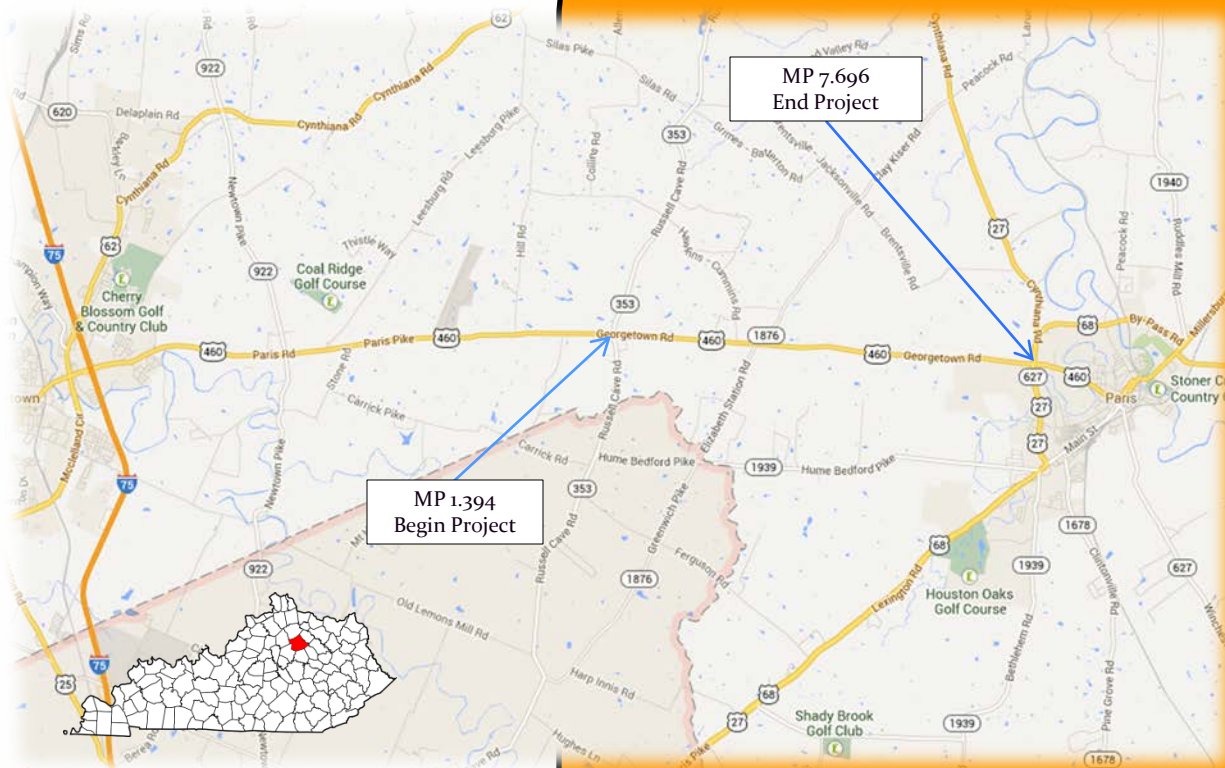


Data Needs Analysis



Bourbon County Reconstruct US 460 (Georgetown Road)

