

# DNA

## STUDY

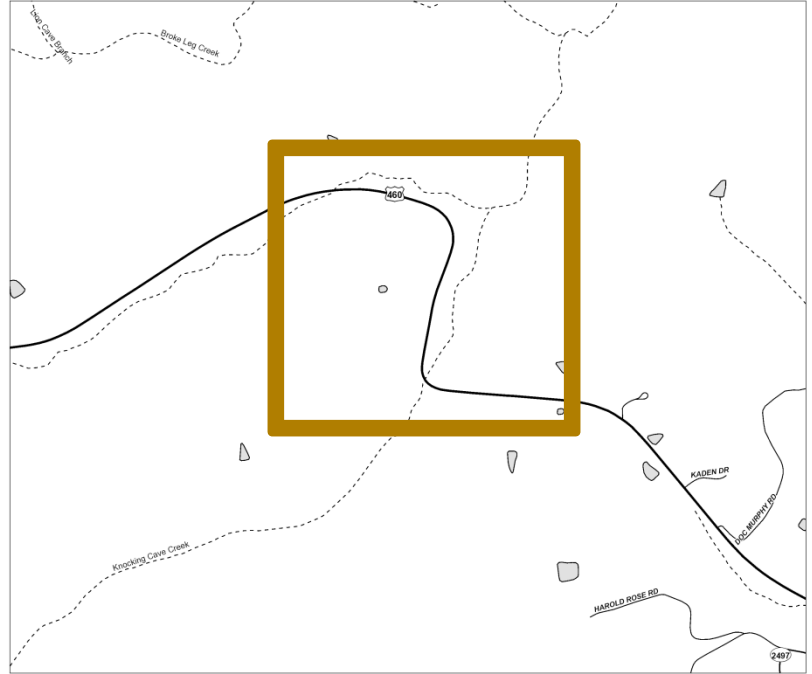
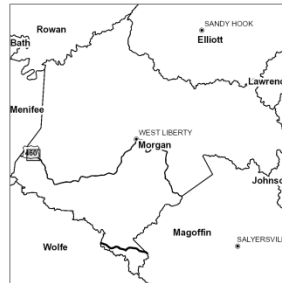
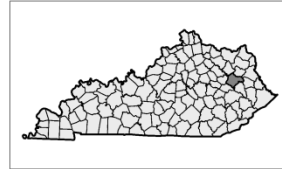


US 460  
Morgan County

2012 Highway Plan  
Item No. 10-8302.00

Prepared by:  
KYTC District 10

May 2012



**I. PRELIMINARY PROJECT INFORMATION**

<b>County:</b>	Morgan	<b>Item No.:</b>	10-8302.00
<b>Route Number(s):</b>	US 460	<b>Road Name:</b>	Frenchburg - West Liberty
<b>Program No.:</b>		<b>UPN:</b>	(Function) 88 460 1.00-3.00
<b>Federal Project No.:</b>	2012	<b>Type of Work:</b>	Reconstruction

**Highway Plan Project Description:**

Reconstruct and Straighten curve in US 460 from milepost 1.6 to milepost 2.1

**Beginning MP:** 1.6      **Ending MP:** 2.1      **Project Length:** 0.500 miles

**Functional Class.:**  Urban  Rural      **State Class.:**  Primary  Secondary  
**Arterial**      **Route is on:**  NHS  Nat'l Truck Network

**MPO Area:** Not Applicable      **Truck Class.:** AAA  
 In TIP:  Yes  No      **% Trucks:**

**ADT (current):** 1049      **Terrain:** Mountainous  
**Access Control:**  Fully Controlled  Permit  Partial Spacing: ▼

**Median Type:**  Undivided  Divided (Type):  
**Existing Bike Accomodations:** Shared Lane      **Ped:**  Sidewalk

**Posted Speed:**  35 mph  45 mph  55 mph  Other (Specify):

**KYTC Guidelines Preliminarily Based on :** 55 MPH Proposed Design Speed

**COMMON GEOMETRIC**

Roadway Data:	EXISTING	PRACTICES*	
No. of Lanes	2	2	<a href="#">Existing Rdwy. Plans available?</a> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Travelled Way Width	20'	22'	
Shoulder Width	1'	6'	Year of Plans: 1922
Max. Superelevation**	8.00%	8%	<input checked="" type="checkbox"/> <a href="#">Traffic Forecast Requested</a>
Minimum Radius**		965'	Date Requested: 5/10/2012
Maximum Grade	4%	5%	<input type="checkbox"/> Mapping Requested
Minimum Sight Dist.	230'	495'	Date Requested:
Sidewalk Width(urban)	NA	NA	Type: ▼
Clear-zone***	3'	22'	

**Project Notes/Design Exceptions?:** Newly constructed sections of US 460 have 12' lanes 12' shoulders.

\*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  Yes  No  
 Total Length  
 Width, curb to curb

Span Lengths  
 Max. Span Length      \* If more than 2 bridges are present on project, see attached sheets.  
 Year Built  
 Posted Weight Limit  
 Structurally Deficient?  
 Functionally Obsolete?

**II. PROJECT PURPOSE AND NEED**

**A. Legislation**

This Project was added by the General Assembly into the 2006 Highway Plan.	<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
	SPP	DN	2012	\$420,000
	SPP	RW	2013	\$60,000
	SPP	UT	2013	\$60,000
	SPP	CN	2014	\$1,040,000

**B. Project Status**

This project has not been authorized at this time. Authorization is expected by 07/01/2012. There are currently no active projects in this area. The US 460 corridor has seen steady rebuilding over the last 20 years however, and this project is another section of the overall corridor improvement.

**C. System Linkage**

This route connects the county seats of Frenchburg and West Liberty. Us 460 is a major corridor in Kentucky and Virginia and connects various counties and cities along it's path.

**D. Modal Interrelationships**

None at this location.

**E. Social Demands & Economic Development**

There are no developments in this area at this time and no known plans for development in the near future.

**F. Transportation Demand**

Morgan county has seen a small decrease in population over the last ten years so demand is not expected to increase significantly at this time.

**II. PROJECT PURPOSE AND NEED (cont.)**

**G. Capacity**

No issues at this time or expected in the near future.

**H. Safety**

A review of the collision data base shows two accidents at the project location in the last five years. A map show the accidents is attached as Exhibit 2.

**I. Roadway Deficiencies**

This section of roadway contains substandard curves, narrow lanes, and narrow shoulders.

**Purpose and Need Statement:**

Need: Improve the connectivity between Frenchbrg and West Liberty. Provide drivers with a modern roadway in regards to the roads classification. Continue the improvement of the US 460 Corridor.

Purpose: The purpose of this project is to improve connectivity along US 460 by providing users with a modern roadway facility.

**III. PRELIMINARY ENVIRONMENTAL OVERVIEW**

**A. Air Quality**

Project is in:  Attainment area  Nonattainment or Maintenance Area  PM 2.5 County

STIP Pg.#: [Redacted]

TIP Pg.#: [Redacted]

**B. Archeology/Historic Resources**

Known Archeological or Historic Resources are present

WPA stone culvert.

**C. Threatened and Endangered Species**

**D. Hazardous Materials**

Potentially Contaminated Sites are present  Potential Bridge or Structure Demolition

**G. Permitting**

Check all that may apply:  Waters of the US  MS4 area  Floodplain Impacts  Navigable Waters of the US Impacts  
Are 401/404 Permits likely to be required?  Yes  No      Impacts to:  Wetlands  Stream/Lake/Pond  
 ACE LON  ACE NW  ACE IP  DOW IWQC  Special Use Waters

**H. Noise**

Are noise sensitive receivers adjacent to the proposed project?  Yes  No

**I. Socioeconomic**

Check all that may apply:  Low Income/Minority Populations affected  Relocations  Local Land Use Plan available

**J. Section 4(f) or 6(f) Resources**

The following are present on the project:  Section 4(f) Resources  Section 6(f) Resources

Anticipated Environmental Document:

CE Level 1



### IV. POSSIBLE ALTERNATIVES

#### A. Alternative 1: No Build

This alternate does not meet the purpose of the project.

#### B. Alternative 2

This alternative proposes to "flatten" the existing curve. It has the lowest cost and could be completed within the current budget but it would not meet current design standards and thus would have to be reconstructed again in the future.



Planning Level Cost Estimate	<u>Phase</u>	<u>Estimate</u>
	Design	\$350,000
	R/W	\$50,000
	Utilities	\$50,000
	Const	\$900,000
	<b>Total</b>	<b>\$1,350,000</b>

#### IV. POSSIBLE ALTERNATIVES

##### B. Alternative 3

This Alternate proposes to construct a new alignment approximately 0.7 miles in length. It could be utilized with the US 460 Corridor Reconstruction in the future. It would also introduce a vertical/double horizontal curve along the roadway.



Planning Level Cost Estimate:	<u>Phase</u>	<u>Estimate</u>
	Design	\$450,000
	R/W	\$500,000
	Utilities	\$150,000
	Const	\$2,750,000
	<b>Total</b>	<b>\$3,850,000</b>

**IV. POSSIBLE ALTERNATIVES (cont.)**

**B. Alternative #4**

This Alternate proposes to construct a new alignment approximately 1.1 miles in length. It would eliminate three curves and could be utilized with the US 460 Corridor Reconstruction in the future. This alignment proposes to add a steeper vertical curve to the roadway.



Planning Level Cost Estimate:	Phase	Estimate
	Design	\$500,000
	R/W	\$500,000
	Utilities	\$150,000
	Const	\$4,000,000
	<b>Total</b>	<b>\$5,150,000</b>

**V. Summary**

The purpose of this DNA Study for item 10-8302.00 is to improve connectivity along US 460 by providing users with a modern roadway facility.

As part of this study four alternatives were examined by the project team - 1. No Build, 2. Reconstruct Curve, 3. New Alignment, and 4. New Alignment.

After reviewing the available data it is the recommendation of the Project Team that Alternate 4 be moved into the design phase when the whole US 460 Corridor is taken into account.

Alt #	Description	D (\$) <u>SPP</u>	R (\$) <u>SPP</u>	U (\$) <u>SPP</u>	C (\$) <u>SPP</u>	Total (\$mil)
1	No Build	-	-	-	-	-
2	Reconstruct Curve	\$ 350,000.00	\$ 50,000.00	\$ 50,000.00	\$ 900,000.00	\$ 1,350,000.00
3	New Alignment	\$ 500,000.00	\$ 500,000.00	\$ 150,000.00	\$ 4,000,000.00	\$ 5,150,000.00
4	New Alignment	\$ 450,000.00	\$ 500,000.00	\$ 150,000.00	\$ 2,750,000.00	\$ 3,850,000.00
-	Current Hwy Plan Estimated Cost	\$ 420,000.00	\$ 60,000.00	\$ 60,000.00	\$ 1,040,000.00	\$ 1,580,000.00
-	Current Pre-Con Estimated Cost	\$ 420,000.00	\$ 60,000.00	\$ 60,000.00	\$ 1,040,000.00	\$ 1,580,000.00



