DNA
STUDY

KENTUCKY TRANSPORTATION CABINET

CR 1165
Breathitt County

2012 Highway Plan
Item No. 10-1105.00

Prepared by:
KYTC District 10

July 2012

I. PRELIMINARY PROJECT INFORMATION

County: Breathitt **Item No.:** 10-1105.00
Route Number(s): CR 1165 **Road Name:** Marie Roberts Rd
Program No.: **UPN:** (Function) 13 1165 000-001
Federal Project No.: **Type of Work:** Bridge Replacement

2012 **Highway Plan Project Description:**

Replace Bridge on Marie Roberts Road (CR 1165) over Troublesome Creek 0.1 mile SW of KY 15 (SR 27.1) 013C00011N

Beginning MP: 0.092 **Ending MP:** 0.14 **Project Length:** 0.048

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

MPO Area: Not Applicable **Truck Class.** A
In TIP: ☐ Yes ☐ No **% Trucks:** NA

ADT (current): 361 **Terrain:** Level

Access Control: ☐ Fully Controlled ☐ Permi ☐ Partial **Detour Length:** 2.4 miles

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 : 35 **MPH Proposed Design Speed**

Roadway Data:	**EXISTING**	**COMMON GEOMETRIC PRACTICES***
No. of Lanes	2	2
Travelled Way Width	12	22
Shoulder Width	0	6
Max. Superelevation**	NA	4%
Minimum Radius**	NA	420
Maximum Grade	Unknown	5%
Minimum Sight Dist.	250	250
Sidewalk Width(urban)	NA	NA
Clear-zone***	2	18

Existing Rdwy. Plans available?
☐ Yes ☑ No
Year of Plans:

☑ Traffic Forecast Requested
Date Requested: 5/10/2012

☐ Mapping Requested
Date Requested:
Type:

Project Notes/Design Exceptions?: Possible exception for shoulder width.

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

Bridge No.*:	013C00011N	(Bridge #2)
Sufficiency Rating	39.2	
Total Length	250	
Width, curb to curb	14.1	
Span Lengths	62	
Max. Span Length	62	
Year Built	1948	
Posted Weight Limit	NA	
Structurally Deficient?	yes	
Functionally Obsolete?	yes	

Existing Geotech data available?
☐ Yes ☑ No

* If more than 2 bridges are present on project, see attached sheets.

II. PROJECT PURPOSE AND NEED

A. Legislation

This project was approved by the General Assembly as part of the Bridge Replacement Program in the 2012 Highway Plan.

Funding	*Phase*	*Year*	*Amount*
BRZ	D	2013	$200,000
BRZ	R	2014	$50,000
BRZ	U	2014	$100,000
BRZ	C	2015	$875,000

B. Project Status

Design funds have been requested but not authorized at this time. There are no other projects in this area at this time.

C. System Linkage

This route serves as a connector for two local schools and a small residential community to access the KY 15 corridor.

D. Modal Interrelationships

No known Modal Connections.

E. Social Demands & Economic Development

There are currently no new plans for further commercial or industrial type development in this area. It is anticipated that this route will continue to function as a local route serving two schools and several residents..

F. Transportation Demand

The usage demand for this road is expected to stay the same for the foreseeable future.

II. PROJECT PURPOSE AND NEED (cont.)

G. Capacity

There are no known capacity issues at this time nor are any expected in the near future.

H. Safety

A review of the Kentucky State Police Collision Database shows that no collisions have occurred within the project limits in the last five years.

I. Roadway Deficiencies

The bridge is structurally deficient and is considered functionally obsolete by current design standards. The approach to the bridge from KY 15 has a vertical curve that should be improved if possible.

Purpose and Need Statement:

Need:This project is needed in order to replace the existing Structurally Deficient (SR 39.2) and Functionally Obsolete bridge that serves two schools and a small residential community along CR 1165.