from
KY 353 (Russell Cave Road)
to
US 27 Bypass

Item No. 7-8705.00

Prepared by
KYTC District 7 Planning

September 4, 2013



I. PRELIMINARY PROJECT INFORMATION					
County:	Bourbon	Item No.:	7-8705.00		
Route Number(s):	US 460	Road Name:	Georgetown Road		
Program No.:	8768801D	UPN:	FD04	009	US460 001-008
Federal Project No.:	N/A	Type of Work:	Reconstruction		
2012 Highway Plan Project Description:					
Reconstruct US 460 from Russell Cave Road to US 27 Bypass in Paris.					
Beginning MP: 1.394		Ending MP: 7.696		Project Length: 6.302	
Functional Class.:	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural	State Class.:	<input type="checkbox"/> Primary <input checked="" type="checkbox"/> Secondary		
	Arterial ▼	Route is on:	<input type="checkbox"/> NHS <input type="checkbox"/> NN <input type="checkbox"/> Ext Wt		
MPO Area:	Not Applicable	Truck Class.:	AAA ▼		
In TIP:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	% Trucks:	10.3		
ADT (current):	4180 2010	Terrain:	Rolling ▼		
Access Control:	<input type="checkbox"/> None <input checked="" type="checkbox"/> Permit <input type="checkbox"/> Fully Controlled	Spacing:	▼		
Median Type:	<input checked="" type="checkbox"/> Undivided <input checked="" type="checkbox"/> Divided (Type):	Raised Non Mountable (12') - MP 7.575-7.871			
Existing Bike Accommodations:	Shared Lane ▼	Ped:	<input type="checkbox"/> Sidewalk		
Posted Speed:	<input checked="" type="checkbox"/> 35 mph <input type="checkbox"/> 45 mph <input checked="" type="checkbox"/> 55 mph <input type="checkbox"/> Other (Specify):				
KYTC Guidelines Preliminarily Based on :		55 MPH Proposed Design Speed			
COMMON GEOMETRIC					
Roadway Data:	EXISTING		PRACTICES*		Existing plans are for the replacement of a 9'x8' PCBC @ MP 4.86 in 1994.
No. of Lanes	2		2		Existing Rdwy. Plans available?
Lane Width	0-7.47 (10') 7.47-7.9 (14')		12 ft.		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Shoulder Width	0-7.47 (3') 7.47-7.9 (10')		8 ft.		Year of Plans: 1994
Max. Superelevation**			6%		<input checked="" type="checkbox"/> Traffic Forecast Requested
Minimum Radius**			1060 ft.		Date Requested: 9/6/2013
Maximum Grade			5%		<input checked="" type="checkbox"/> Mapping/Survey Requested
Minimum Sight Dist.			495 ft.		Date Requested: 9/6/2013
Sidewalk Width(urban)			5 ft.		Type: Aerial ▼
Clear-zone***			20 ft. - 30 ft.		
Project Notes/Design Exceptions?:					
*Based on proposed Design Speed, **AASHTO's A Policy on Geometric Design of Highways and Streets, ***AASHTO's Roadside Design Guide					
Bridge No.*:	(Bridge #1)		(Bridge #2)		Existing Geotech data available?
Sufficiency Rating					<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Total Length					
Width, curb to curb					
Span Lengths					Detour Length(s):
Year Built					
Posted Weight Limit					
Structurally Deficient?					
Functionally Obsolete?					
Existing Bridge Type					

There are no inventoried bridges within the project limits.

*If more than two bridges are located on the project, include additions sheets.

II. PROJECT PURPOSE AND NEED

A. Legislation

This project is supported by the local elected officials.	<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
	SPP	D	2012	\$1,600,000
	SP	R	2015	\$3,000,000
	SP	U	2016	\$2,500,000
		C		
				\$7,100,000

B. Project Status

The \$1,600,000 design funds were authorized on 3/15/2013 (TC-10 Authorization No. 87688 0).

C. System Linkage

US 460 is an east-west route linking Paris with I-75 in Georgetown.

D. Modal Interrelationships

Freight traffic has increased along US 460 due to an expanding industrial park located on US 460 at Cleveland Road, one mile west of the Paris Bypass.

The map shown in Section VIII labeled "Bourbon County Bicycle Plan" shows that the local officials are interested in promoting a paved shoulder and/or a shared use path along US 460.

E. Social Demands & Economic Development

Based on the 2004 Bourbon County Comprehensive Plan land use map (shown in Section VIII labeled "Future Land Use Map"), the current land use around US 460 serves industrial and agricultural properties. The future land use for these areas will continue to be industrial and agricultural, and commercial properties near the Paris Bypass.

II. PROJECT PURPOSE AND NEED (cont.)

F. Transportation Demand

Based on the Transportation Cabinet's HIS (Highway Information System) database, US 460 carries over 4,000 vehicles per day. Review of the historical data trends from the database, the traffic on this route has remained steady over the past 20 years.

