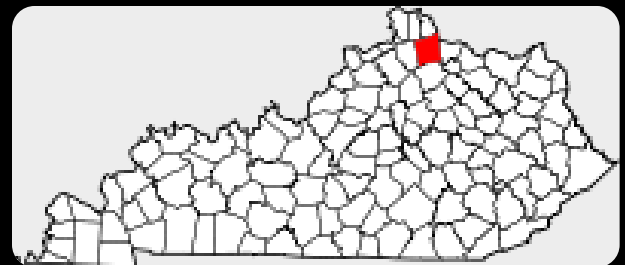
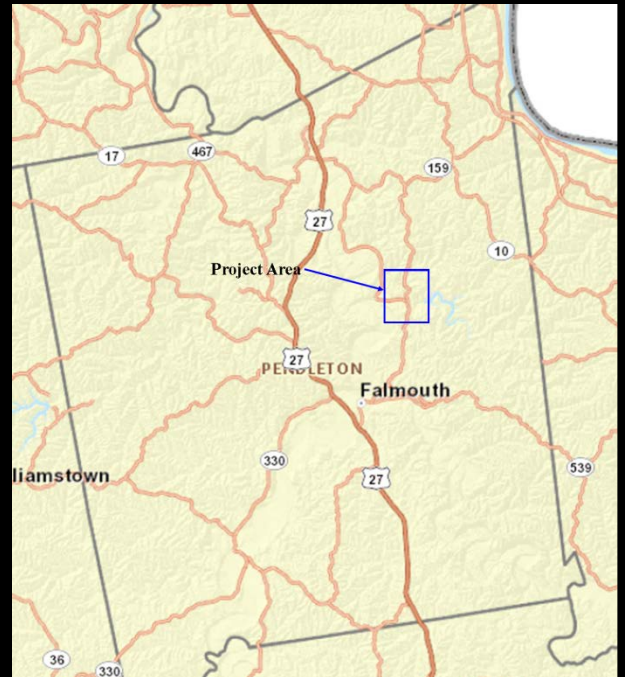


Data

Needs

Analysis

Scoping Study



Pendleton County
KY 159
From MP 3.589 to 3.689
Item No. 6-1073

Prepared by the KYTC
Division of Planning
KYTC District 6

November 2012



I. PRELIMINARY PROJECT INFORMATION

County:	Pendleton	Item No.:	6-1073
Route Number(s):	KY 159	Road Name:	Falmouth - Mt Auburn Rd
Program No.:	85398	UPN:	FD52 96 159 004-004
Federal Project No.:	BRZ 0603(222)	Type of Work:	Bridge Replacement

2010 Highway Plan Project Description:

Replace bridge on KY 159 (MP 3.639) over Kincaid Creek; 0.2 miles south of JCT KY 609; (Structurally Deficient, SR = 24.4) 096B00004N

Beginning MP:	3.589	Ending MP:	3.689	Project Length:	0.1
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Functional Class.:	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural	State Class.:	<input type="checkbox"/> Primary <input checked="" type="checkbox"/> Secondary
	Collector ▼	Route is on:	<input type="checkbox"/> NHS <input checked="" type="checkbox"/> NN <input type="checkbox"/> Ext Wt

MPO Area: Not Applicable ▼
In TIP: ☐ Yes ☐ No

Truck Class.: AA ▼
% Trucks: N/A

ADT (current): 643 2011

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 : 40 MPH Proposed Design Speed

COMMON GEOMETRIC

Roadway Data:	EXISTING	PRACTICES*	
No. of Lanes	2	2	Existing Rdwy. Plans available?
Lane Width	10 ft	11 ft	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Shoulder Width	3 ft	5 ft	Year of Plans: 1940
Max. Superelevation**	N/A	6%	<input type="checkbox"/> Traffic Forecast Requested
Minimum Radius**	637 ft	510 ft	Date Requested:
Maximum Grade	N/A	8%	<input type="checkbox"/> Mapping/Survey Requested
Minimum Sight Dist.	2% >= 1500 ft	305 ft	Date Requested:
Sidewalk Width(urban)	N/A	N/A	Type: ▼
Clear-zone***	N/A	**	

Project Notes/Design Exceptions?: ** Slope of 1V:3H, fixed objects should not be present in vicinity

*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)	
Sufficiency Rating	42.2	N/A	Existing Geotech data available?
Total Length	228 ft	N/A	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Width, curb to curb	24 ft	N/A	
Span Lengths	35.1 ft	N/A	Detour Length(s): 15 miles
Year Built	1940	N/A	
Posted Weight Limit	24 Tons & 27 Tons	N/A	
Structurally Deficient?	Yes	N/A	
Functionally Obsolete?	No	N/A	
Existing Bridge Type	Concrete Tee Beam	N/A	

*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 Kentucky Transportation Cabinet 2012 - 2018 6 Year Highway Plan as item number 6-1073	<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
	BRX	D	2013	\$240,000
	BRX	R	2014	\$100,000
	BRX	U	2014	\$75,000
	BRX	C	2016	\$2,350,000

B. Project Status

Project is listed in the TC-10 project authorization no. 85398 providing \$240,000 in initial design funds.

C. System Linkage

This bridge crosses Kincaide Creek on KY 159 at MP 3.6 in Pendleton County. This route provides an alternate route to US 27 between Falmouth to the south and the Butler to the north. It also provides the most direct access to the AA Hwy (KY 9) from Falmouth.

D. Modal Interrelationships

This route is not a major freight route but is an important route for tourism.

E. Social Demands & Economic Development

The bridge on KY 159 is near the main entrance to Kincaide Lake State Park and the Kentucky Wool Festival grounds. It is a very important link to these tourist attractions that are very important to the region and the State of Kentucky.

F. Transportation Demand

The ADT was 643 in 2011 on this section of KY 159. Traffic increase is expected in the future with more visitors to Kincaide Lake State Park and with the construction of the new KY 22 bridge in Falmouth providing better access to KY 159.

II. PROJECT PURPOSE AND NEED (cont.)

G. Capacity

The bridge on KY 159 is a two lane bridge with no shoulders. Given the current ADT of 643, capacity is not a problem. During Wool Festival weekend the bridge would experience the most congestion but still manageable.

H. Safety

Collision data for a 5 year period from 07/01/2007 to 6/30/2012 from MP 3.5 to MP 3.8 on KY 159 indicate there were 3 collisions with 1 injury. All 3 occurred during daylight with dry conditions and were angle collisions that involved 2 vehicles, with 1 vehicle entering/leaving entrance. Crash data indicates that there is not a major safety issue in the area.

I. Roadway Deficiencies

The bridge over Kincaide Creek is structurally deficient and needs replacement. Sufficiency Rating from the 2012 KYTC Bridge Inspection Report is 42.2

Draft Purpose and Need Statement:

Need: The bridge on KY 159 over Kincaide Creek is structurally deficient and needs to be replaced.

Purpose: The purpose of this project is to address the replacement of this bridge, the impacts it will have on the region and to provide safe and reliable travel.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

STIP Pg. #: 104

TIP Pg. #:

B. Archeology/Historic Resources

☐ Known Archeological or Historic Resources are present

No known historical building in the area will be affected. Unknown if any archeology resources are in the area.

C. Threatened and Endangered Species

Possible presence of bat habits in the area as well as mussel species in the creek near the bridge.

D. Hazardous Materials

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

Bridge demolition may cause hazardous materials to get into the creek.

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

Permit may be required due to impacts to the creek.

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

Located near the entrance to Kincaide Lake State Park.

G. Socioeconomic

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

No impact to any socioeconomic categories.

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

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

No section 4(f) or 6(f) properties.

Anticipated Environmental Document:

CE Level 1



IV. PROJECT SCOPING

A. Alternative 1: No Build

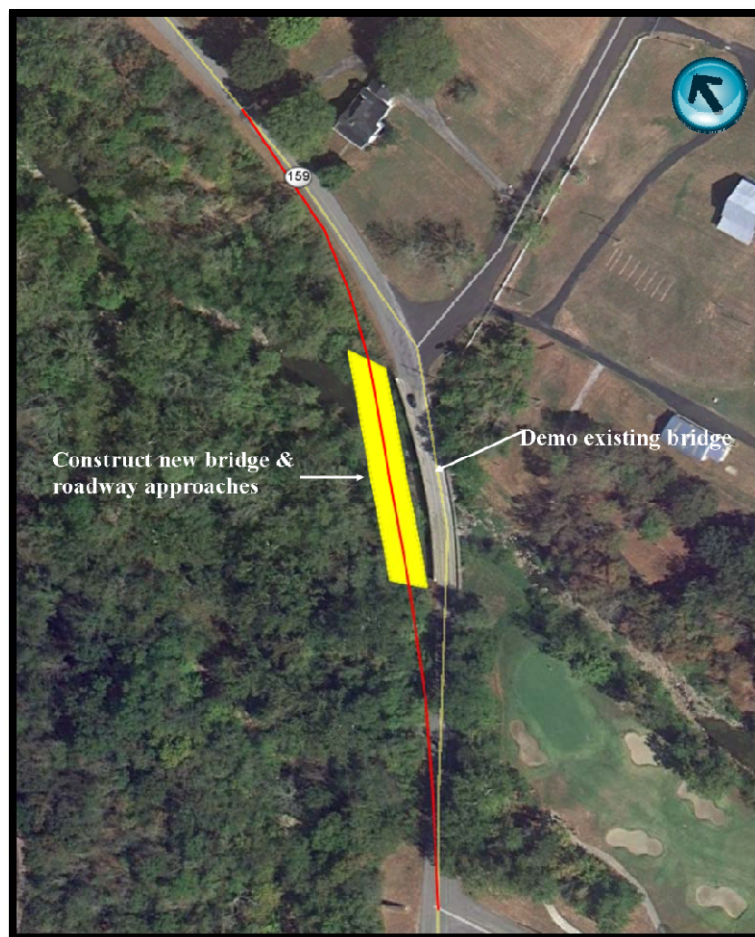
The bridge will continue to deteriorate, need repair and eventual replacement.

B. Alternative 2: Replace Bridge

Construct new bridge to replace existing bridge.

Begin constructing new bridge adjacent to the existing bridge on the west side. Construct new approaches from the north and the south ends of the new bridge. Route traffic onto new bridge when completed.

Demo old bridge. Note: The bridge may also be built on the east side of the existing bridge if estimated to be more feasible and cost effective.



Current Estimate	
Phase	Estimate
Design	\$240,000
R/W	\$100,000
Utilites	\$75,000
Const	\$2,350,000
Total	\$2,765,000

V. Summary

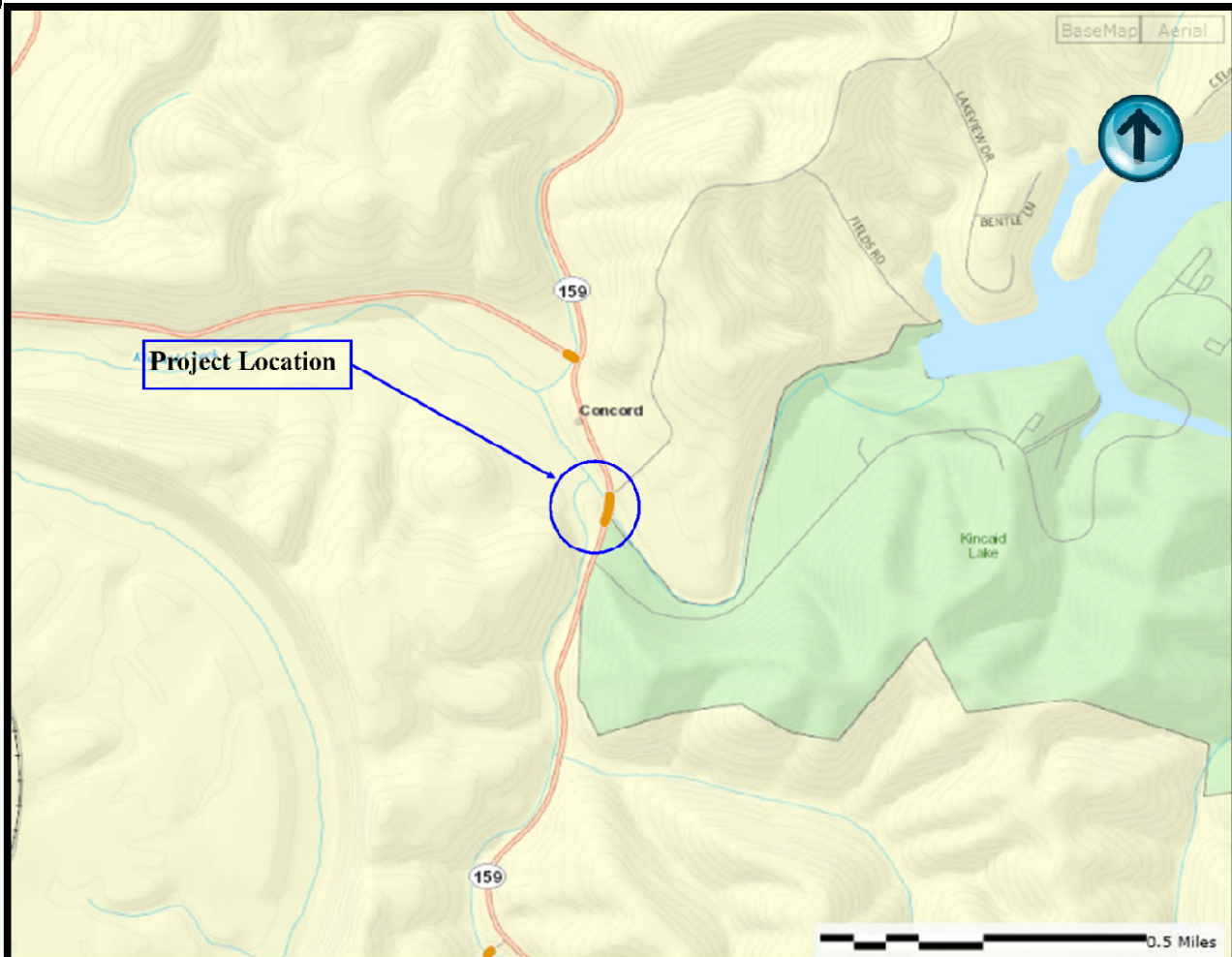
The bridge over Kincaide Creek in Pendleton County is structurally deficient and needs replacement. The alternative 2 to replace the bridge is recommended and can be constructed within the budgeted amount. The no build alternative is not recommended for the long term but can be allowed for the short term.



VI. Tables and Exhibits

Project Location Map

Bridge located on KY 159 approx 0.2 miles south of KY 609 just north of the entrance to Kincaide Lake State Park.



Detour length would be approx 15 miles if bridge were closed to traffic. Therefore it is recommended to keep bridge open to traffic through the duration of the project.