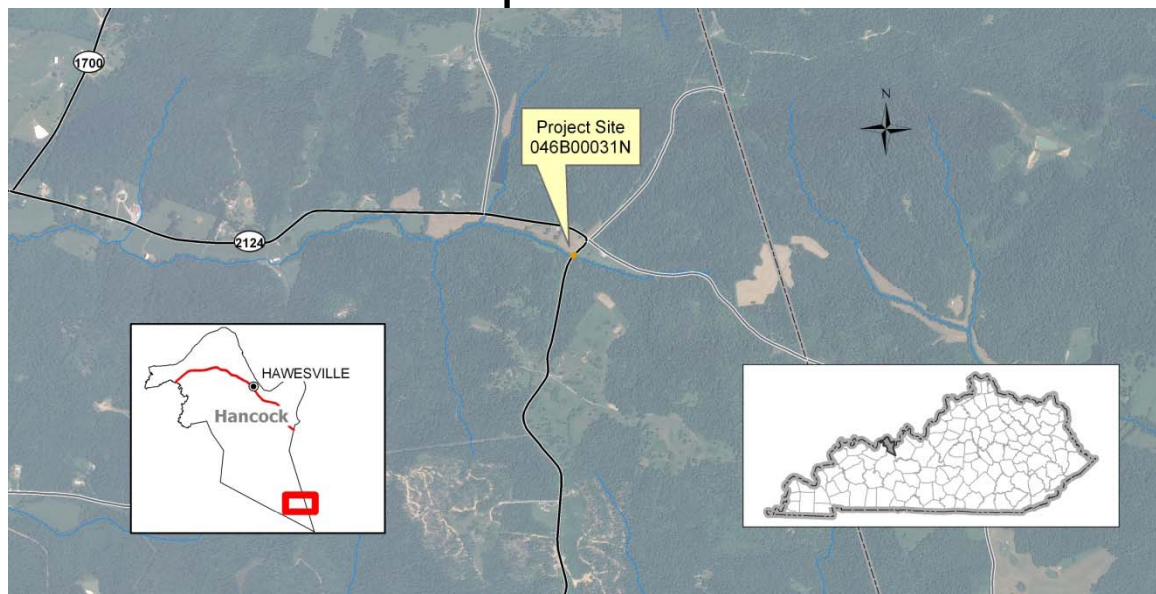


# Data Needs Analysis



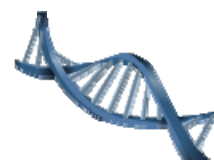
## Scoping Study



KY 2124, Hancock County  
Replace Bridge over South  
Fork of Panther Creek  
Item No. 2-1082.00

Prepared by KYTC

April 2013



## I. PRELIMINARY PROJECT INFORMATION

<b>County:</b>	Hancock	<b>Item No.:</b>	02-1082.00
<b>Route Number(s):</b>	KY 2124	<b>Road Name:</b>	N/A
<b>Program No.:</b>	8756201D	<b>UPN:</b>	FD52 046 2124 002-003
<b>Federal Project No.:</b>	BRZ 0203 (309)	<b>Type of Work:</b>	Bridge Replacement

2012 Highway Plan Project Description:

REPLACE BRIDGE ON KY 2124 OVER SOUTH FORK OF PANTHER CREEK SW OF INTERSECTION WITH  
HICKORY RIDGE ROAD (CR 1127) (SR 33.5) 046B00031N

<b>BMP:</b>	2.593	<b>EMP:</b>	2.633	<b>Project Length:</b>	0.04 MI.
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**Functional Class.:** ☐ Urban ☒ Rural  
Local   
**MPO Area:** Not Applicable   
In TIP: ☐ Yes ☐ No

**State Class.:** ☐ Primary ☒ Secondary  
**Route is on:** ☐ NHS ☒ NN ☐ Ext Wt  
**Truck Class.:** A   
**% Trucks:** Unknown  
**Terrain:** Rolling   
**Access Control:** ☐ None ☒ Permit ☐ Fully Controlled ☐ Partial Spacing:   
**Median Type:** ☒ Undivided ☐ Divided (Type):   
**Existing Bike Accommodations:** 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 Year of Plans: not legible
Roadway Width	24 ft	22 ft	
Shoulder Width	Roadway width incl. shoulder	2 ft	<input type="checkbox"/> <a href="#">Traffic Forecast Requested</a> Date Requested: <input type="text"/>
Max. Superelevation**	Unknown	8%	
Minimum Radius**	Unknown	615	<input type="checkbox"/> Mapping/Survey Requested Date Requested: <input type="text"/> Type: <input type="button" value="v"/>
Maximum Grade	Unknown	8%	
Minimum Sight Dist.	Unknown	365	
Sidewalk Width(urban)	N/A	N/A	
Clear-zone***	Unknown	6 ft	

Project Notes/Design Exceptions?: Use Low Volume Design Criteria

\*Based on proposed Design Speed, \*\*AASHTO's A Policy on Geometric Design of Highways and Streets, \*\*\*AASHTO's Roadside Design Guide

