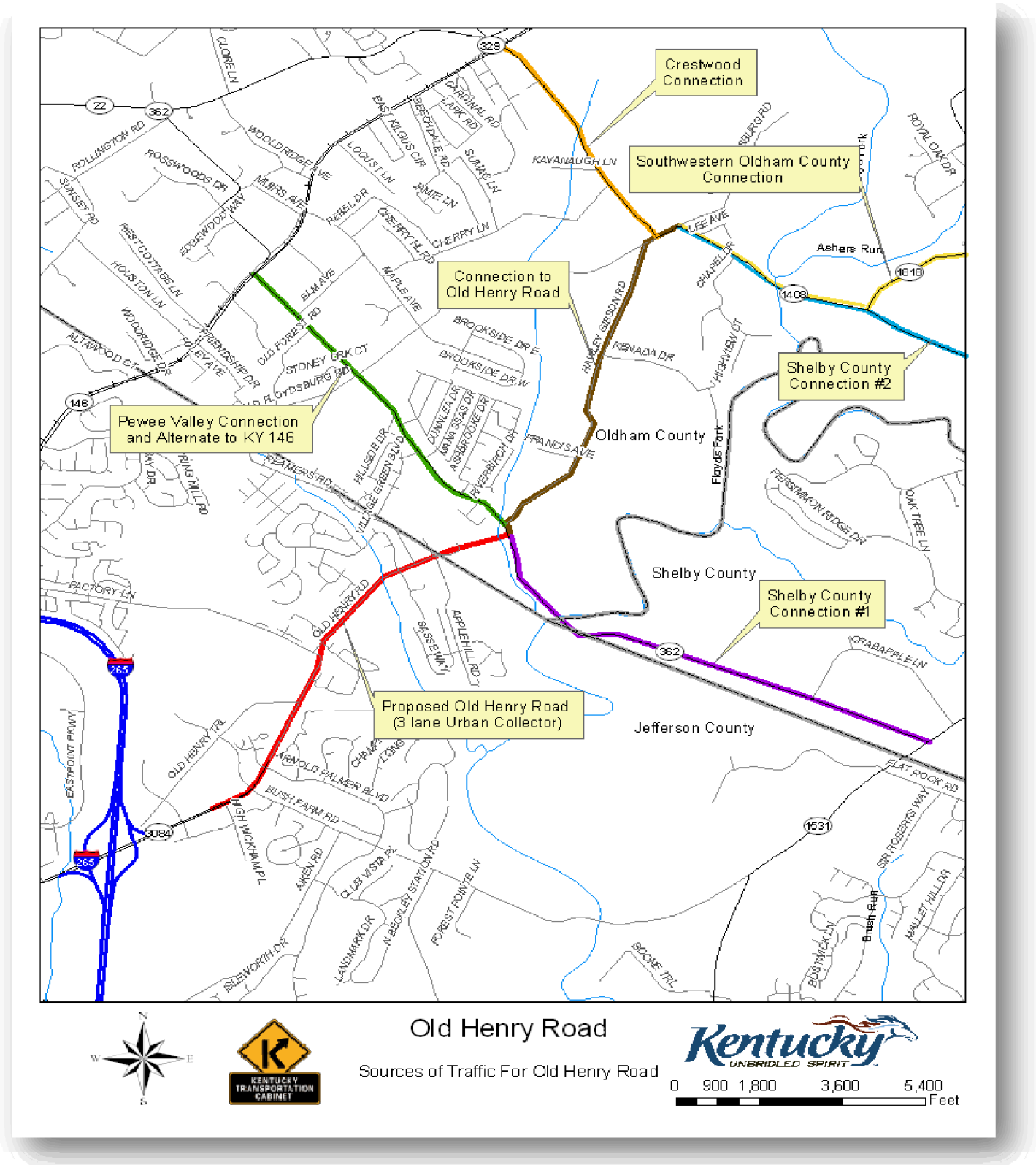

Figure 11: Sources of Traffic for the Proposed Old Henry Road

IV. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

Jefferson County is currently designated as a Nonattainment Area for the fine particulate ($PM_{2.5}$) standard and Jefferson and Oldham Counties are designated as Maintenance Areas for the 8 hour-ozone standard. Air quality analysis was performed for the 2005 Environmental Assessment. At this time the project had a much larger scope (5 lane regional arterial connecting to KY 22). The analysis concluded that Carbon Monoxide (CO) levels are below the National Ambient Air Quality Standards (NAAQS). The maximum 1 hour CO concentration was 3.7 ppm, which was under the standard set by NAAQS of 35 ppm. The maximum 8 hour CO concentration was 2.39 ppm, which was also under the standard set by NAAQS of 9 ppm. This analysis was performed using traffic volumes for 2002 and 2028. The computer models that were used were acceptable to the United States Environmental Protection Agency (US EPA). Considering that the scope of the project has lessened (5 lane arterial to 3 lane collector) it is doubtful that air quality analysis would result in higher concentrations for the current project. $PM_{2.5}$ coordination with Interagency Consultation (IAC) may be required since the project is a significant project in the KIPDA region. In addition, the project is listed in the Transportation Improvement Program (TIP), which means that transportation conformity has been examined. Transportation conformity is a process in which transportation and air quality models are used to examine future emissions and ensure that planned projects do not worsen air quality.

