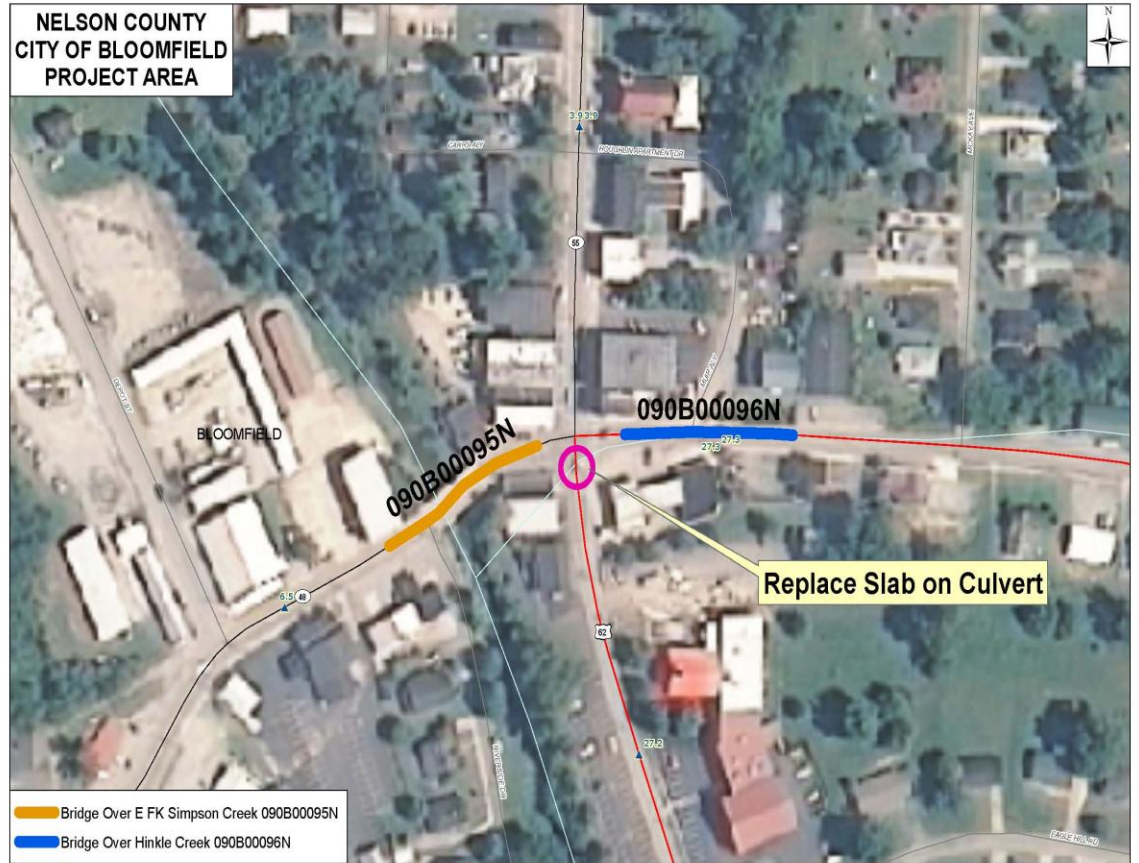
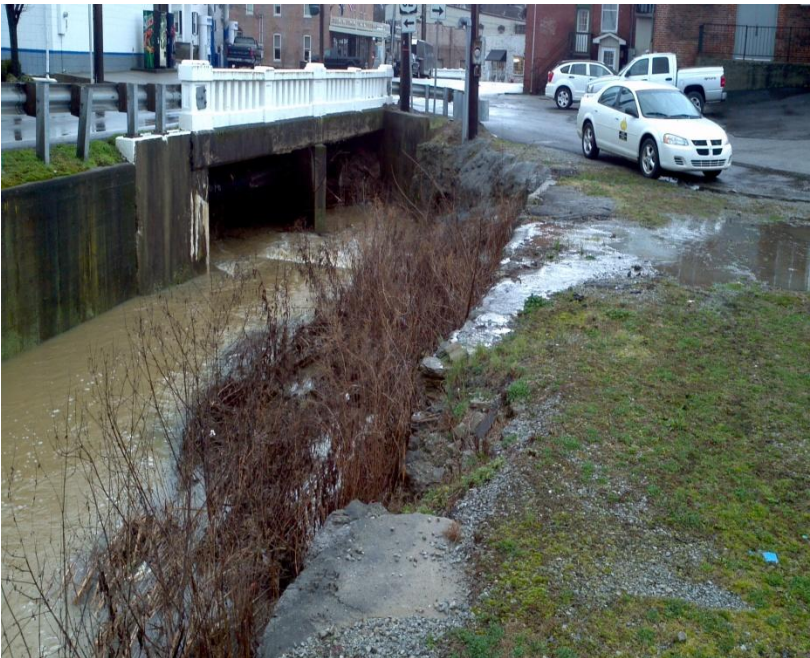


