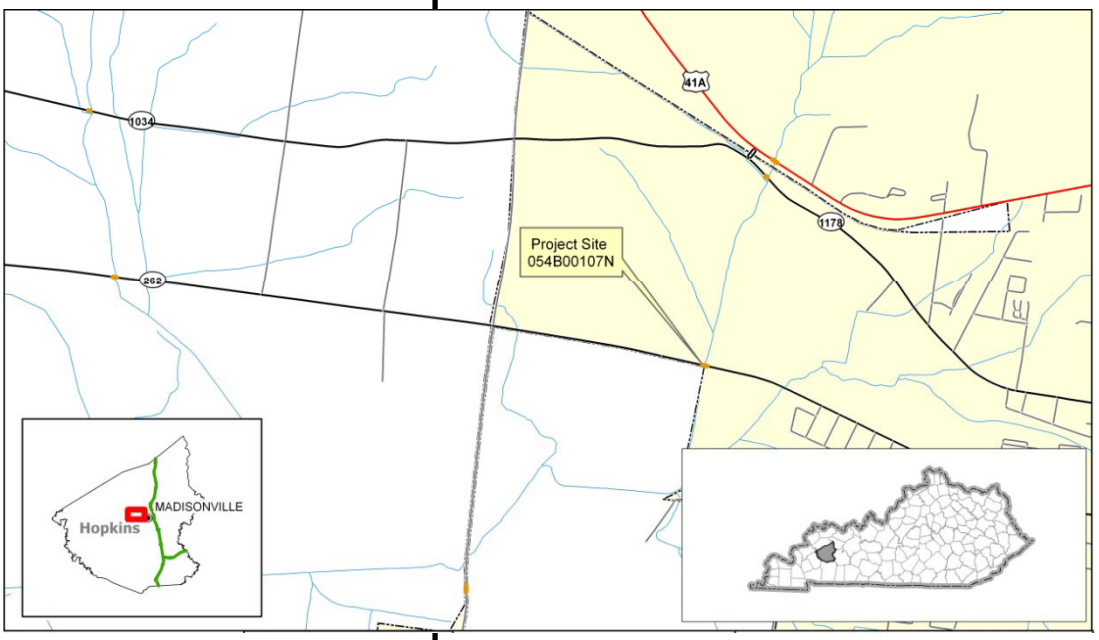
Data Needs Analysis



Scoping Study

KY 262, Hopkins County
Replace Bridge over Greasey Creek
Item No. 2-1079.00

Prepared by KYTC

April 2013

KENTUCKY TRANSPORTATION CABINET

I. PRELIMINARY PROJECT INFORMATION

County: Hopkins **Item No.:** 02-1079.00
Route Number(s): KY 262 **Road Name:** West Center Street
Program No.: 8757101D **UPN:** FD52 054 0262 002-003
Federal Project No.: BRO 8023 (008) **Type of Work:** Bridge Replacement

2012 **Highway Plan Project Description:**

REPLACE BRIDGE ON KY 262 OVER GREASEY CREEK 0.67 MILE E OF BEAN CEMETERY RD (CR1396)

Beginning MP: 2.732 **Ending MP:** 2.774 **Project Length:** 0.042 MI

Functional Class.: ☑ Urban ☐ Rural — Collector
State Class.: ☐ Primary ☑ Secondary
Route is on: ☐ NHS ☑ NN ☐ Ext Wt
MPO Area: Not Applicable
Truck Class.: A
In TIP: ☐ Yes ☐ No
% Trucks: 5.9
ADT (current): 1325 (2009)
Terrain: Level
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 : 55 **MPH Proposed Design Speed**

Roadway Data:	**EXISTING**	**COMMON GEOMETRIC PRACTICES***
No. of Lanes	2	2
Lane Width	9	11 ft
Shoulder Width	2	5 ft
Max. Superelevation**	Unknown	8%
Minimum Radius**	Unknown	965 ft.
Maximum Grade	Unknown	6%
Minimum Sight Dist.	Unknown	495 ft.
Sidewalk Width(urban)	N/A	N/A
Clear-zone***		

Existing Rdwy. Plans available? ☐ Yes ☑ No
Year of Plans:
☐ Traffic Forecast Requested
Date Requested:
☐ Mapping/Survey Requested
Date Requested:
Type:

Project Notes/Design Exceptions?: Rural guidelines used for Common Geo. Practices

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

Bridge No.*:	054B00107N
Sufficiency Rating	40.3
Total Length	78.1 ft
Width, curb to curb	25.5 ft
Span Lengths	3 Spans, Max Span 24 ft
Year Built	1967
Posted Weight Limit	Open, no restrictions
Structurally Deficient?	Yes
Functionally Obsolete?	No
Existing Bridge Type	Concrete precast panels

Existing Geotech data available? ☐ Yes ☑ No

Bypass Detour Length(s): 1.9 mi

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

II. PROJECT PURPOSE AND NEED

A. Legislation

The following fuding was listed in the 2012 General Assembly's Enacted Highway Plan.