Purpose: The purpose of this project is to replace the existing Structurally Deficient (SR 39.2) and Functionally Obsolete bridge along Marie Roberts Road (CR 1165.)

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

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

NA

B. Archeology/Historic Resources

☑ Known Archeological or Historic Resources are present

Bridge is eligible for the Historic Register.

C. Threatened and Endangered Species

Indiana Bat, Kentucky Arrow Darter

D. Hazardous Materials

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

Existing structure to be removed.

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

See III B.

Anticipated Environmental Document: CE Level 1

IV. POSSIBLE ALTERNATIVES

A. Alternative 1: No Build

This alternate should be considered during Phase I Design since there is another access to this area.

B. Alternative 2

This alternate proposes to construct a new structure to the north of the existing structure. Doing this would allow Traffic to be maintained on the current bridge until the new one is completed. This would involve a minor realignment of the roadway and thus it would have a higher Right of Way cost. Utility cost is estimated to be the same for both alternates.

Planning Level Cost Estimate:

Phase	Estimate
Design	$300,000
R/W	$80,000
Utilities	$100,000
Const	$1,500,000
Total	**$1,980,000**

IV. POSSIBLE ALTERNATIVES (cont.)

B. Alternative #3

This alternate proposes to reconstruct the new bridge in basically the same location as the existing one. This would be accomplished using part-width construction. As with all part-width projects it is anticipated that the construction time would take slightly longer, however it will require both less Right of Way and less approach work.

Planning Level Cost Estimate:

Phase	Estimate
Design	$300,000
R/W	$40,000
Utilities	$100,000
Const	$1,500,000
Total	**$1,940,000**

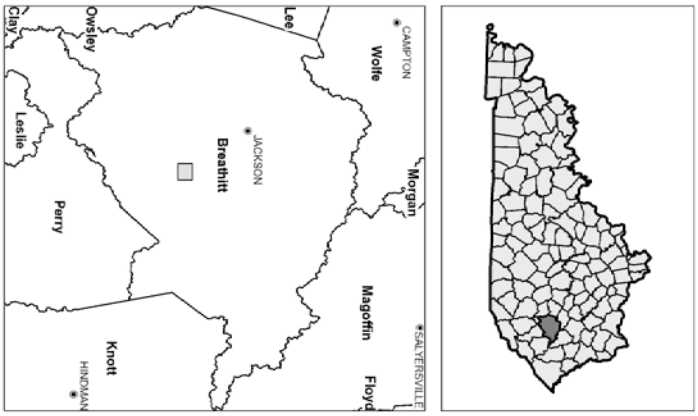
V. Summary

This is a DNA Study of Item # 10-1105.00 as authorized in the 2012 Biennial Highway Plan. The following are the results and recommendations by the Project team:

1. The Purpose of this project is - To ensure continued usage of the existing route by replacing a Structurally Deficient and Functionally Obsolete Bridge.
2. The Project Team recommends to carry Alternates 1 & 2 forward into the Design Phase.
3. The Design Team and Construction Team should coordinate this project to ensure the least amount of impacts to the schools.

Alt #	Description	D ($)(2013)	R ($)(2014)	U ($)(2014)	C ($)(2015)	Total ($mil)
1	No Build	-	-	-	-	-
2	New Alignment	$ 300,000.00	$ 80,000.00	$ 100,000.00	$ 1,500,000.00	$ 1,980,000.00
3	Part-Width	$ 300,000.00	$ 40,000.00	$ 100,000.00	$ 1,500,000.00	$ 1,940,000.00
-	Current Hwy Plan Estimated Cost	$ 200,000.00	$ 50,000.00	$ 100,000.00	$ 875,000.00	$ 1,225,000.00
-	Current Pre-Con Estimated Cost	$ 200,000.00	$ 50,000.00	$ 100,000.00	$ 875,000.00	$ 1,225,000.00

