

Data Needs Analysis

Harrison County

US 62 MP 11.9 to 12.3

Item 06-8707.00

September 2012



Prepared by
the Kentucky
Transportation
Cabinet
District 6



Division of Planning



I. PRELIMINARY PROJECT INFORMATION

County: Harrison Item No.: 6-8707.00
Route Number(s): US 62 Road Name: Oddville Pike
Program No.: UPN: (Function) (County #) (Route) (MPs)
Federal Project No.: Type of Work: Reconstruction
2012 Highway Plan Project Description:

Reconstruct US 62 from milepoint 11.9 to 12.3

Beginning MP: 11.9 Ending MP: 12.3 Project Length: 0.4
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.: AA
% Trucks: 6.90%
ADT (current): 3497 (2011) 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 : 50 MPH Proposed Design Speed

COMMON GEOMETRIC

Roadway Data:	EXISTING	PRACTICES*
No. of Lanes	2	Min. 2
Lane Width	10	12 ft
Shoulder Width	3 ft	5 ft
Max. Superelevation**	Unknown	6%
Minimum Radius**	500	835
Maximum Grade	4%	7%
Minimum Sight Dist.	Unknown	425 ft
Sidewalk Width(urban)	N/A	
Clear-zone***	15 ft	20 ft

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

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.*: 049B00011N (Bridge #2)
Sufficiency Rating: 34
Total Length: 71 ft
Width, curb to curb: 19 ft
Span Lengths: 30 ft
Year Built: 1928
Posted Weight Limit: N/A
Structurally Deficient?: Yes
Functionally Obsolete?: Yes
Existing Geotech data available?
☐ Yes ☐ No
*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 2012-2018 Six-Year Highway Plan:

<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
SPP	D	2012	\$350,000
SPP	R	2012	\$250,000
SPP	U	2012	\$100,000

B. Project Status

No work has been completed on this project other than the DNA Study.

C. System Linkage

This portion of US 62 is a rural collector which links Cynthiana in Harrison County to Mt. Olivet in Robertson County.

D. Modal Interrelationships

E. Social Demands & Economic Development

This portion of US 62 is the primary route providing access to Cynthiana, and subsequently the Interstate Highway System, from rural areas and small communities northeast of Cynthiana.

F. Transportation Demand

The most recent traffic count is from 2011 and is 3,497 ADT. This number has stayed relatively the same over recent years. The traffic count prior to the 2011 count recorded 3,500 ADT.

II. PROJECT PURPOSE AND NEED (cont.)

G. Capacity

The existing two-lane cross-section provides adequate capacity for the current ADT of 3,500 vehicles per day. Future growth in traffic volumes is expected to be minimal.

H. Safety

During the 3-year period beginning August 1, 2009, seven crashes were identified for the section of US 62 between Milepoint 12.1 and Milepoint 12.4, which is the approximate extent of the horizontal curve within the project limits. The Critical Rate Factor for this time period was calculated to be 1.06, indicating a possible safety issue. All of the crashes recorded during this time period were single-vehicle collisions. All except one involved vehicles leaving the roadway; the remaining crash involved a vehicle overturning in the roadway due to a tire blowout. Five of the seven crashes occurred on wet pavement. This data indicates that the crash rate would likely be reduced by improvements to the horizontal alignment.

I. Roadway Deficiencies

This portion of US 62 includes a curve with a lower radius than the radius indicated in the Common Geometric Practices for this type of roadway. In addition, the bridge just south of the curve is structurally deficient.

Draft Purpose and Need Statement:

Purpose: Improve safety on US 62 in the vicinity of Salem Pike.

Need: The section of US 62 in the horizontal curve just north of Salem Pike has a high crash rate. This curve does not meet the minimum radius recommended in KYTC's Common Geometric Practices for this type of roadway.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

STIP Pg. #: N/A TIP Pg. #: N/A

B. Archeology/Historic Resources

☐ Known Archeological or Historic Resources are present

C. Threatened and Endangered Species

Indiana Bat summer habitat and Running Buffalo Clover habitat are located along Salem Pike and Indian Creek. The stream located by Salem Pike is classified as having intermittent flow, so no mussel species will be affected. However, mussel species could be affected if Indian Creek were impacted.

D. Hazardous Materials

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

There are no potentially contaminated sites near the project location. One culvert will likely need to be demolished under both Alternative 2 and Alternative 3, and one bridge may need to be demolished if Alternative 2 is selected.

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

G. Socioeconomic

Check all that may apply: ☐ Low Income/Minority Populations affected ☒ Relocations ☐ Local Land Use Plan available
Alternative 3 will require at least one relocation, whereas Alternatives 1 and 2 will not require any relocations.