B. Archaeology

An archaeology Phase I survey has already been completed for the Environmental Assessment in 2005. According to the survey only one site (15OL129) was found to have the potential for listing on the National Register of Historic Places. This site was a mid nineteenth century residence and is located in the general vicinity of Reamers Road. Additional Phase II investigations will be required for this site if the project cannot avoid it. No other impacts to archeological resources are expected for this project.

C. Threatened and Endangered Species

The United States Fish and Wildlife Service (USFWS) has identified the known and potential presence of threatened and endangered species in Jefferson and Oldham Counties, which can be viewed below in Table 4 and 5. In addition, threatened and endangered species reports from the Kentucky Department of Fish and Wildlife Resources (KDFWR) and the Kentucky State Nature Preserves Commission (KSNPC) can be found in Appendix K. According to the 2005 Environmental Assessment agency coordination resulted in the possible occurrence of 15 federal and/or state threatened, endangered, or special concern

species. Based on field studies and review, it was found that the project has potential impacts to 5 of the species. These include the Indiana bat, barn owl, sharp-shinned hawk, Henslow's sparrow, and Savannah sparrow. In June 2003 bat netting was set up at potential sites. No Indiana bats or gray bats were recovered. The bat netting survey is 8 years old. Another survey or Conservation Memorandum of Agreement (CMOA) may be required prior to construction since Corps of Engineer permits will be required. Also no running buffalo clover habitat was found to exist. The project should have minimal impact to any threatened and endangered species.

Table 4: USFWS Threatened and Endangered Species in Jefferson County

Group	Species	Common name	Legal* Status	Known** Potential
Mammals	*Myotis grisescens*	gray bat	E	K
	Myotis sodalis	Indiana bat	E	K
Mussels	*Pleurobema clava*	clubshell	E	K
	Cyprogenia stegaria	fanshell	E	K
	Potamilus capax	fat pocketbook	E	K
	Plethobasus cooperianus	orangefoot pimpleback	E	K
	Obovaria retusa	ring pink	E	K
	Lampsilis abrupta	pink mucket	E	K
	Plethobasus cyphyus	sheepnose	C	P
	Pleurobema plenum	rough pigtoe	E	P
Plants	*Trifolium stoloniferum*	running buffalo clover	E	K
Birds	*Sterna antillarum*	interior least tern	E	K
Insects	*Nicrophorus americanus*	American burying beetle	E	historic
	Pseudanopthalmus troglodytes	Louisville cave beetle	C	K

* Key to notations: E = Endangered, T = Threatened, C = Candidate, CH = Critical Habitat

**Key to notations: K = Known occurrence record within the county, P = Potential for the species to occur within the county based upon historic range, proximity to known occurrence records, biological, and physiographic characteristics.

Table 5: USFWS Threatened and Endangered Species in Oldham County

Group	Species	Common name	Legal* Status	Known** Potential
Mammals	*Myotis sodalis*	Indiana bat	E	P
	Myotis grisescens	gray bat	E	K
Mussels	*Lampsilis abrupta*	pink mucket	E	P
	Obovaria retusa	ring pink	E	P
	Plethobasus cooperianus	orangefoot pimpleback	E	P
	Plethobasus cyphyus	sheepnose	C	K
	Pleurobema clava	clubshell	E	P
	Pleurobema plenum	rough pigtoe	E	P
	Cyprogenia stegaria	fanshell	E	P
Plants	*Trifolium stoloniferum*	running buffalo clover	E	P

* Key to notations: E = Endangered, T = Threatened, C = Candidate, CH = Critical Habitat

**Key to notations: K = Known occurrence record within the county, P = Potential for the species to occur within the county based upon historic range, proximity to known occurrence records, biological, and physiographic characteristics.

D. Hazardous Materials

The 2005 Environmental Assessment identified 5 hazardous material sites that are within or near the project area. The majority of the sites are associated with Red Penn Landfill, which is a superfund site. This site contains approximately 13,000 drums of paint and copper waste located in the eastern portion of the landfill near Floyd's Fork. The western portion of the landfill near Hawley Gibson Road was used for borrow material in the capping process of the hazardous area. Appendix L contains a map of Red Penn Landfill. Approximately 40 crushed drums were found in the borrow area during the capping of the landfill. These drums and surrounding soil were removed from the landfill and properly disposed of. The western portion of the landfill does not possess any hazardous materials, and the borrow process left the area with exposed rock. This area will likely require fill for any roadway work. There is also a monitoring well that is located off of Ash Avenue that may need to be relocated or raised due to the project. The Record of Decision (ROD) for the Red Penn Landfill from the Environmental Protection Agency (EPA) can be viewed in Appendix M. In addition, 3 other sites located adjacent to the landfill were found to have hazardous materials. All of these sites are associated with the landfill. The last site is not associated

with the landfill and is an above ground storage tank for diesel. Phase II hazardous materials investigation has been previously performed on all of these sites within the proposed right of way. A map outlining the approximate locations of the hazardous sites determined from the 2005 Environmental Assessment can be seen below in Figure 12.