VI. Tables and Exhibits



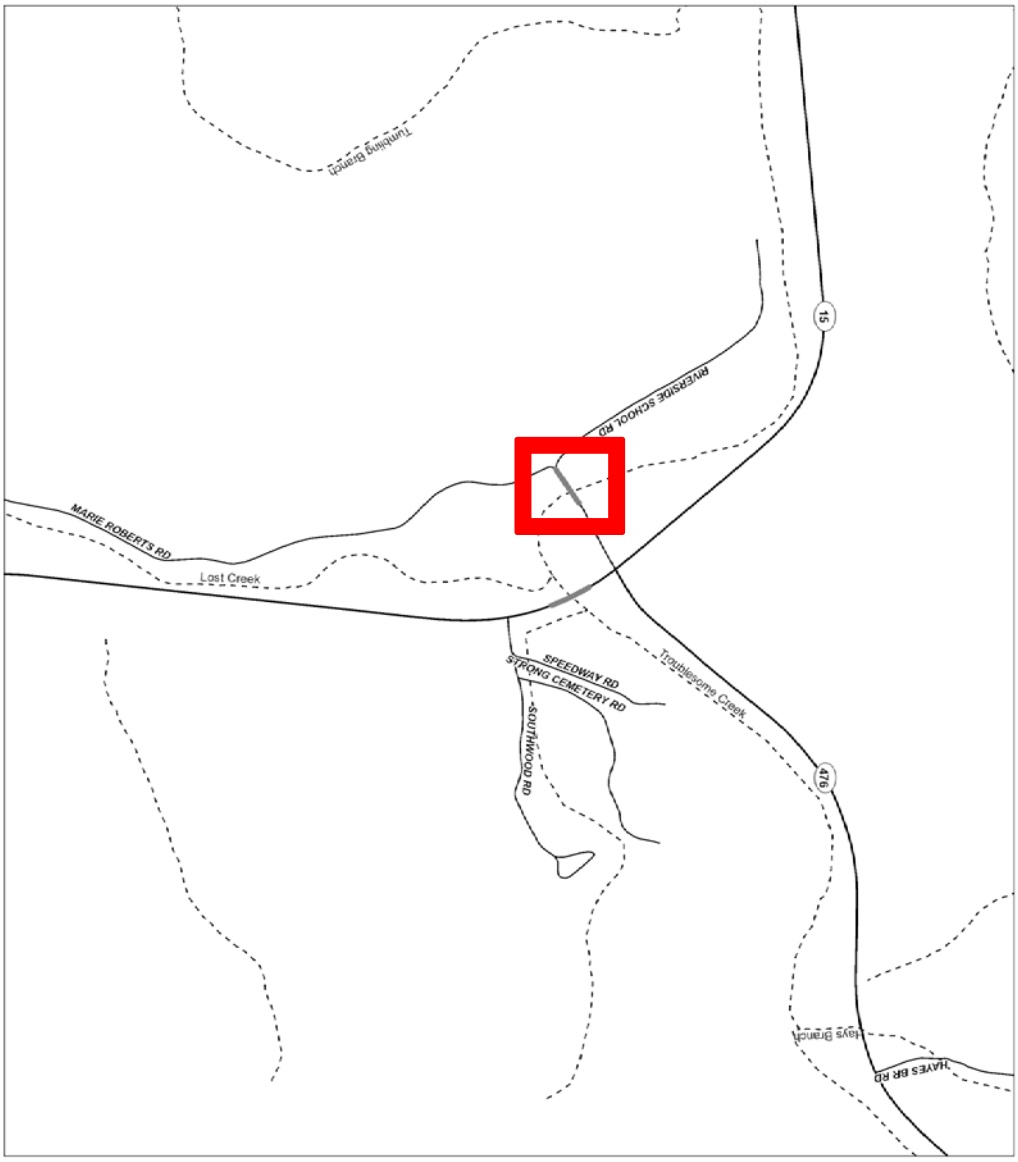


Exhibit 2:

VI. Tables and Exhibits (cont.)

Exhibit 3:

Exhibit 4: