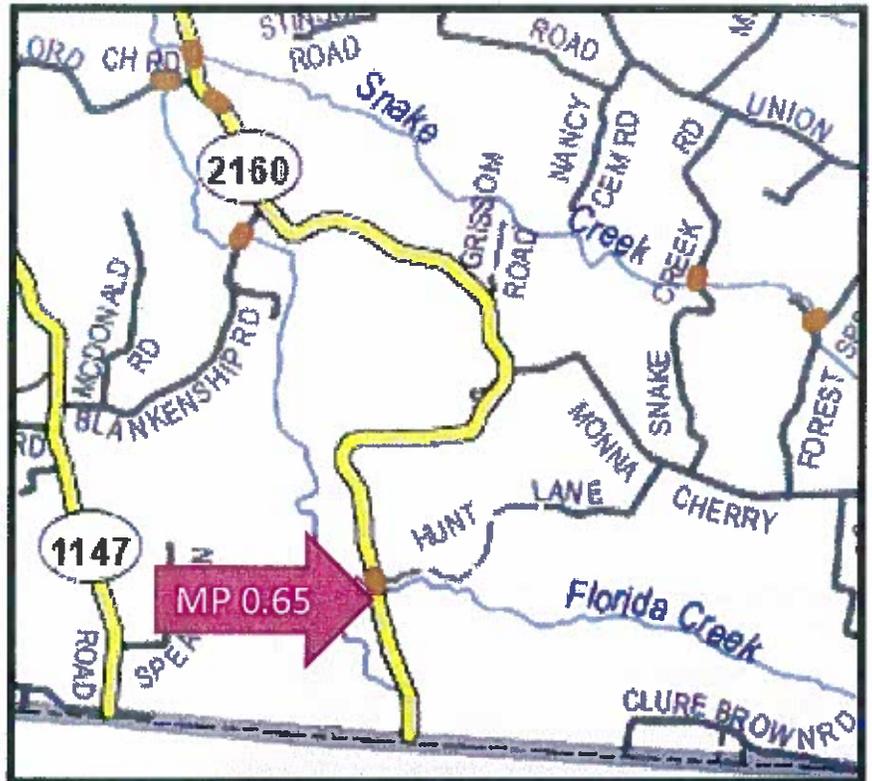


Data

Needs

Analysis



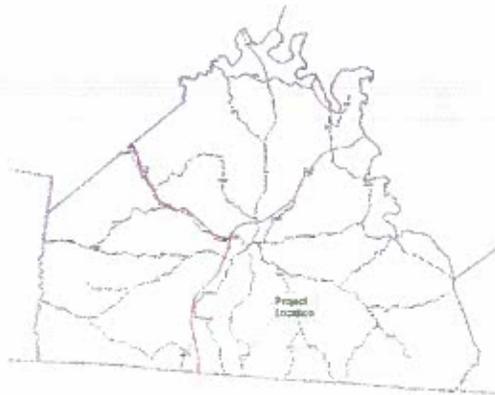
Scoping Study

3-1080

KY 2160; replace bridge over Florida Creek south of the intersection with Hunt Lane

Prepared by
KYTC District 3

July 31, 2012



I. PRELIMINARY PROJECT INFORMATION

County: Allen Item No.: 3-1080
 Route Number(s): KY 2160 Road Name: _____
 Program No.: _____ UPN: (Function) (County #) (Route) (MPs)
 Federal Project No.: _____ Type of Work: Bridge Replacement

2012 Highway Plan Project Description:

Replace bridge on KY 2160 over Florida Creek south of the intersection with Hunt Lane (CR1155) (SR40.8) 002B00048N

Beginning MP: 0.54 Ending MP: 0.74 Project Length: 0.2

Functional Class.: Urban Rural
 Collector State Class.: Primary Secondary
 MPO Area: Not Applicable Route is on: NHS NN Ext Wt
 In TIP: Yes No Truck Class.: A
 ADT (current): 2011 307 Terrain: Rolling
 Access Control: None Permit Fully Controlled Partial Spacing: _____
 Median Type: Undivided Divided (Type): _____
 Existing Bike Accommodations: None Ped: Sidewalk
 Posted Speed: 35 mph 45 mph 55 mph Other (Specify): _____

