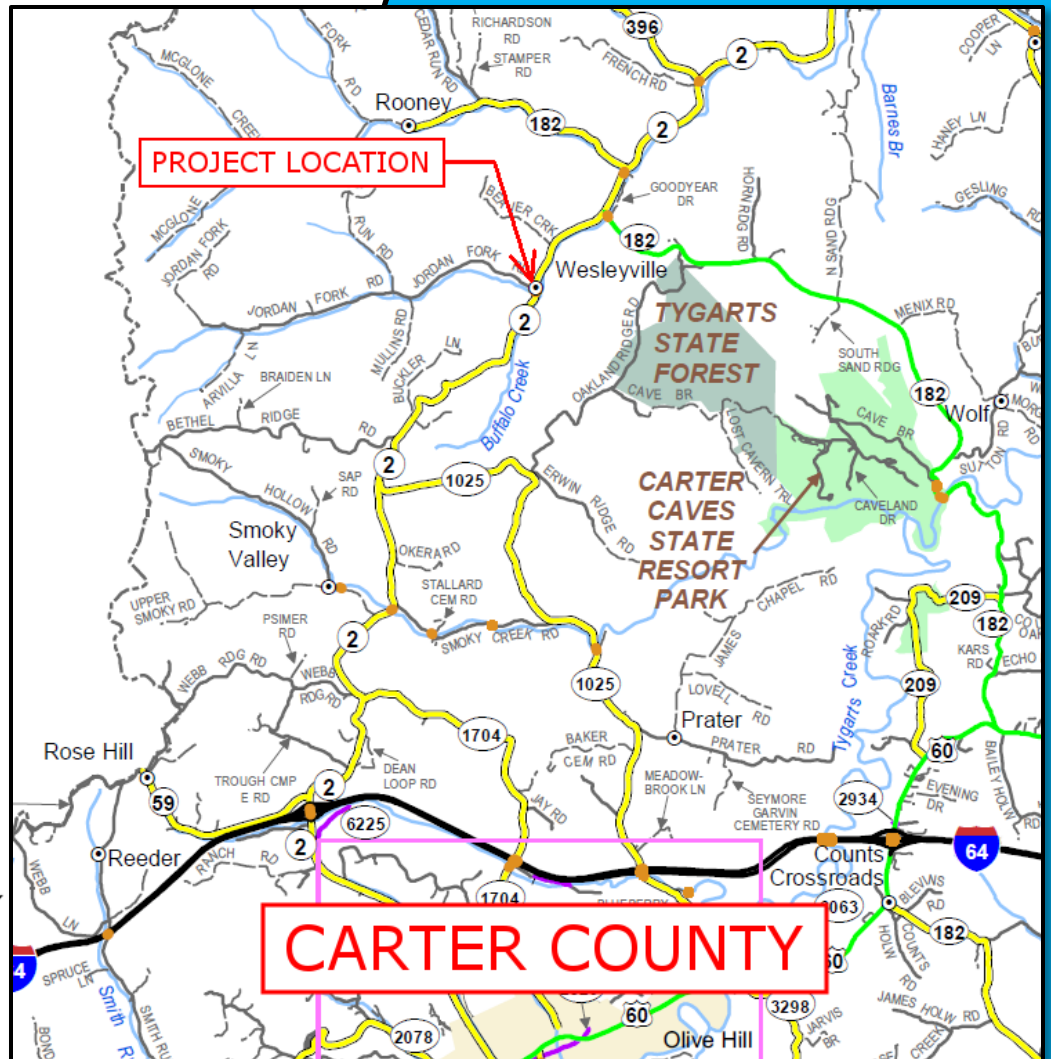


Data Needs Analysis



KY 2, Carter County
Bridge Replacement
M.P. 8.734 to M.P. 8.774
Item No. 09-1083.0