G. Capacity

Based on the 2011 Adequacy Ratings Report, the V/SF (volume to service flow ratio) along the route is 0.34. From this value, this section of US 460 is operating near 34% vehicular capacity. However, a highway capacity analysis was not performed for this route. Also, the adequacy percentile is 41.66 which means that nearly 58% of similar functionally classified roads are in better condition in terms of congestion, safety, and pavement condition.

H. Safety

A collision data report was generated from the Kentucky State Police collision database over a three year period from June 1, 2010 through May 31, 2013. The report summary is shown to the right. This data is also mapped and shown in Section VIII labeled "Collision Data." Of the total collisions, over 1/3 of them were single vehicle collisions with fixed objects off the traveled way. Around 1/5 of the collisions were rear end collisions. Other types of collisions reported include: collisions with animals, head on collisions, sideswipes, opposing left turn, veering off the roadway, and leaving an entrance. Based on the 2011 Adequacy Ratings Report, a CRF (critical rate factor) of 0.456 was calculated for the segment.

Total Collisions found:	51
Collisions w/injury:	11
Collisions w/fatality:	2
Collisions w/property damage:	38
Total injuries:	17
Total fatalities:	2

I. Roadway Deficiencies

US 460 has substandard roadway geometry. The existing roadway has narrow driving lanes with narrow shoulders. In some areas along the roadway, there are no ditches for draining the storm water off the roadway. Also, the roadway has substandard vertical and horizontal curvatures that can restrict a driver's sight distance for entrances, approaches and other vehicles ahead. There are other hazards that exist along the roadway's recovery area that include: tree lines, pavement edge drop offs, dry stone fences, utility poles, culvert headwalls, etc. These obstructions can be a safety hazard to motorists in the event that a vehicle incidently veered off the traveled way.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW	
A. Air Quality	
Project is in: <input checked="" type="checkbox"/> Attainment area <input type="checkbox"/> Nonattainment or Maintenance Area <input type="checkbox"/> PM 2.5 County	
STIP Pg. #: N/A	TIP Pg. #: N/A
The project is not in the STIP at this time. Bourbon County is in attainment for all monitored air pollutants.	
B. Archeology/Historic Resources	
<input checked="" type="checkbox"/> Known Archeological or Historic Resources are present	
If the project remains state funded, Section 106 clearance will be needed in the permit/jurisdictional areas. Several homes along the entire project length are 50 years old or older. A site check found over 50 possibly eligible, eligible, or listed sites in the project area. A formal site survey and report will be needed to determine historic impacts and any needed avoidance or mitigation. Due to the number of resources, this may be contracted out. At least one stone arch culvert is on the project and will need consideration for impacts and possible mitigation. An Archaeology Checklist or Phase I survey will also need to be completed in order to rule out any impacts to archaeological sites. This may be done in house or contracted out, depending on time and available resources. Optimum time for a survey would be during a winter draw-down when more of the shoreline is exposed.	
C. Threatened and Endangered Species	
If the project remains state funded and if permits are required, the project will need to be cleared for Section 7 in the jurisdictional areas. Indiana Bat and Running Buffalo Clover are listed. Any trees that needed to be cut would be addressed through a CMOA payment or seasonal tree cutting. RBC habitat will need to be studied in May (bloom time) due to the historic nature of areas of the project.	
D. Hazardous Materials	
<input checked="" type="checkbox"/> Potentially Contaminated Sites are present <input checked="" type="checkbox"/> Potential Bridge or Structure Demolition	
There is a gas station at the corner of KY 353 and US 460. If no ROW is required from this parcel, there should not be any UST/Hazmat concerns for this location. The remainder of the corridor is residential and farmland with no notable potential for hazmat. Any structures/culverts that require demolition will need to be assessed for asbestos.	
E. Permitting	
Check all that may apply: <input checked="" type="checkbox"/> Waters of the US <input checked="" type="checkbox"/> MS4 area <input type="checkbox"/> Floodplain Impacts <input type="checkbox"/> Navigable Waters of the US Impacts	
Are 401/404 Permits likely to be required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Impacts to: <input type="checkbox"/> Wetlands <input type="checkbox"/> Stream/Lake/Pond	
<input checked="" type="checkbox"/> ACE LON <input type="checkbox"/> ACE NW <input type="checkbox"/> ACE IP <input type="checkbox"/> DOW IWQC <input type="checkbox"/> Special Use Waters	
Any impacts below the ordinary high water mark within streams will need a USACE 404 Permit and potentially a Water Quality Certification from the Division of Water.	
F. Noise	
Are existing or planned noise sensitive receptors adjacent to the proposed project? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Is this considered a "Type I Project" according to the KYTC Noise Analysis and Abatement Policy? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
The scope of the project may require noise analyses if additional lanes of traffic planned for this project. The noise associated with construction and demolition will be temporary. The project may be Type I if an extra lane of traffic is added or the alignment is substantially changed.	
G. Socioeconomic	
Check all that may apply: <input type="checkbox"/> Low Income/Minority Populations affected <input type="checkbox"/> Relocations <input checked="" type="checkbox"/> Local Land Use Plan available	
There will likely be no socioeconomic impacts associated with this project. If relocations are determined necessary, a more in-depth look at EJ issues will be required.	
H. Section 4(f) or 6(f) Resources	
The following are present on the project: <input checked="" type="checkbox"/> Section 4(f) Resources <input type="checkbox"/> Section 6(f) Resources	
Structures/properties ruled as eligible for the National Register of Historic Places could also be afforded protection under Section 4(f). The KYTC has options to mitigate and avoid impacts to Section 4(f) resources including using "de minimis" guidance for minor strip takings.	
Anticipated Environmental Document:	None (Completely State funded) ▼

IV. PROJECT SCOPING, NEEDS & PURPOSE

A. Scoping & Need:

There are many roadway geometric deficiencies and roadside obstructions along the roadway that can be a severe safety hazard to motorists. These include narrow lanes and shoulders, substandard horizontal and vertical curvatures, inadequate roadway drainage, tree lines, pavement edge drop offs, utility poles, dry stone fences, culvert headwalls, etc.

B. Draft Project Purpose:

To improve the roadway typical section, vertical and horizontal geometry, drainage, and roadside clear zone for motorists' safety.



US 460 & Russell Cave Road Intersection: Left (Looking South) and Right (Looking West)



US 460 Looking East near MP 1.55



US 460 Looking East near MP 3.60

V. PROJECT ESTIMATE & METHODOLOGY

Estimate Methodology:

The preliminary planning level project phase estimates shown to the right are based on the following assumptions.

Right of Way Estimate:

1. An additional 60 feet of right of way (30 feet per side).
2. Included administration cost per parcel. Acquiring right of way from 60 parcels (based on PVA map).
3. Included legal administration.
4. Replacement cost for over ten miles of wooden plank fence.

Utility Relocation Estimate:

1. Power poles and lines adjacent to roadway based on company schematics.
2. An eight inch water main from Paris Bypass to KY 1876 based on company schematics.
3. A Natural gas main crossing based on company schematics.

Construction Estimate:

1. Reconstruct two 12 ft lanes with 8 ft paved shoulders along US 460.
2. Flexible pavement using: 4" DGA, 10.25" asphalt base, and 1.25" asphalt surface based on assumed ESALs of a similar project.
3. Reconstruct northbound and southbound approaches at Russell Cave (KY 353).
4. Additional turn lanes at both KY 1876/US 460 intersections.
5. Additional right turn lane on US 460 at Paris Bypass.
6. Reconstruct over 3,000 feet of dry stone fence.
7. Included 20% of the construction cost to cover other miscellaneous items such as: striping, MOT, erosion control, pipe culverts and other drainage structures, etc.