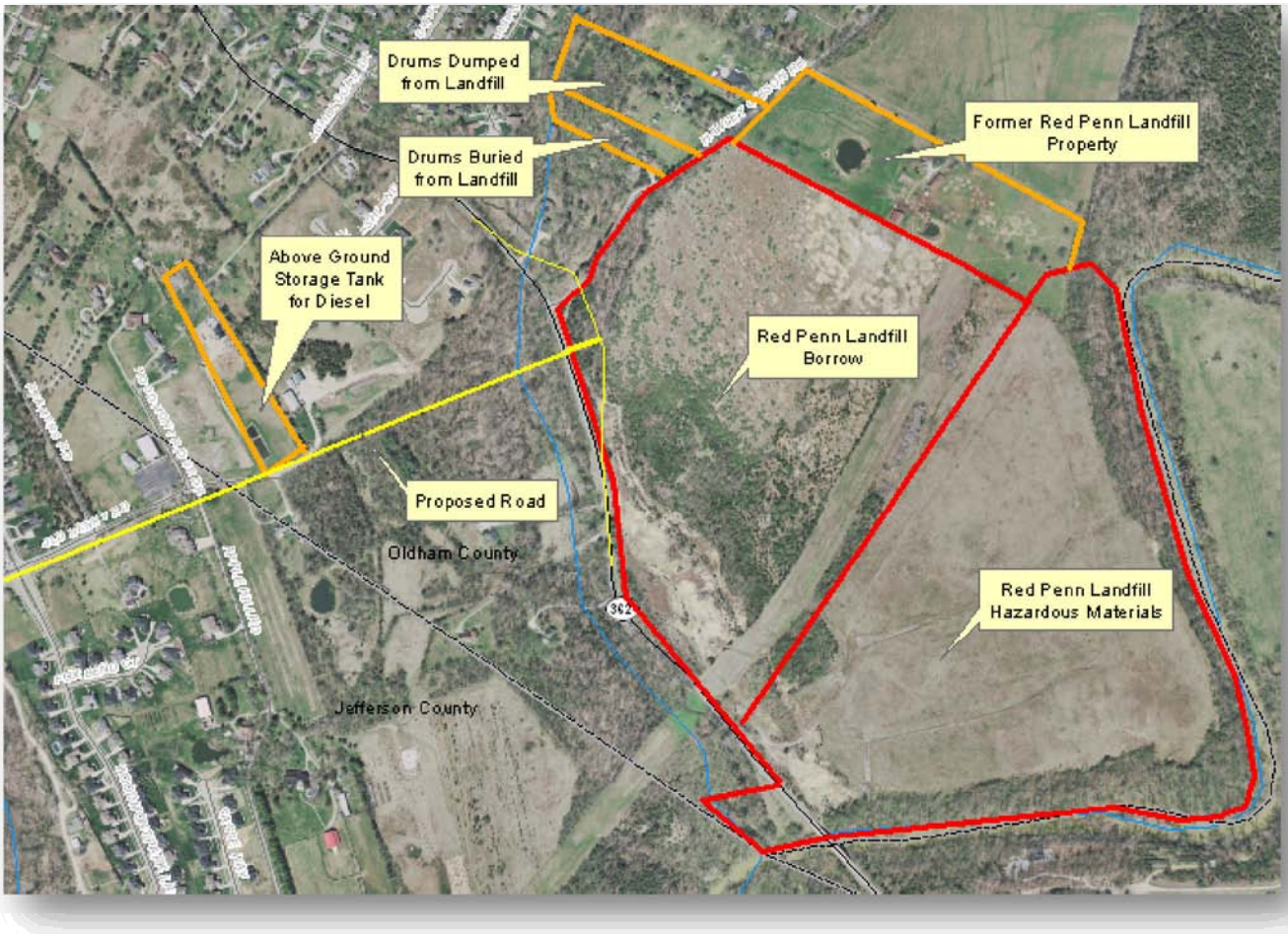

Figure 12: Hazardous Sites

E. Historic Resources

Several surveys and field investigations of the project area were performed for the 2005 Environmental Assessment. No impacts to any historical resources were found. The current project should not affect any historical resources.

F. Permitting

Stream crossings for the project will likely require an US Army Corps of Engineers (USACE) Section 404 permit and a Kentucky Department of Water (KDOW) Section 401 water quality

certification. Furthermore, Floyds Fork is considered as a protected conservation area in Jefferson County. However, none of the streams in the area are considered special use waters. Sediment control structures will be set up to minimize the impact of construction at the streams that have to be crossed.