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

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

Anticipated Environmental Document: None (Completely State funded)

IV. POSSIBLE ALTERNATIVES

A. Alternative 1: No Build

This alternative does not meet the purpose and need of the project.

B. Alternative 2

Alternative 2 consists of relocating the curve to the southeast of the existing alignment. This alternative would create a larger turn radius, allowing for safer travel. Alternative 2 will not cause any relocations but will disturb Indiana Bat summer habitat as well as possible habitat of Running Buffalo Clover. It would likely require construction of a new culvert near Salem Pike, as well as a new bridge over Indian Creek, which would replace the existing structurally deficient bridge.



Planning Level Cost Estimate:

<u>Phase</u>	<u>Estimate</u>
Design	\$600,000
R/W	\$150,000
Utilities	\$100,000
Const	\$5,000,000
Total	\$5,850,000

IV. POSSIBLE ALTERNATIVES (cont.)

B. Alternative #3

Alternative 3 consists of relocating the curve to the northwest of the existing alignment. This option meets the purpose of the project but will likely cause at least one residential relocation. The advantages of this alternative are that construction costs, utility costs, and environmental impacts would be relatively low compared to Alternative 2.



Planning Level Cost Estimate:

<u>Phase</u>	<u>Estimate</u>
Design	\$500,000
R/W	\$300,000
Utilities	\$50,000
Const	\$4,000,000
Total	\$4,850,000

V. Summary

This study is a Data Needs Analysis (DNA) for a safety improvement project on US 62 northeast of Cynthiana, Item Number 6-8707.00. The roadway alignment is to be improved in order to reduce the crash rate along this stretch of road. The likely alternatives include a no-build option (Alternative 1), shifting the alignment to the southeast (Alternative 2), and shifting the alignment to the northwest (Alternative 3). Both Alternative 2 and Alternative 3 would meet the project purpose and need. Alternative 2 is projected to be more costly and to have more environmental and utility impacts, but unlike Alternative 3, this alternative would avoid residential relocations and would likely have the added benefit of replacing the structurally deficient bridge over Indian Creek.

Alt #	Description	D (\$)(Fund)	R (\$)(Fund)	U (\$)(Fund)	C (\$)(Fund)	Total (\$mil)
1		-	-	-	-	-
2		600,000	150,000	100,000	5,000,000	5,850,000
3		500,000	300,000	50,000	4,000,000	4,850,000
-	Current Hwy Plan Estimated Cost	350,000	250,000	100,000	-	-
-	Current Pre-Con Estimated Cost	350,000	250,000	100,000	-	-

VI. Tables and Exhibits

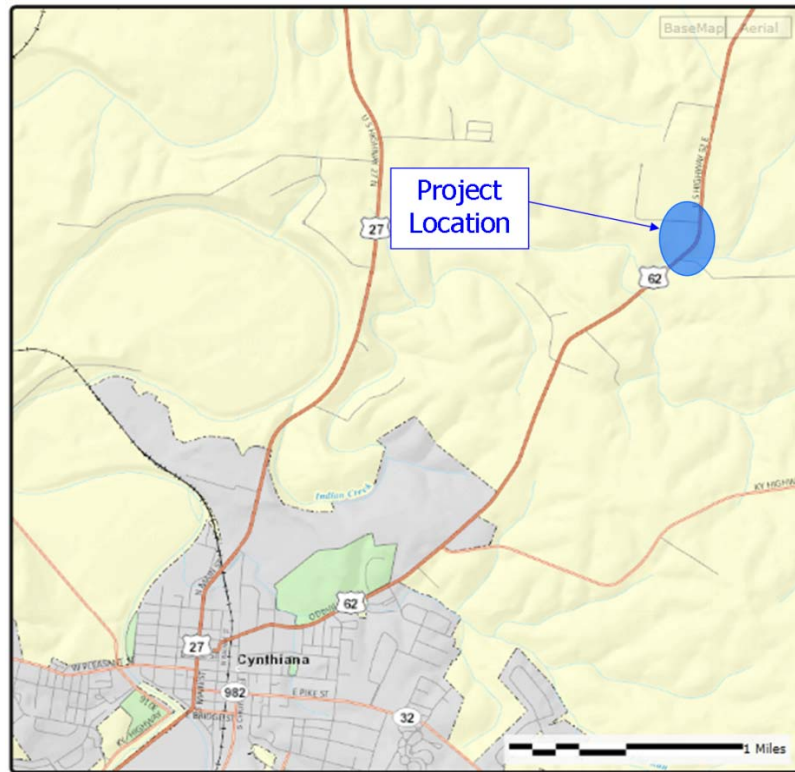


Exhibit 1: Project Location Map



Exhibit 2: View of curve facing north at Salem Pike

VI. Tables and Exhibits (cont.)



Exhibit 3: View along curve facing north



Exhibit 4: View along curve facing south