KYTC Guidelines Preliminarily Based on : 55 MPH Proposed Design Speed

COMMON GEOMETRIC PRACTICES*

Roadway Data:	EXISTING	PRACTICES*	Existing Rdwy. Plans available?
No. of Lanes	<u>2</u>	<u>2</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Lane Width	<u>9</u>	<u>11</u>	Year of Plans: <u>1950</u>
Shoulder Width	<u>N/A</u>	<u>2</u>	<input type="checkbox"/> Traffic Forecast Requested
Max. Superelevation**	<u>N/A</u>	<u>8%</u>	Date Requested: <u>Aug-12</u>
Minimum Radius**	<u>N/A</u>	<u>965</u>	<input type="checkbox"/> Mapping/Survey Requested
Maximum Grade	<u>N/A</u>	<u>7%</u>	Date Requested: _____
Minimum Sight Dist.	<u>N/A</u>	<u>495</u>	Type: <u>Conventional</u>
Sidewalk Width(urban)	<u>N/A</u>	<u>N/A</u>	
Clear-zone***	<u>N/A</u>	<u>N/A</u>	

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.*: 002B00048N (Bridge #2)
 Sufficiency Rating: 40.8 Existing Geotech data available?
 Total Length: 27 Yes No
 Width, curb to curb: 18
 Span Lengths: 12
 Year Built: 1950
 Posted Weight Limit: _____
 Structurally Deficient? yes
 Functionally Obsolete? _____

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

II. PROJECT PURPOSE AND NEED

A. Legislation

The following funding was listed in the 2012 General Assembly's Enacted Highway Plan.	<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
	BRO	DESIGN	2013	\$300,000
	BRO	R/W	2014	\$75,000
	BRO	UTILITIES	2014	\$20,000

B. Project Status

The design funds will be available for this bridge replacement in FY 2013 and the project will be included in the STIP.

C. System Linkage

KY 2160 connects the city of Scottsville with the southern end of Allen County and northern Macon and Sumner Counties in Tennessee. If this bridge was not in place the citizens at the southern most region of the county would be required to take a lengthy detour into the state of Tennessee to connect to the resources of Scottsville, the Allen County Seat.

D. Modal Interrelationships

This is a rural roadway that has very low intermodal interaction. A fixed route transit service does not exist in Allen County, but this project would accommodate the existing demand/response rural service.

E. Social Demands & Economic Development

This roadway provides connection between the residents of southern Allen County to the services (schools, business, government services, and recreational activities) provided in Scottsville, the Allen County Seat.

F. Transportation Demand

In review of the traffic counts in the area, an average daily count was indicated for 2011 of 307 on this segment of KY 2160 from MP 0.000 (TN State Line) to MP 3.942 (Concord Church Road).

II. PROJECT PURPOSE AND NEED (cont.)

G. Capacity

This roadway currently does not experience congestion issues.

H. Safety

Since this bridge has been identified as structurally deficient, then its replacement would prevent a catastrophic collapse and a resulting lengthy detour for motorists as well as emergency vehicles. A search of the past three years of available crash data did not identify any crashes in the project area.

I. Roadway Deficiencies

This bridge was identified as a replacement candidate based upon its low sufficiency rating of 40.8 which qualifies it as a structurally deficient bridge. The bridge is only 18 feet in width from curb to curb which creates a hazard for vehicles, especially trucks or farm equipment to pass by oncoming vehicles.

Draft Purpose and Need Statement:

Need: The structurally deficient condition of the existing bridge on KY 2160 has indicated that there is a need for full replacement of the structure.

Purpose: The purpose of this project is to improve the safety and reliability of KY 2160.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

Project is in: Attainment area Nonattainment or Maintenance Area PM 2.5 County
STIP Pg.#: Pending TIP Pg.#:

B. Archeology/Historic Resources

Known Archeological or Historic Resources are present

The bridge was built in 1950 and it appears that it is a unique design which most likely is eligible for the National Registrar for Historic Places.

C. Threatened and Endangered Species

Gray Bat, Indiana Bat, clubshell, fanshell, sheepnose, and rough pigtoe

D. Hazardous Materials

Potentially Contaminated Sites are present Potential Bridge or Structure Demolition

Project located in rural area. There are no visible potential contamination sites on the project. The bridge will be required to be inspected for asbestos before demolition. A notice must be sent to the Division of Air Quality 10 days prior to demolition.

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

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

There is one house near the project area.

G. Socioeconomic

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

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

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

The bridge could be a 4(f) resource

Anticipated Environmental Document:

CE Level 3

IV. POSSIBLE ALTERNATIVES

A. Alternative 1: No Build

This alternative should be carried forward, but does not address the needs identified.