G. Noise

It was determined from the 2005 Environmental Assessment that a 5 lane road would have noise impacts to Lake Forest Subdivision, Woodmont Subdivision, and Fox Run Subdivision. Considering that the project has been downsized to a 3 lane road, it is not expected that noise impacts will be great enough for a barrier.

H. Socioeconomic

The Old Henry Road area has seen significant development over the last decade due to the I-265/Old Henry Road interchange. This interchange opened the area up allowing access to the interstate system. The majority of the project area has been converted from rural land to residential use. Near the interchange, industrial, commercial, office, and residential land use occur. This area was one of the last developed parts of Jefferson County. Many subdivisions have been developed along Old Henry Road including Lake Forest, Woodmont, and Fox Run. Additional subdivisions have been built or are in development along this corridor. Oldham County has also seen tremendous growth over the last decade, and there are many subdivisions located near the Jefferson County line including Village Green and Ashbrook. The road network in Oldham County will be a limiting factor to the amount of growth that the county can continue to have. Oldham County has traditionally been rural in nature; however, residential uses of the land have continued to increase. See Figure 13 for a map detailing the major landmarks near the project area.

According to Census Data from 2000 two census tracts (103.06 in Jefferson County and 305.01 in Oldham County) make up the project area. Figures 14, 15, 16, and 17 contains detailed information of the census tracts including minority population, population below the poverty line, population over 65 years old, general economic characteristics, and family household information. Based on the data for the census tracts the minority population, population living below the poverty line, and population over 65 years old is below the state and national averages. For both census tracts the median household income is above the state and national averages. For census tract 103.06, which contains the majority of the project area, the median household income is over double that of the state and national averages. It also appears that in both census tracts the majority of workers work in management and professional or sales and office positions. Furthermore, the vast majority of the workforce drives alone to get to work. In addition, both census tracts are made up largely of family households.