Funding	*Phase*	*Year*	*Amount*
BRO	D	2013	$150,000
BRO	R	2014	$175,000
BRO	U	2014	$225,000
BRO	C	2015	$500,000

B. Project Status

Design funds for this project were authorized in February 2013. There are no other projects on this route in the Highway Plan or proposed on the Unscheduled Needs List.

C. System Linkage

KY 262 connects residential and rural areas of Hopkins County to Madisonville. It provides a connection from Madisonville to the Youth Athletic Association Sports Complex located just west of the bridge. However, KY 262 is parelled to the north by KY 1034 and KY 1178.

D. Modal Interrelationships

N/A.

E. Social Demands & Economic Development

N/A.

F. Transportation Demand

The last actual traffic count on record was 1325 in 2009. Traffic has remained relatively the same over the last 20 years.

II. PROJECT PURPOSE AND NEED (cont.)

G. Capacity

There currently are no capacity problems on this route and none are expected in the future.

H. Safety

According to the KY State Police database, there were no collisions reported at this project location in the last three years. The bridge is structurally deficient which could impact the safety of motorists if not addressed.

I. Roadway Deficiencies

The bridge is located on a long roadway tangent. The existing lane and shoulder width of KY 262, 9 ft and 2 ft, respectively, are more narrow than the Common Geometric Practice (11 ft lanes, 5 ft graded shoulder). Additionally the bridge is classified as structurally deficient.

Draft Purpose and Need Statement:

Need: The 78.08' - 3 Span Concrete Channel Beam (054B00107N) bridge located 2.0 miles west of US 41 over Greasey Creek on KY 262 is structurally deficient with SR = 40.30.

Purpose: To replace the structurally deficient bridge in order to provide a safe and reliable connection between the City of Madisonville and the residential and rural areas served by KY 262.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

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

N/A

B. Archeology/Historic Resources

☐ Known Archeological or Historic Resources are present

Unknown at this time. Archaeological resources may be possible depending on disturbance. Archaeology and Historic Resources Experts will examine plans and bridge

C. Threatened and Endangered Species

No Effect. However, mitigation fees will have to be paid if large trees along creek are removed during designated times of year (Indiana Bat). Gray bat is also a possible issue with disturbance of the feeding stream corridor. Biology Expert examined.

D. Hazardous Materials

☐ Potentially Contaminated Sites are present ☑ Potential Bridge or Structure 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

DEA Permits Expert will need to examine final plans to make determination

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

None

G. Socioeconomic

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

None

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

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

Baseball park adjacent to creek will need to be examined for funding sources to determine

Anticipated Environmental Document: CE Level 1

IV. PROJECT SCOPING

A. Alternative 1: No Build

The bridge will continue to deteriorate and eventually need replacement.

Current Estimate	
Phase	Estimate
Planning	
Design	$225,000
R/W	$50,000
Utilites	$310,000
Const	$484,000
Total	**$1,069,000**

B. Alternative 2: Replace Bridge

Construct new bridge to replace existing bridge.

There is a park, the Youth Athletic Association Sports Complex, located to the southwest of the bridge. Possible 6(f) impacts need to be further investigated. Most of the utilities, including the waterline, appear to be located on the north side of the bridge. Overhead utilites are present on both sides of the road and also cross over at the bridge. GPS data also indicate a 24 inch sewer line (Madisonville Municipal Utilites) crossing at or near the bridge. KY 262 crosses an abandoned RR line approximately 700 ft. west of the bridge.

IV. PROJECT SCOPING (cont.)

V. Summary

Replacing the bridge on a new alignment would result in undesireable horizontal curvature on a road with few curves and long tangents. It would be desireable to replace the bridge in place with the 1.9 mile detour utilizing existing routes. The estimate provided is based on replacing in place with a single span bridge approximately 80 ft long and 32 ft wide curb to curb. This is within the current Highway Plan estimate.