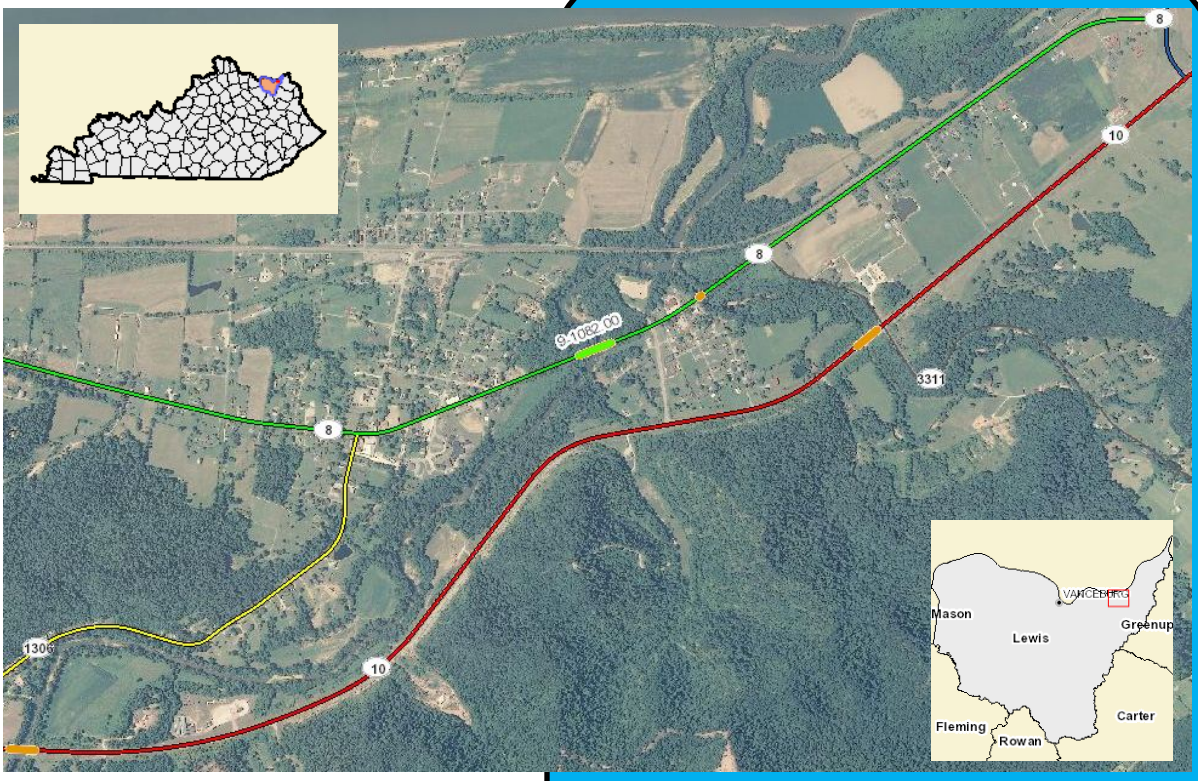
Data Needs Analysis



Scoping Study

KY 8, Lewis County
From M.P. 22.450
To M.P. 22.750
Item No. 9-1082.00

Prepared by the KYTC
Division of Planning and
KYTC District 9

February 2013

KENTUCKY TRANSPORTATION CABINET

I. PRELIMINARY PROJECT INFORMATION

County:	Lewis	**Item No.:**	9-1082.00
Route Number(s):	KY 8	**Road Name:**	
Program No.:	86827	**UPN:**	FD 52 068 008 022-023
Federal Project No.:	BRO 5236 (008)	**Type of Work:**	Bridge Replacement

2012 **Highway Plan Project Description:**

Replace bridge on KY 8 over Kinniconnick Creek 0.094 mile W of Dudley Ave (CR-1031A)(SR26.5) 068B00003N

Beginning MP: 22.450 **Ending MP:** 22.750 **Project Length:** 0.300

Functional Class.: ☐ Urban ☑ Rural **State Class.:** ☐ Primary ☑ Secondary

Route is on: ☐ NHS ☑ NN ☐ Ext Wt

MPO Area: Not Applicable **Truck Class.:**

In TIP: ☐ Yes ☐ No **% Trucks:** 4.6

ADT (current): 3238 (Year) 2010 **Terrain:**

Access Control: ☐ None ☑ Permit ☐ Fully Controlled ☐ Partial Spacing:

Median Type: ☑ Undivided ☐ Divided (Type):

Existing Bike Accommodations: **Ped:** ☐ Sidewalk

Posted Speed: ☐ 35 mph ☑ 45 mph ☐ 55 mph ☐ Other (Specify):

KYTC Guidelines Preliminarily Based on : 45 **MPH Proposed Design Speed**

Roadway Data:	**EXISTING**	**COMMON GEOMETRIC PRACTICES***
No. of Lanes	2	2
Lane Width	10	12
Shoulder Width	2	8
Max. Superelevation**		8%
Minimum Radius**	0	587
Maximum Grade	4%	7%
Minimum Sight Dist.		360
Sidewalk Width(urban)		
Clear-zone***		

Existing Rdwy. Plans available?
☑ Yes ☐ No
Year of Plans: 30,37,40,41

☐ Traffic Forecast Requested
Date Requested:

☐ Mapping/Survey Requested
Date Requested:

Type:

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.*:	068B00003N	(Bridge #2)
Sufficiency Rating	26.5	
Total Length	393	
Width, curb to curb	20	
Span Lengths	115, 164, 115	
Year Built	1930	
Posted Weight Limit	N/A	
Structurally Deficient?	No	
Functionally Obsolete?	Yes	
Existing Bridge Type	Steel Truss	

Existing Geotech data available?
☐ Yes ☑ No

Detour Length(s):

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

II. PROJECT PURPOSE AND NEED

A. Legislation

The following funding is listed in the 2012 General Assembly's Recommended Highway Plan. The design estimate is confirmed by an early printout of the 2012 Enacted Highway Plan.

Funding	*Phase*	*Year*	*Amount*
BRO	D	2013	$650,000
BRO	R	2015	$150,000
BRO	U	2015	$150,000
BRX	C	2017	$3,000,000

B. Project Status

Design funds for this project were authorized in August 2012. Scheduled advertisement date is February 2013.

C. System Linkage

Albeit not the only link, due to the construction of the AA Highway (KY 10) in the 1980's , this section of KY 8 within/near Garrison gives access for residents traveling east to cross the bridges at Portsmouth into Ohio. This route is classified as a Major Rural Collector.

D. Modal Interrelationships

N/A

E. Social Demands & Economic Development

N/A

F. Transportation Demand

Based on findings from CTS, the last actual traffic count for this segment including the bridge is 3,238 in 2010. Traffic has declined only slightly in the last 10 years: 3,490(07), 3,510(04), 3,470(02), 3,800(98), and has never been below 3000 adt since the 1970's.

II. PROJECT PURPOSE AND NEED (cont.)

G. Capacity

There are not capacity issues at this location.

H. Safety

Collision data was obtained for a five year period from January 2008 to December 2012. There were two collisions during this time frame, none of which were fatal. The main concern for this project is the functionally obsolete bridge.

I. Roadway Deficiencies

The current section of roadway has a rural template of 10' lanes and 2' shoulders. KYTC's Common Geometric Practices for Rural Collector Roads recommends 12' lanes and 8' shoulders. The narrow lanes, vertical clearance (due to truss structure), and ADT identify this bridge as functionally obsolete.

Draft Purpose and Need Statement:

Need: This project is needed because the existing structure has a sufficiency rating of 26.5/100.0, which indicates that it is funtionally obsolete. KYTC's policy is to consider replacement of structures when their sufficiency rating falls below 50.0/100.0.

Purpose: The primary purpose of this bridge replacement is to replace the functionally obsolete bridge and approaches on KY 8 over Kinniconnick Creek approximately 0.094 mile west of Dudley Avenue (CR-1031A) in order to improve safety to the traveling public.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

STIP Pg.#: **TIP Pg.#:**

The project does not appear in the FY2011-2014 STIP listing of federal projects. An amendment to the STIP will need to be completed.

B. Archeology/Historic Resources

☐ Known Archeological or Historic Resources are present

Since the existing bridge was constructed in 1930, it is potentially eligible for the National Register of Historic Places. Additionally, some buildings and homes might meet the criteria of being 50 years old or older. An assessment of the eligibility of homes, buildings and the existing structure will be required early in the Design phase of the project. All additional right of way or easement areas will require a Phase I archaeology survey once an alignment has been selected.

C. Threatened and Endangered Species

Indiana bat, freshwater mussels, and Virginia spirea are listed for Lewis County. Habitat for freshwater mussels and Indiana bat was observed during a site visit on March 21, 2012. Although there were some scoured areas along the banks of Kinniconnick Creek, it was undetermined whether suitable habitat is available for Virginia spirea. A biological assessment for all listed species will be required prior to construction.

D. Hazardous Materials

☑ Potentially Contaminated Sites are present ☑ Potential Bridge or Structure Demolition

One site (Garrison Auction) could potentially warrant a Phase II Site Assessment if it is determined that it was once used as a garage. Bridge will need to be inspected to determine if any asbestos containing materials are present.

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

Area surrounding Kinniconnick Creek displayed some characteristics of a bottomland hardwood wetland. Until the extent of impacts to the potential wetland and the stream are known, it is difficult to assess the expected ACE and/or KDOW permit required, but it is anticipated that at a minimum, an ACE NW #14 with a General WQC from KDOW will be needed. Additionally, because the USACE maintains the Mehldahl boat ramp at this location, it is probable that a flowage easement is maintained along Kinniconnick Creek. The stream at this point appeared to be navigable, and thus would likely require a Coast Guard Permit in addition to any USACE/KDOW Section 404/401 permits that are required.

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

The scope of this bridge replacement project is not likely to warrant a noise analysis.

G. Socioeconomic

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

Unknown at this time.

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

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

The existing structure is potentially eligible since it was constructed in 1930. A Programmatic Section 4(f) for Historic Bridges will be required.

Anticipated Environmental Document: CE Level 1

IV. PROJECT SCOPING

This project is needed as the sufficiency rating indicates the bridge is functionally obsolute, making it is an unsafe structure for residents near Garrison. The current estimate is based on replacing or rehabilitation of the existing bridge in place. This does not include any approach work that may be required to design and construct the new bridge outside of the existing alignment.

Current Estimate	
Phase	Estimate
Planning	
Design	$650,000
R/W	$150,000
Utilites	$150,000
Const	$3,000,000
Total	**$3,950,000**

V. SUMMARY

This study is to address the reconstruction / rehabilitation of a functionally obsolete bridge. The existing bridge does not meet current design standards which contributes to the low sufficiency rating and the eligibility of federal funding.