B. Alternative 2

For this estimate it was assumed that a B17 Box Beam Bridge will be used as the proposed structure. The existing length of 27' was also used for the proposed bridge which assumed the proposed structure depth would be less than or equal to the existing structure depth and would maintain the existing open flow area. The proposed bridge deck will be widened to 22' to accommodate 2-9' driving lanes and 2' shoulders on each side. This will result in a proposed bridge deck area of 594 square feet. It was also assumed that an 18' wide and 25' long bridge approach would be constructed on each side. An itemized preliminary cost estimate and construction items are attached. The estimated preliminary cost for this bridge replacement is \$146,059.04. The cost of utility relocation is estimated at \$20,000 and would involve Tri-County Electric Co-op and North Central Telephone.

Insert Alt. Picture/Sketch here

Planning Level Cost Estimate:

<u>Phase</u>	<u>Estimate</u>
Design	\$150,000
R/W	\$75,000
Utilities	\$20,000
Const	\$175,000
Total	\$420,000

IV. POSSIBLE ALTERNATIVES (cont.)

B. Alternative #3

No Alternative # 3 is considered.

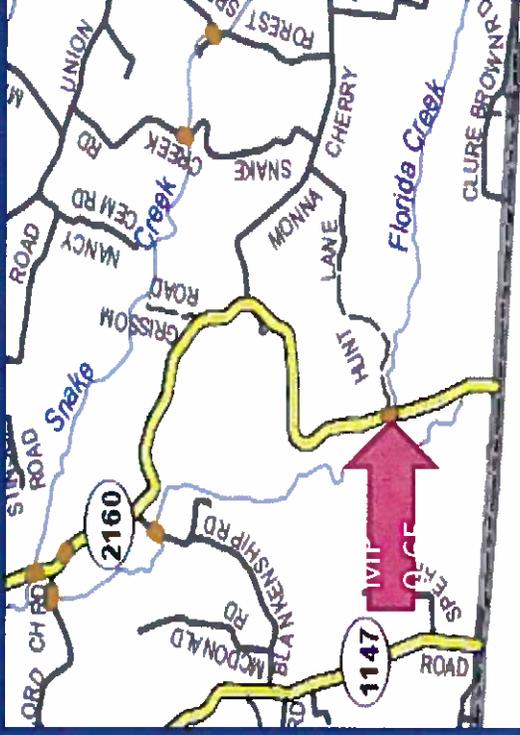
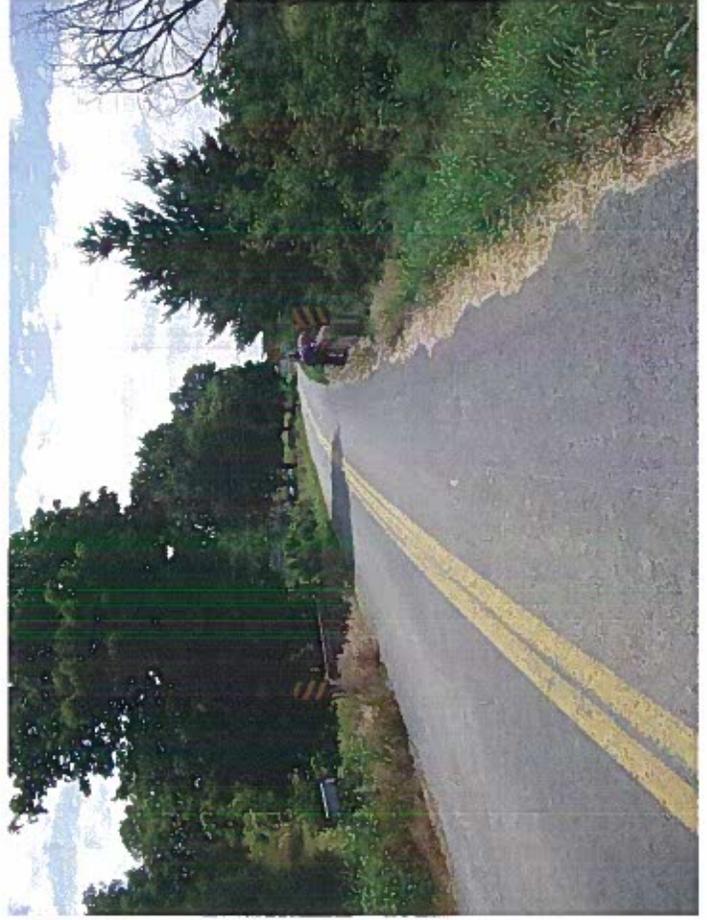
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Planning Level Cost Estimate:	<u>Phase</u>	<u>Estimate</u>
	Design	
	R/W	
	Utilities	
	Const	_____
	Total	

V. Summary

The study team recommends Alternative 2 be the preferred alternative.

Alt #	Description	D (\$)(BRO)	R (\$)(BRO)	U (\$)(BRO)	C (\$)(Future)	Total (\$mil)
1	NO Build	-	-	-	-	-
2	Replace bridge at existing location	150,000	75,000	20,000	175,000	420,000
3						
-	Current Hwy Plan Estimated Cost	300,000	75,000	20,000	TBD	
-	Current Pre-Con Estimated Cost					



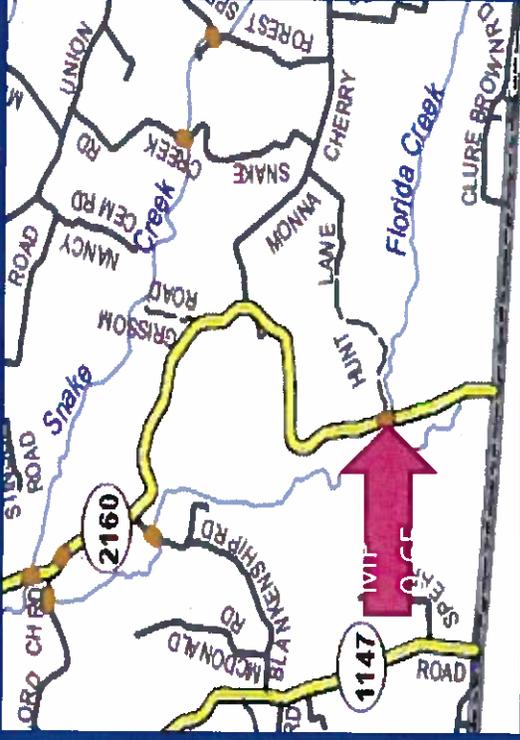
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KY 2160; replace bridge over Florida Creek south of the intersection with Hunt Lane

Photo 1: KY 2160 looking South at bridge

Photo 2: KY 2160 looking south at bridge





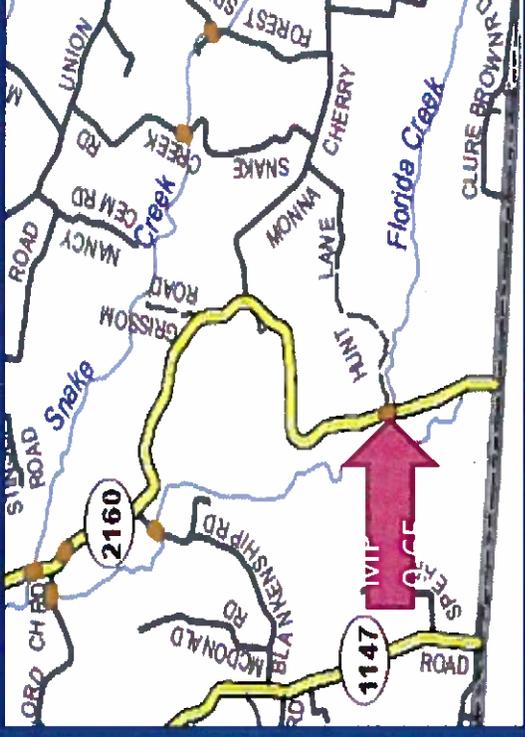
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KY 2160; replace bridge over Florida
Creek south of the intersection with
Hunt Lane