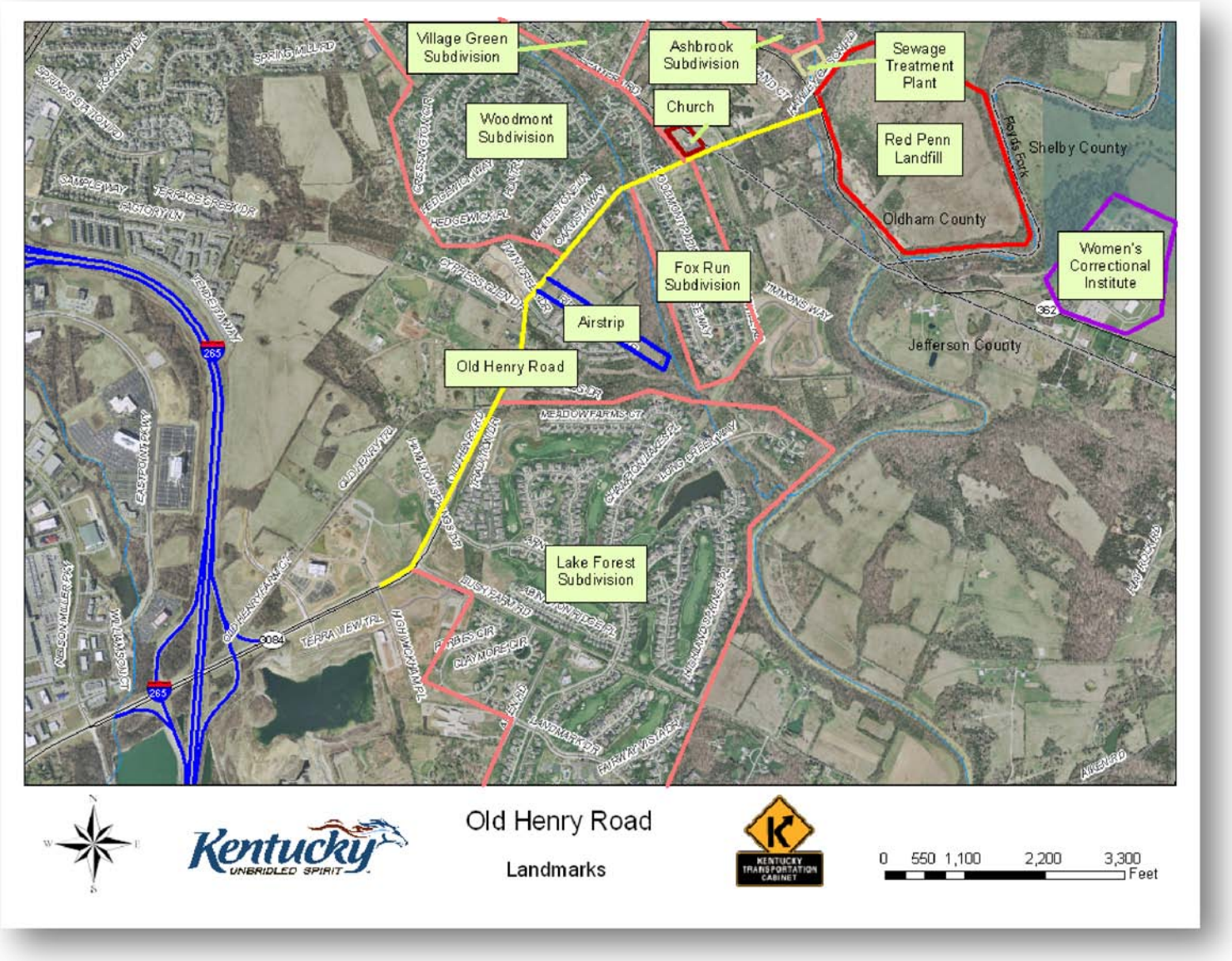

Figure 13: Landmarks

Subject	Census Tract 103.06, Jefferson County, Kentucky		Census Tract 305.01, Oldham County, Kentucky	
	Number	Percent	Number	Percent
Total population	7,476	100.0	3,827	100.0
SEX AND AGE				
Median age (years)	35.7	(X)	36.0	(X)
18 years and over	5,082	68.0	2,802	73.2
62 years and over	540	7.2	454	11.9
65 years and over	411	5.5	368	9.6
RACE				
One race	7,391	98.9	3,799	99.3
White	6,886	92.1	3,678	96.1
Black or African American	285	3.8	96	2.5
American Indian and Alaska Native	9	0.1	2	0.1
Asian	188	2.5	8	0.2
Native Hawaiian and Other Pacific Islander	4	0.1	1	0.0
Some other race	19	0.3	14	0.4
Two or more races	85	1.1	28	0.7
HISPANIC OR LATINO AND RACE				
Total population	7,476	100.0	3,827	100.0
Hispanic or Latino (of any race)	146	2.0	48	1.3

Figure 14: Age and Race

Subject	Census Tract 103.06, Jefferson County, Kentucky		Census Tract 305.01, Oldham County, Kentucky	
	Number	Percent	Number	Percent
POVERTY STATUS IN 1999 (below poverty level)				
Families	36	(X)	37	(X)
Percent below poverty level	(X)	1.6	(X)	3.3
Individuals	197	(X)	203	(X)
Percent below poverty level	(X)	2.6	(X)	5.3

Figure 15: Poverty Status

Subject	Census Tract 103.06, Jefferson County, Kentucky		Census Tract 305.01, Oldham County, Kentucky	
	Number	Percent	Number	Percent
EMPLOYMENT STATUS				
Population 16 years and over	5,278	100.0	2,899	100.0
In labor force	3,766	71.4	2,168	74.8
Civilian labor force	3,766	71.4	2,167	74.7
Employed	3,703	70.2	2,093	72.2
Unemployed	63	1.2	74	2.6
Percent of civilian labor force	1.7	(X)	3.4	(X)
Armed Forces	0	0.0	1	0.0
Not in labor force	1,512	28.6	731	25.2
COMMUTING TO WORK				
Workers 16 years and over	3,669	100.0	2,045	100.0
Car, truck, or van -- drove alone	3,153	85.9	1,773	86.7
Car, truck, or van -- carpooled	277	7.5	188	9.2
Public transportation (including taxicab)	8	0.2	5	0.2
Walked	40	1.1	21	1.0
Other means	8	0.2	11	0.5
Worked at home	183	5.0	47	2.3
Mean travel time to work (minutes)	24.0	(X)	21.3	(X)
Employed civilian population 16 years and over	3,703	100.0	2,093	100.0
OCCUPATION				
Management, professional, and related occupations	2,098	56.7	719	34.4
Service occupations	221	6.0	298	14.2
Sales and office occupations	1,068	28.8	607	29.0
Farming, fishing, and forestry occupations	0	0.0	12	0.6
Construction, extraction, and maintenance occupations	163	4.4	196	9.4
Production, transportation, and material moving occupations	153	4.1	261	12.5
INCOME IN 1999				
Households	2,546	100.0	1,445	100.0
Median household income (dollars)	103,426	(X)	53,785	(X)

Figure 16: General Economic Characteristics

Subject	Census Tract 103.06, Jefferson County, Kentucky		Census Tract 305.01, Oldham County, Kentucky	
	Number	Percent	Number	Percent
HOUSEHOLD TYPE				
Total households	2,530	100.0	1,443	100.0
Family households	2,158	85.3	1,112	77.1
FAMILY TYPE AND PRESENCE OF OWN CHILDREN				
Families	2,158	100.0	1,112	100.0
With related children under 18 years	1,250	57.9	593	53.3
Married-couple families	2,043	100.0	935	100.0
With related children under 18 years	1,179	57.7	470	50.3
Female householder, no husband present	82	100.0	137	100.0

Figure 17: Households and Families

I. Section 4(f) Resources

Since this project is state funded, no section 4(f) statement will be required for this project.

J. Section 6(f) Resources

There are no known resources in the project area that are protected under Section 6(f) of the Land Water Conservation Fund.