Current Estimate

Phase	Estimate
Design	\$1,600,000 (Authorized)
R/W	\$2,500,000
Utilities	\$3,500,000
Constr.	\$15,500,000
Total	\$23,100,000

VI. UTILITIES POTENTIALLY AFFECTED - CONTACT INFORMATION

Company Name -	Kentucky Utilities -- Greg Geiser 820 West Broadway Louisville, KY 40232
Company Name -	City of Paris Water & Sewer -- Mayor Michael Thornton Paris Municipal Center 525 High Street, Paris, KY 40361
Company Name -	Kentucky American Water Company 2300 Richmond Road Lexington, KY 40502
Company Name -	AT&T -- Clay Frame 1535 Twilight Trail Frankfort, KY 40601
Company Name -	Columbia Gas -- Mark McCullough 2001 Mercer Road Lexington, KY 40512
Company Name -	Time Warner Cable -- Elbert Lamb 1617 Foxhaven Drive Richmond, KY 40475

VII. PRECONSTRUCTION STATUS REPORT

02-Apr-2013

Preconstruction Status Report

Page 244 of 248

Auth No. / Date 87688 15-Mar-2013 Project No. 07 8705.00 Parent No. 07 8705.00
County Name BOURBON
BMP / EMP 1.394 / 7.696
Route US-460-

Desc RECONSTRUCT US 460 FROM RUSSELL CAVE ROAD TO US 27 BYPASS IN PARIS; MP 1.394 TO MP 7.696.(12CON)

Type Of Work RECONSTRUCTION(O) No. Lanes Length 6.30 Measurement Type E

Road Eng. CONSULTANT

Bridge Eng.

Proj Mgr kytojoshua.samples

Bridge No.

Suff. Rating

Letting Status / Date *****

Final Plans

Contractor Notice

Environmental	Name	Date	Type	Sched. Comp.	Actual Comp.	Expire Date
Assigned:						
Requested:						

Concerns EMARS PROGRAM CODE
Phase Code D R U
Stage AUTHORIZED ESTIMATED ESTIMATED 8768801D
Fund Code SPP SP SP
Escalated Cost 0 3,000,000 2,500,000
Fiscal Year 2015 2016
Auth Amt. 1,800,000
Auth Date 15-Mar-2013
Current Cost
Date Of Current Cost
Year of Proj Auth Date
Program Code FD04
Remaining Balance 1,800,000.00

Right Of Way Parcel Information

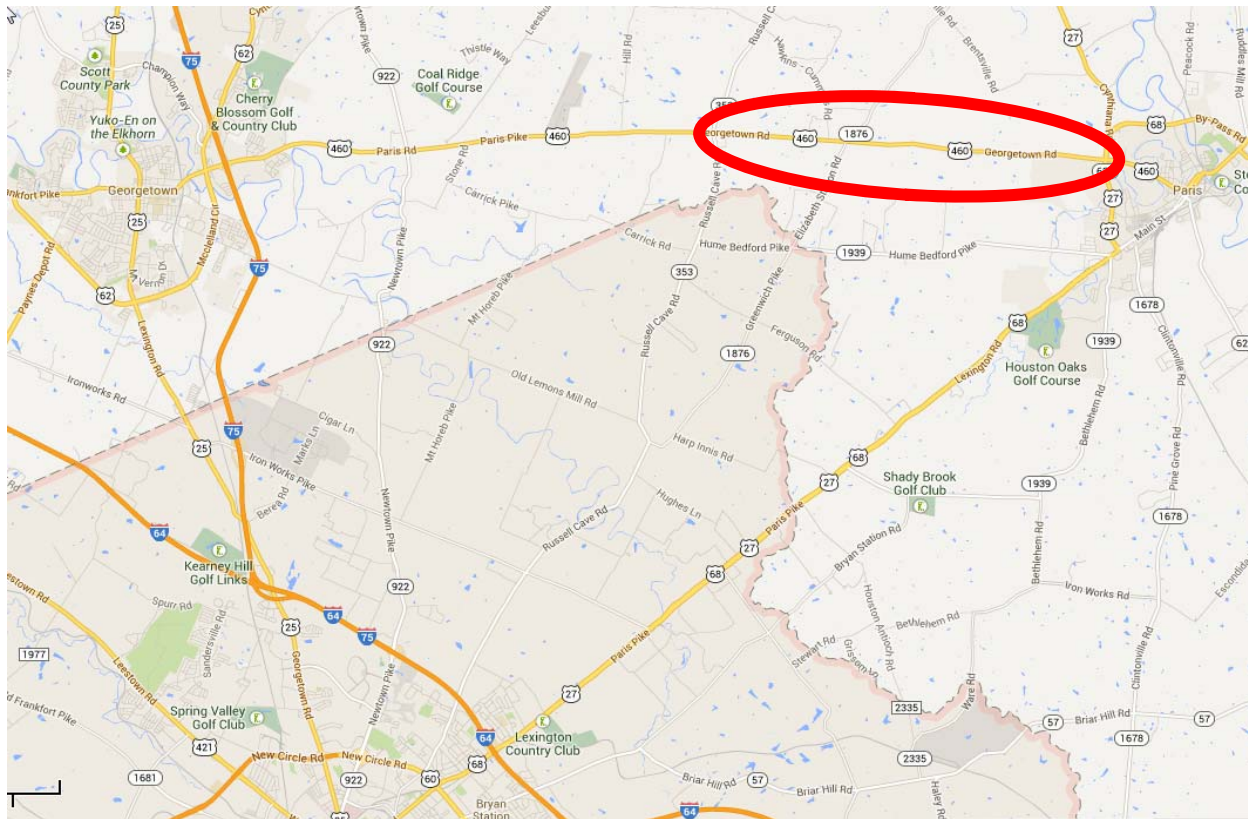
Utility Information

Total Parcels: Completion Date
Appraisals of Negotiated Starts of
Relocated of Agreement of
Deeds Signed Relocated of
Suits Filed
Right Of Entry
Parcels Cleared

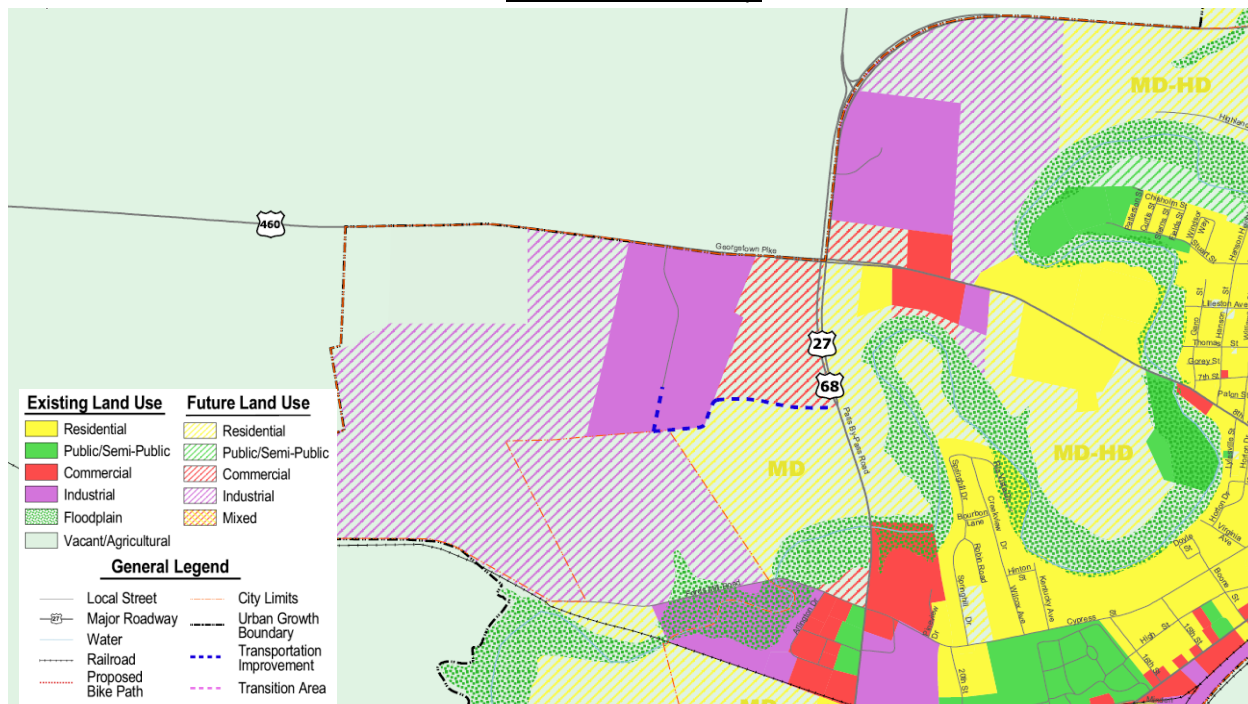
Milestone	Remarks	Status	Date	Scheduled
PRELIMINARY LINE AND GRADE		UNKNOWN	21-May-2012	
DRAINAGE INSPECTION		UNKNOWN	21-May-2012	
JOINT INSPECTION		UNKNOWN	21-May-2012	
GEOTEC ENGINEERING - ROADWAY		UNKNOWN	21-May-2012	
GEOTEC ENGINEERING - BRIDGES		UNKNOWN	21-May-2012	
BRIDGE AND STRUCTURE PLANS TO CENTRAL OFFICE		UNKNOWN	21-May-2012	
ADVANCE SITUATION TO CENTRAL OFFICE		UNKNOWN	21-May-2012	
RIGHT OF WAY PLANS TO CENTRAL OFFICE		UNKNOWN	21-May-2012	
ROAD PLANS TO CENTRAL OFFICE		UNKNOWN	21-May-2012	
TRAFFIC PLANS - SIGNING		UNKNOWN	21-May-2012	
TRAFFIC PLANS - LIGHTING		UNKNOWN	21-May-2012	
TRAFFIC PLANS - SIGNALS		UNKNOWN	21-May-2012	
TRAFFIC PLANS - TRAFFIC CONTROL		UNKNOWN	21-May-2012	