Photo 1: KY 2160 looking south at
bridge

Photo 2: Gothic architecture of bridge



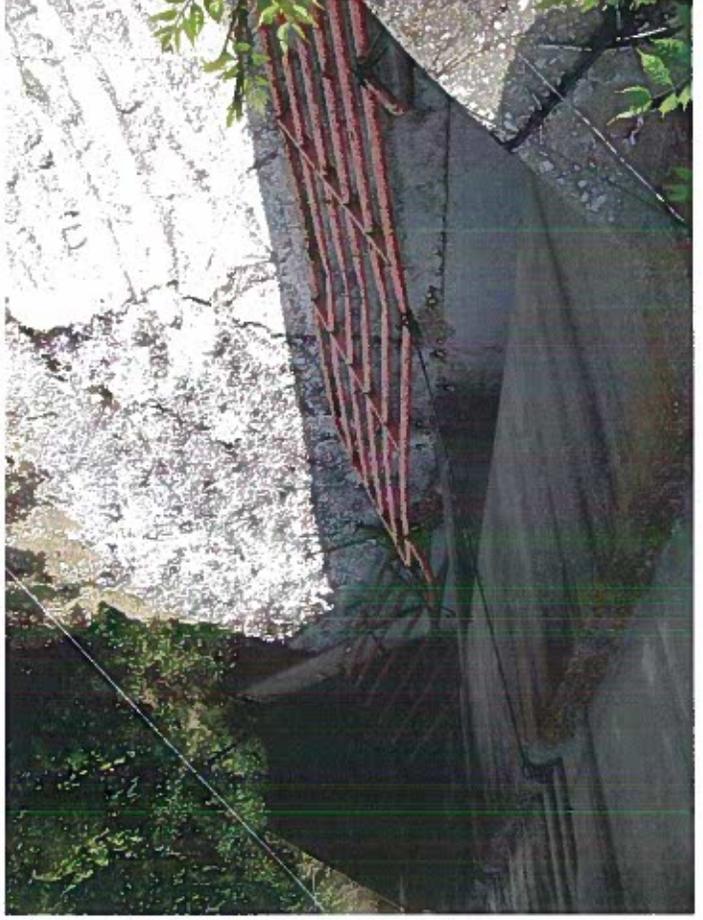


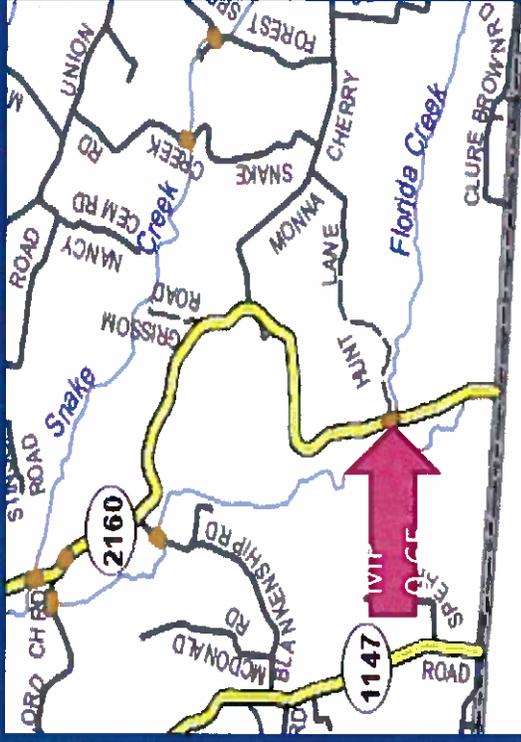
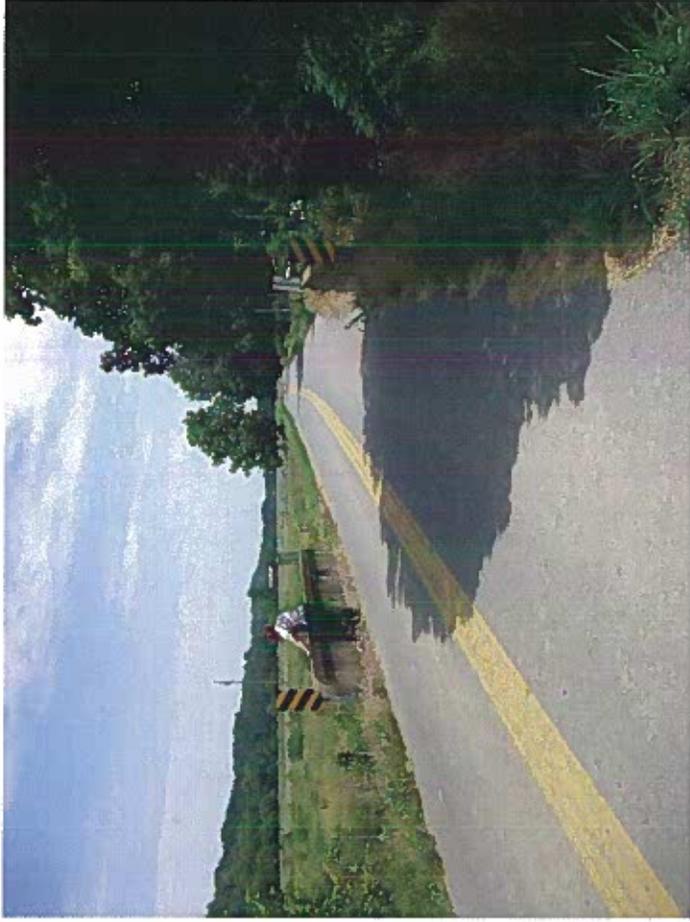
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KY 2160; replace bridge over Florida Creek south of the intersection with Hunt Lane

Photo 1: Gothic architecture of bridge

Photo 2: View under bridge on west side.





3-1080

KY 2160; replace bridge over Florida
Creek south of the intersection with
Hunt Lane

Photo 1: KY 2160 looking north at
bridge.