Prepared by KYTC
District 9 Design Staff

January 2013



I. PRELIMINARY PROJECT INFORMATION			
County:	Carter	Item No.:	09-1083.00
Route Number(s):	KY 2	Road Name:	N/A
Program No.:	86755	UPN:	FD52 022 0002 008-009
Federal Project No.:	BRO 5239(016)	Type of Work:	Bridge Replacement
2012 Highway Plan Project Description:			
REPLACE BRIDGE ON KY 2 OVER JORDAN FORK AT INTERSECTION OF KY 2 & JORDAN FORK ROAD(CR 1445)(SR40.2) 022B00072N			
Beginning MP:	8.734	Ending MP:	8.774
Project Length:	0.04		
Functional Class.:	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural Collector ▼ ▼	State Class.:	<input type="checkbox"/> Primary <input checked="" type="checkbox"/> Secondary Route is on: <input type="checkbox"/> NHS <input checked="" type="checkbox"/> NN <input type="checkbox"/> Ext Wt
MPO Area:	Not Applicable	Truck Class.:	AA ▼
In TIP: <input type="checkbox"/> Yes <input type="checkbox"/> No		% Trucks:	21.70%
ADT (current):	650 (2010)	Terrain:	Rolling ▼
Access Control:	<input type="checkbox"/> None <input checked="" type="checkbox"/> Permit <input type="checkbox"/> Fully Controlled <input type="checkbox"/> Partial Spacing: ▼		
Median Type:	<input checked="" type="checkbox"/> Undivided <input type="checkbox"/> Divided (Type):		
Existing Bike Accommodations:	Shared Lane ▼	Ped:	<input type="checkbox"/> Sidewalk
Posted Speed:	<input type="checkbox"/> 35 mph <input type="checkbox"/> 45 mph <input checked="" type="checkbox"/> 55 mph <input type="checkbox"/> Other (Specify):		
KYTC Guidelines Preliminarily Based on :	55 MPH Proposed Design Speed		
COMMON GEOMETRIC			
Roadway Data:	EXISTING	PRACTICES*	
No. of Lanes	2	2	Existing Rdwy. Plans available? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Year of Plans: <input type="checkbox"/> Traffic Forecast Requested Date Requested: <input type="checkbox"/> Mapping/Survey Requested Date Requested: Type: ▼
Lane Width	20'	22'	
Shoulder Width	2' (Comb)	5'	
Max. Superelevation**		8%	
Minimum Radius**	842.5	965'	
Maximum Grade		7%	
Minimum Sight Dist.		495'	
Sidewalk Width(urban)			
Clear-zone***	0'	30'	
Project Notes/Design Exceptions?:	Decreased shoulder width is probable for context of roadway		
*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	40.1		Existing Geotech data available? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Total Length	39		
Width, curb to curb	18		Detour Length(s):
Span Lengths	2x18' (Approx)		
Year Built	1935		
Posted Weight Limit			
Structurally Deficient?	No		*If more than two bridges are located on the project, include additions sheets.
Functionally Obsolete?	Yes		
Existing Bridge Type	2-span RC Tee Beam		

II. PROJECT PURPOSE AND NEED				
A. Legislation				
The following funding was listed in the 2012 Highway Plan	Funding	Phase	Year	Amount
	STP	D	2012	\$650,000
	STP	R	2012	\$250,000
	STP	U	2012	\$250,000
	STP	C	2012	\$400,000
B. Project Status				
Design funds were authorized in July, 2012. The project will be advertised to consultants.				
C. System Linkage				
KY 2 is classified as a Rural Major Collector and provides a connection from Olive Hill to I-64, to the AA Highway, and eventually on to the town of Greenup in Greenup County.				
D. Modal Interrelationships				
N/A				
E. Social Demands & Economic Development				
The primary economic developments in the area are several quarries that adjoin both to KY 2 as well as side roads. The location of these quarries accounts for the large number of trucks that travel the route daily.				
F. Transportation Demand				
The last traffic count near this intersection was 650 and was performed in 2010.				

II. PROJECT PURPOSE AND NEED (cont.)

G. Capacity

The current number of lanes on the bridge is sufficient for the traffic that crosses it. No additional lanes are necessary.

H. Safety

The bridge is both structurally substandard and functionally obsolete. The curb-to-curb roadway width on the structure is 18 ft, which is 2 ft narrower than the approach roadway width. The bridge has a curb on each side, but no other barriers or guardrail.