<b>Bridge No.*:</b>	046B00031N	<a href="#">Existing Geotech data available?</a> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Sufficiency Rating	49.9	
Total Length	24.0 ft	
Width, curb to curb	18.7 ft	
Span Lengths	1 span, 19.0 ft	Detour Length(s): 10.8 mi
Year Built	1935	
Posted Weight Limit	Open, no restrictions	
Structurally Deficient?	Yes	
Functionally Obsolete?	No	
Existing Bridge Type	Concrete Cast In Place	

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

## II. PROJECT PURPOSE AND NEED

### A. Legislation

This project is in the approved 2012 Highway Plan.	<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
	BRO	D	2013	\$150,000
	BRO	R	2014	\$75,000
	BRO	U	2014	\$75,000
	BRO	C	2015	\$300,000

### B. Project Status

Design funds for this project were authorized in February 2013. There are no other projects on this route in the Highway Plan or proposed on the Unscheduled Needs List.

### C. System Linkage

KY 2124 is a rural local road and is primarily used by residents near the bridge location.

### D. Modal Interrelationships

N/A

### E. Social Demands & Economic Development

A road at a nearby intersection, Hickory Ridge Road, is used to access a cell phone tower.

### F. Transportation Demand

The last actual traffic count on record was 59 in 2011. Traffic has decreased in the past several years. The highest traffic count was 140 in 2005.

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

### G. Capacity

There currently are no capacity problems on this route and none are expected in the future.

### H. Safety

There were no collisions reported at this project location in the last three years.

### I. Roadway Deficiencies

There were no plans available for the existing road. KY 2124 is a low-volume road with several horizontal and vertical curves that do not meet current design standards. Additionally the bridge is classified as structurally deficient.

### Draft Purpose and Need Statement:

Need: The bridge is structurally deficient with a sufficiency rating of 49.9.

Purpose: The purpose of this project is to continue to provide a safe, reliable crossing on KY 2124 over the South Fork of Panther Creek.

### III. PRELIMINARY ENVIRONMENTAL OVERVIEW

#### A. Air Quality

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

STIP Pg. #:

TIP Pg. #:

None

#### B. Archeology/Historic Resources

☐ Known Archeological or Historic Resources are present

Archaeological Expert needs to examine site if disturbance on surrounding area. Bridge built in 1935 so Historic Expert will examine.

#### C. Threatened and Endangered Species

No Effect unless trees removed during designated time of year (Indiana bat). Will have to pay mitigation fees contingent upon time of year removal takes place.

#### D. Hazardous Materials

☐ Potentially Contaminated Sites are present ☒ Potential Bridge or Structure Demolition

Concrete and steel bridge. Concrete will need to be tested for asbestos

#### E. 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

DEA Permits Expert will examine final plans

#### F. Noise

Are existing or planned noise sensitive receptors adjacent to the proposed project? ☒ Yes ☐ No

Is this considered a "Type I Project" according to the [KYTC Noise Analysis and Abatement Policy?](#) ☐ Yes ☒ No

Construction noise will increase but traffic will not increase so no noise analysis needed.

#### G. Socioeconomic

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

None

#### H. Section 4(f) or 6(f) Resources

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

None

Anticipated Environmental Document:

CE Level 1



#### IV. PROJECT SCOPING

##### A. Alternative 1: No Build

The bridge will continue to deteriorate and eventually need replacement.

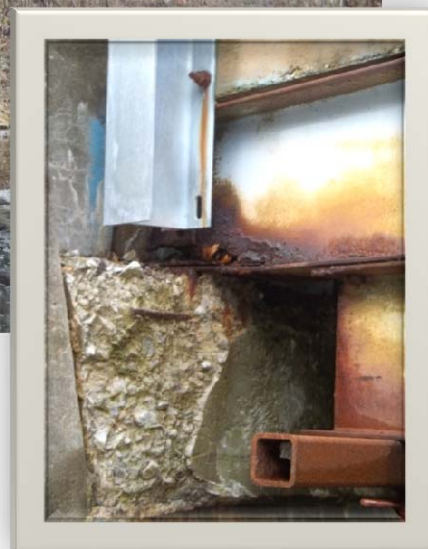
##### Current Estimate

Phase	Estimate
Planning	
Design	\$150,000
R/W	\$50,000
Utilites	\$75,000
Const	\$132,000
<b>Total</b>	<b>\$407,000</b>

##### B. Alternative 2: Replace Bridge

Construct new bridge to replace existing bridge.

This bridge can be replaced in-place with a detour along existing routes or realigned next to the existing bridge. Replacing the new bridge beside the old one would allow traffic to be maintained on the existing bridge; however, due to existing curvature, it would be very difficult to realign in this area without exceeding the estimates in the highway plan. If replaced in-place, innovative structure options should be investigated to decrease road closure time. The construction estimate is based on a 24 ft wide, curb to curb, 24 ft long single span bridge replaced in place. Right of Way and Utility estimates are from the Highway Plan. Overhead utilites were observed to the west of the bridge and a large ditch was observed to the east of the bridge.







### V. Summary

The bridge over in Hancock County is structurally deficient and needs replacement. Alternative 2, replacement of the bridge, is recommended and can be constructed within the budgeted amount. The no build alternative is not recommended but may be allowed for now due to the recent temporary improvements to the superstructure.