V. PRELIMINARY PROJECT INFORMATION

A. Existing Conditions/Roadway Data

Table 6: Existing Conditions and Data Summary			
County:	Jefferson/Oldham	Route Number:	KY 3084/New Route
Road Name:	Old Henry Road	Item No.:	05-367.20
BMP:	New Route	EMP:	New Route
Project Length:	2 miles	State Class:	State Secondary (Existing)
Functional Class:	Urban Minor Arterial (Existing)/ Urban Collector (New)	Truck Class:	A (Existing)
Funding Type:	SB2	Median Type:	Left Turn Lane
ADT(current):	15,500	Posted Speed:	45 MPH
Roadway Data			
	Existing Conditions	Proposed	
No. of Lanes:	2	3	
Lane Width:	10 ft	11 ft	
Shoulder Width:	1 ft	2 ft curb and gutter	
Minimum Radius:	-	711 ft	
Maximum Grade:	-	8 %	

From the I-265/Old Henry Road interchange to approximately Bush Farm Road Old Henry Road is a state maintained route (KY 3084). This section of the road has been improved and is a 5 lane urban minor arterial with two lanes in each direction and a median or left turn lane in the middle. 12 ft lanes exist on this section along with adequate shoulders. The only section of this roadway that will need improved is the tie in with the new 3 lane section of Old Henry Road. Many developments exist along this section of the road and access to the interchange is in the immediate area. Information for this section of roadway was pulled from KYTC's Highway Information System (HIS) and can be seen below in Table 7.

Table 7: KY 3084 (Old Henry Road)

Begin	End	Begin Description	Horizontal Design Adequacy	Drainage Adequacy	Percent Sight Distance >= 1500 Feet	Terrain
1.146	1.799	I 265 INTERCHANGE	Some Curves<Standard, Safe At Speed Limit	Good	100	Rolling
1.799	1.978	BUSH FARM RD	Some Curves<Standard, Safe At Speed Limit	Good	0	Rolling

Past Bush Farm Road Old Henry Road is maintained by Louisville Metro and is a two lane rural road consisting of 10 ft lanes and 1 ft shoulders. This section of roadway has numerous geometric deficiencies including a 90 degree curve near Factory Lane. Currently Old Henry Road comes to a dead end near the Jefferson/Oldham County line. The Woodmont and Fox Run subdivisions are located along this portion of the road along with a condominium development and a small airstrip. In addition, Reamers Road is located near the end of Old Henry Road and is being used to access Oldham County and KY 362 (Ash Avenue) through the use of Village Green Boulevard, which is a residential street that runs between Reamers Road and Ash Avenue.

KY 362 (Ash Avenue) runs through the southwestern portion of Oldham County and into Shelby County. The road has approximately 9 ft lanes and 2 ft shoulders. Furthermore, Ash Avenue connects to KY 146 in Oldham County and KY 1408 in Shelby and Oldham Counties (directly in Shelby County and through Hawley Gibson Road in Oldham County). Red Penn Landfill, the Ash Avenue Sewage Treatment Plant, the Kentucky State Women's Correctional Institute, Floyd's Fork, and the Texas Gas transmission line are all located near where Ash Avenue and the Old Henry Road extension will intersect. In addition, numerous subdivisions exist off of Ash Avenue in Oldham County. Village Green Boulevard, which is being used as a shortcut to access Old Henry Road, also connects to Ash Avenue.

Hawley Gibson Road is a county road in Oldham County that connects to KY 362 (Ash Avenue) and Old Floydsburg Road near KY 1408 and the community of Floydsburg. KY 1408 has approximately 9 ft lanes and 2 ft shoulders and contains two back to back 90 degree

curves in this area. Hawley Gibson Road has recently been improved by Oldham County. However, it still is rural in character like the other roads in this area. This road is also bounded by the Ash Avenue Sewage Treatment Plant, Red Penn Landfill, and the Texas Gas transmission line near the intersection with Ash Avenue.

B. Right of Way

Along the existing Old Henry Road much of the right of way needed exists. Many of the new developments were required to dedicate a certain amount of right of way and have buffer zones that could not be developed in anticipation of the future development of Old Henry Road. All new right of way will have to be purchased for the new section of the road (extension), which is approximately 0.2 miles. It is not anticipated that any houses will have to be purchased and no relocations should occur. Strips of land will need to be purchased along the existing Old Henry Road. There are no major improvements (buildings, miscellaneous structures, etc.) within the projected right of way. However, one airstrip will be affected. Approximately 45 parcels will be affected by the project. Appendix N1-N8 contains all of the right of way information that has been gathered as of August 2011.

C. Utilities

The following is a list of the utility companies that have responded that they are in the project area. The contacts for these utility companies that are in the project area are shown below.

Electric and Gas: LG&E KU
Greg Geiser
820 West Broadway
Louisville, KY 40202
(502) 627-3708
LG&E Emergency Number (502) 589-1444
KU Emergency Number 1-800-331-7370
Greg.Geiser@lge-ku.com

Water: Louisville Water Company
Daniel Tegene, PE
550 South Third Street
Louisville, KY 40202
(502) 569-3649
dtegene@lwcky.com

Sewer: Metropolitan Sewer District

Steve Emly (502) 540-6509
Brad Selch (502) 540-6614
700 West Liberty Street
Louisville, KY 40202
emly@msdlouky.org
selchb@msdlouky.org

Telephone: AT&T KY
Morgan Herndon
3719 Bardstown Road - 2nd Floor
Louisville, KY 40218
(502) 458-7312
morgan.herndon@att.com

Additional utilities may exist in the project area. A more in depth assessment of utilities in the area will need to be done as the project moves further along. Appendix O1-O4 contains all of the utility information that has been gathered as of August 2011.

D. Agency Coordination

There have been numerous meetings throughout the history of the project. A Citizen Advisory Committee was selected by the Judge Executives of Jefferson and Oldham Counties in 1999 to guide the original project. 10 meetings were held by the committee and these were open to the public. In addition, four separate public information meetings were held for the original project. A phase I design meeting was held at KYTC's district 5 office in February of 2011 to kick off the new modified project (current project). An early status review meeting was also held in the same month and location. In June a preliminary line and grade inspection meeting was held at the district 5 office. The last meeting to be held was a local public officials meeting, which was held in August at the district 5 office. The meeting minutes for all four of these meetings can be found in Appendix P. In addition, the previous and current Judge Executives of Oldham County have expressed their approval of the project. Appendix D contains their letters.

VI. POSSIBLE ALTERNATIVES

The following is a description of the alternatives analyzed and discussed during the development of this study. Figure 18 shows the alignments of Alternatives #2A and #2B. An image of the preliminary line and grade is included in Appendix Q.

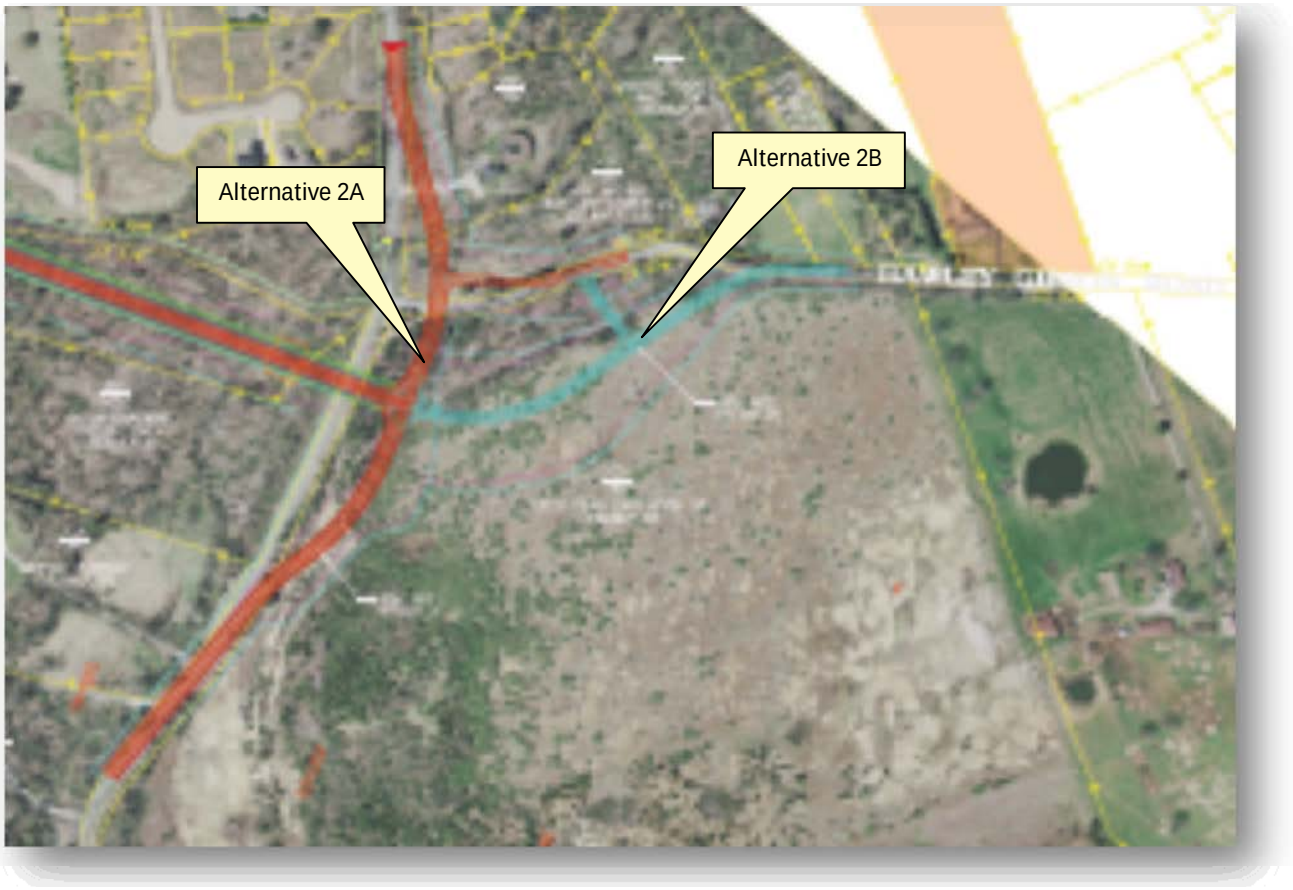

Figure 18: Alignments of Alternatives #2A and #2B

A. Alternative #1 – No Build

The no build alternative would leave the current conditions as they are. This includes the lack of a good connection to the I-265/Old Henry Road interchange for vehicles traveling from Oldham County and Shelby County. Vehicles will likely continue to use residential streets in the area to access the interchange. The no build alternative would not address the draft purpose and need statement defined for this project.

B. Alternative #2A – Alignment to Ash Avenue

This alignment would tie the new extension of Old Henry Road into KY 362 (Ash Avenue). This alignment would be the same as the preferred alignment that was chosen for the original project. Keeping with this alignment would allow for the project to be continued further into Oldham County in the future as the original project intended to. Ash Avenue will have to be reconstructed due to the Old Henry Road extension being raised approximately 10 ft. There has been numerous drainage problems associated with this area

of Ash Avenue. By raising the elevation by 10 ft many of these problems should be resolved. Furthermore, this alignment would create two separate T intersections. One of these would be at Hawley Gibson Road and Ash Avenue, and the other one would be at Old Henry Road and Ash Avenue. Both intersections would likely have stop signs with traffic on Ash Avenue being the through traffic. Also auxiliary lanes may need to be added to allow for turning movements. Phase II design will need to determine the best method of controlling this intersection.

C. Alternative #2B –Alignment to Hawley Gibson Road

This alignment would directly tie in the Old Henry Road extension to Hawley Gibson Road. The negative to this alternative is the extra cost associated with construction and the possibility of running into hazardous sites that are located near the landfill. Costs associated with right of way and utilities for this alternative should be of minimal difference to alternative #2A. Also this section conflicts with the alignment chosen by the original project. This could cause a problem in the future if the project was continued further into Oldham County. However, for the time being the alternative would create a direct connection to both Ash Avenue and Hawley Gibson Road. This would likely increase the amount of traffic using Hawley Gibson Road more than alternative #2A. Furthermore, this alternative would create a single 4-way intersection. Phase II design would need to determine the best way to control this intersection if this alternative is selected. The reconstruction of Ash Avenue would still be needed in this alternative as in alternative #2A. Cost estimates for the two alternatives can be seen below in Table 8.

Table 8: Cost Estimates

Phase	Alternative #2A	Alternative #2B	Highway Plan
Design	$1,250,000	$1,250,000	-
Right of Way	$2,000,000	$2,000,000	$8,000,000 (SB2)
Utilities	$4,000,000	$4,000,000	$3,300,000 (SB2)
Construction	$8,800,000	$9,000,000	$4,000,000 (SP)
Total	$16,050,000	$16,250,000	$15,300,000

VII. SUMMARY

This study is a Data Needs Analysis (DNA) of the Old Henry Road project that will create a 3 lane urban collector that ties in to the existing 5 lane section of Old Henry Road to the west and KY 362 (Ash Avenue) to the east. Through analysis of existing roadway geometrics, crash data, site visits, and discussion with the project team the following needs were identified:

- The need for Old Henry Road to be extended and/or improved to Ash Avenue.

The purpose of this project is to allow for better access to the I-265/Old Henry Road interchange.

The project was originally intended to be a 5 lane arterial that connected the I-265/Old Henry Road interchange to KY 22 near Crestwood. The project was modified in 2010 to a 3 lane collector that connects the I-265/Old Henry Road interchange to KY 362 (Ash Avenue). Phase I design has been done by KYTC, and the project will be advertised for phase II design soon.

Important consideration will need to be given to the KY 362 (Ash Avenue) tie in. The alignment for the majority of the project has been chosen; however, it has yet to be determined if the project should tie directly in to Hawley Gibson Road or indirectly through Ash Avenue. The method for controlling these newly created intersections will also need to be determined. For the future it would make more sense to not tie the road directly into Hawley Gibson Road. If the road was directly tied into Hawley Gibson Road this section would likely not be used for future expansion of the road. In addition, the project is already operating within a tight budget. Costs are an important factor, and additional funds may be required to complete the project. It is possible that some portions of the project, for example the shared use path or additional work to fix geometrics near Bush Farm Road, may need to be cut out to fall within the budget of the project. This all depends on the amount of further funding that is available for the project. Furthermore, there have been drainage issues documented along Ash Avenue. These drainage issues need to be looked at since the project is in the same area. Lastly the airstrip could result in additional costs if large amounts of fill are needed to meet regulations. Phase II design will need to determine the best solution to many of the problems brought forth in this study.

For more information regarding this study please contact:

Kentucky Transportation Cabinet
Division of Planning, 5th Floor West
200 Mero St.
Frankfort, KY 40622
Phone: (502) 564-7183