I. Roadway Deficiencies

The current roadway width of 20' does not meet current design standards. The roadway width is especially problematic due to the high volume of truck traffic that this roadway carries.

Draft Purpose and Need Statement:

Need: This project is necessary due to the poor condition of the bridge, the poor geometrics of the roadway, and the high volume of trucks that cross the structure daily.

Purpose: The purpose of this project is to reconstruct the bridge and approaches to provide improved safety and access for the residents and businesses that use KY 2.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

STIP Pg. #: Pg 18 of 127 FY2013-2016

TIP Pg. #:

B. Archeology/Historic Resources

☐ Known Archeological or Historic Resources are present

There are no known archaeology sites within the project area. However, the large floodplain valleys surrounding the existing structure would appear to be ideal for cultural deposits. An archaeology investigation will be conducted, if warranted, on the selected alignment. Additionally, there are no listed NRHP properties within the project area. However, one home and outbuildings (possibly farmstead) and a structure that appears to have once been a gas station appear to be potentially eligible because of age and/or construction type. The existing culvert does not appear to be eligible. The DEA Historian made a site visit and determined that the older home is eligible. However, the boundary determination cannot be made until further archival research is completed.

C. Threatened and Endangered Species

Indiana bat, gray bat and fanshell mussel are federally listed species that are known to occur in Carter County. The project area is within a known swarming polygon for Indiana bat. There are a few trees in the project area that will likely be impacted. Once an alignment is chosen an IB CMOA will be developed to include tree clearing restrictions and/or payment into the Indiana Bat Conservation Fund (IBCF). It is likely that an "Assumed Presence Biological Assessment" for gray bat will be written and will include strict adherence to the KYTC Standards and Specifications for erosion and sedimentation control as mitigation measures to offset impacts to any potential gray bat foraging habitat. The stream does not appear to be of a size or of a substrate type to support freshwater mussels. Therefore, a No Effect finding is anticipated for the fanshell mussel.

D. Hazardous Materials

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

The existing structure will be demolished as part of this bridge replacement project. However, it is a simple concrete double box culvert that would not appear to have any asbestos containing materials (ACM) present. Therefore, it is unlikely that any abatement would be required. Division of Environmental Analysis personnel will oversee any inspections and/or abatement that could be required. Additionally, there is a standing structure within the project area that could have formerly been a gas station. It is anticipated that if that property is impacted by the project, a Phase II ESA will be required to determine if contamination is present and if so, to what extent. It would appear unlikely that remediation of this site would be exorbitant.

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

The existing structure crossed Jordan Fork, which is part of the Tygarts Creek basin. It is not considered a Special Use water of the commonwealth. It is anticipated that the impacts will meet the criteria for an ACE LON and that no mitigation will be required. Jordan Fork is shown as being in Zone A on the FEMA mapping, which indicates that the base flood elevations have not been determined, but that it is prone to inundation during the 1% annual flood.

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

A couple of residences are located on either end of the expected begin and end limits of the project area.

G. Socioeconomic

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

It is unknown whether low income or minority populations might reside in either of the homes that are located on either end of the expected begin and end stations for the project. Relocations are not anticipated to be necessary for the construction of the project.

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

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

There are no publicly owned parks or recreation areas within the limits of the proposed project. If the older home/farm is determined eligible for the NRHP, and the project impacts this property within the NRHP boundaries, then Section 4(f) would apply

Anticipated Environmental Document:

CE Level 1



IV. PROJECT SCOPING

The Project Scope and the estimated costs are based upon either a temporary run-around detour and and in-place bridge replacement, or a structure placed adjacent to the existing while using the existing structure to maintain traffic.

Current Estimate	
Phase	Estimate
Planning	
Design	\$650,000
R/W	\$250,000
Utilites	\$250,000
Const	\$400,000
Total	\$1,550,000

V. Summary

The current Six Year Plan project cost estimate should be adequate to cover the bridge replacement costs.

VI. Tables and Exhibits