### VI. Tables and Exhibits

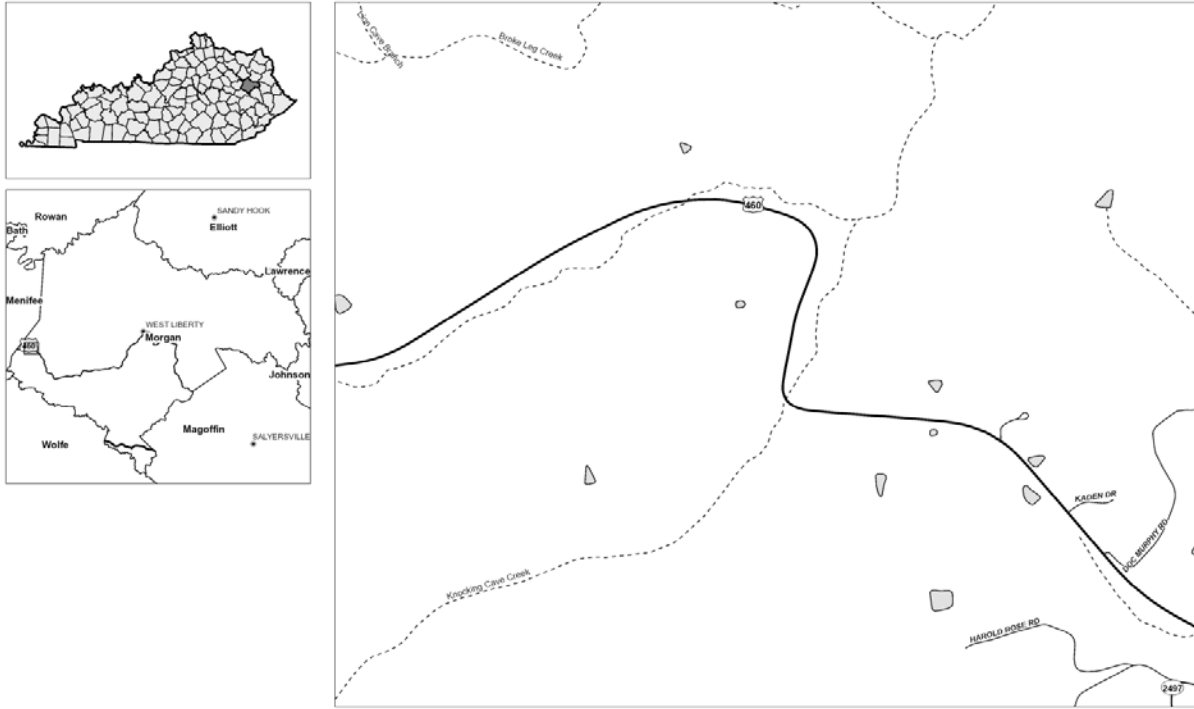


Exhibit 1: Project Location Map

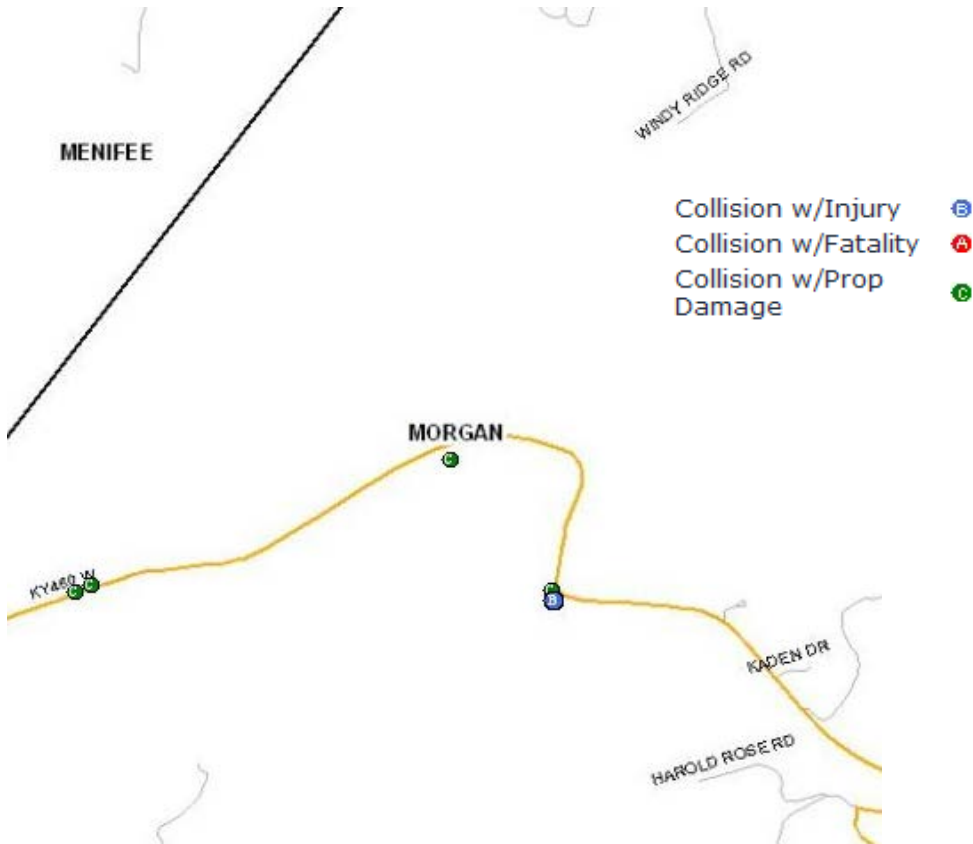


Exhibit 2: Accident Map

**VI. Tables and Exhibits (cont.)**



**Exhibit's 3&4**

**VI. Tables and Exhibits (cont.)**



**Exhibit's 5&6**