VIII. EXHIBITS AND PHOTOS

Project Location Map



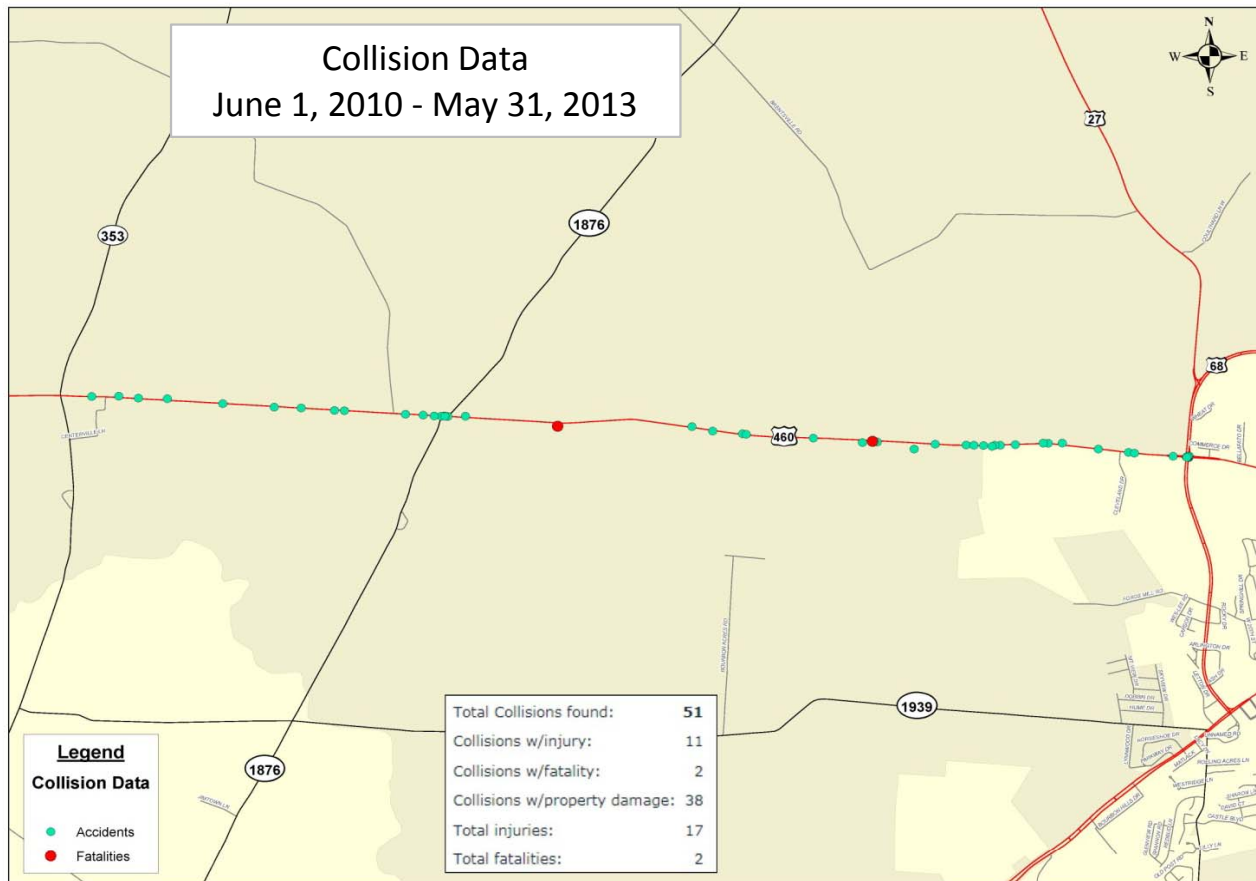
Future Land Use Map



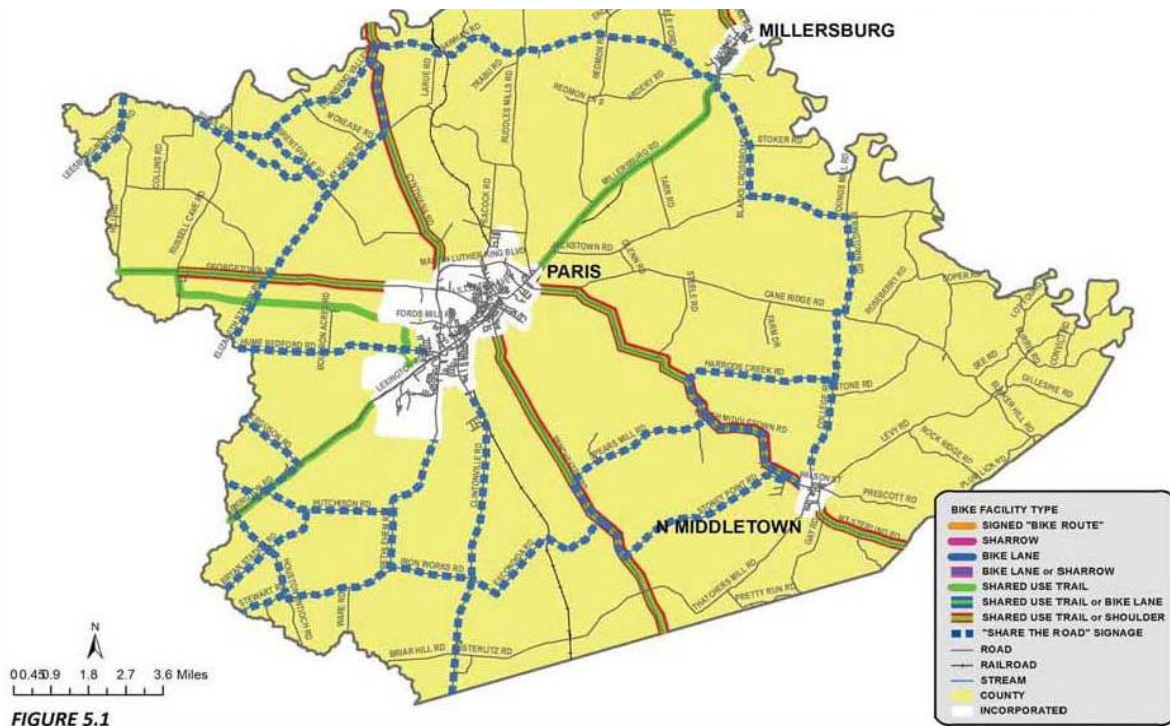
(Source: 2004 Bourbon County Comprehensive Plan)

VIII. EXHIBITS AND PHOTOS (cont.)

Collision Data



Bourbon County Bicycle Plan



(Source: Paris-Bourbon County Bicycle & Pedestrian Master Plan)