Data Needs Analysis



Scoping Study



US 62, Nelson County
Bridge Replacement over
Hinkle Creek
Item No. 4-1078.00

Prepared by KYTC
District 4-Charlie Allen

January 2013



I. PRELIMINARY PROJECT INFORMATION

County:	Nelson	Item No.:	4-1078.00
Route Number(s):	US 62	Road Name:	Bloomfield Road
Program No.:		UPN:	(Function) 090 0062 027-028
Federal Project No.:		Type of Work:	Bridge Replacement

2012 Highway Plan Project Description:

Replace Bridge on US 62 Over Hinkle Creek 0.012 Mile East of KY 55 (SR 11.5) 090B00096N

Beginning MP: 27.278 Ending MP: 27.318 Project Length: 0.04

Functional Class.: Urban Rural
 Collector
State Class.: Primary Secondary
Route is on: NHS NN Ext Wt

MPO Area: Not Applicable
Truck Class.: AAA
 In TIP: Yes No
% Trucks: 7

ADT (current): 4268 (Year)
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 : 35 MPH Proposed Design Speed

COMMON GEOMETRIC

Roadway Data:	EXISTING	PRACTICES*	
No. of Lanes	2	2	Existing Rdwy. Plans available?
Lane Width	20	24	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Shoulder Width	3	8	Year of Plans: 1930
Max. Superelevation**	NA	6%	<input type="checkbox"/> Traffic Forecast Requested
Minimum Radius**	774	380	Date Requested:
Maximum Grade	NA	9%	<input type="checkbox"/> Mapping/Survey Requested
Minimum Sight Dist.	Measure	250	Date Requested:
Sidewalk Width(urban)	4'	Minimum 4'	Type: <input type="button" value="v"/>
Clear-zone***	4'	12-14'	

Project Notes/Design Exceptions?: Geometric Design Policy calls for 50 mph design/ Use posted speed.

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

Bridge No.*:	090B00096N	090B00095N	
Sufficiency Rating	11.5	49.6	Existing Geotech data available?
Total Length	38.1	84	<input type="checkbox"/> Yes <input type="checkbox"/> No
Width, curb to curb	24	24	
Span Lengths	11.2	16.1	
Year Built	1930	1930	
Posted Weight Limit	No	No	
Structurally Deficient?	Yes	Yes	
Functionally Obsolete?	Yes	No	

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

II. PROJECT PURPOSE AND NEED

A. Legislation

FY 2012 to FY 2018 Proposed Highway Plan	<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
	BRO	D	2013	\$100,000
	BRO	R	2014	\$150,000
	BRO	U	2014	\$150,000
	BRO	C	2015	\$600,000

B. Project Status

Design Funds have been requested for this project.

C. System Linkage

US 62 connects Lawrensburg to the East and Bardstown to the West. US 62 aslo junctions with Ky 55 in this area that connects Taylorsville to the BG Parkway.

D. Modal Interrelationships

N/A

E. Social Demands & Economic Development

This is mostly an agricultural and residential area with very little industrial development. There are several small business located in the downtown area of Bloomfield.

F. Transportation Demand

The actual count on this roadway was 4268 vpd in 2008. The last actual count in 2011 was 4296. Growth is expected to remain consisten at about 0.2% per year over the next 20 years. The 20 year forecast is 4439 vpd.

II. PROJECT PURPOSE AND NEED (cont.)

G. Capacity

Capacity is not an issue for this section of roadway with a volume to service flow ratio of only 0.22.

H. Safety

The CRF in this section is 1.8860. There were 11 reported accidents since 2008. All of the accidents were either related to someone pulling or backing out of the Food Mart or were signal/interesection related. No fatalities reported.

I. Roadway Deficiencies

Within the project limits the roadway has 2-10' lanes with 3' stabalized shoulders and a speed limit of 35 mph. KYTC's Common Geometric Practices for Rural Collector Roads for this type of road recommends 12-ft lanes for a 35 MPH Design Speed and 8-ft graded shoulders. There is an alley street that is close to the bridge end with limited sight distance due to the bridge rail.

Draft Purpose and Need Statement:

Need: The bridge structure is obsolete, structurally deficient and does not meet current roadway design standards. This roadway connects Lawrenceburg to Bardstown. It is also a connection to Taylorsville via KY 55 to the North.

Purpose: The purpose of this study is to address the structural deficiencies of 090B00096N and to improve the safety, connectivity and mobility between Bloomfield and surrounding communities including the BG Parkway.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

STIP Pg. #: Not in STIP

TIP Pg. #:

Not included in the 2010 STIP

B. Archeology/Historic Resources

Known Archeological or Historic Resources are present

Arch Survey would be required. Any disturbance to buildings would need to be coordinated with SHPO. Bloomfield is a listed Historic District

C. Threatened and Endangered Species

No Habitat Present

D. Hazardous Materials

Potentially Contaminated Sites are present Potential Bridge or Structure Demolition

The presence of the Gas Station means there is a possibility of petroleum contaminated soils.

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

Stream is already impacted, but will need a permit for the replacement

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

Project will be exempt because it is on existing alignment and no additional travel lanes are included.

G. Socioeconomic

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

Business impacts could be significant if the gas station is affected by 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

Bloomfield is a National Register Historic District

Anticipated Environmental Document:

CE Level 1



IV. POSSIBLE ALTERNATIVES

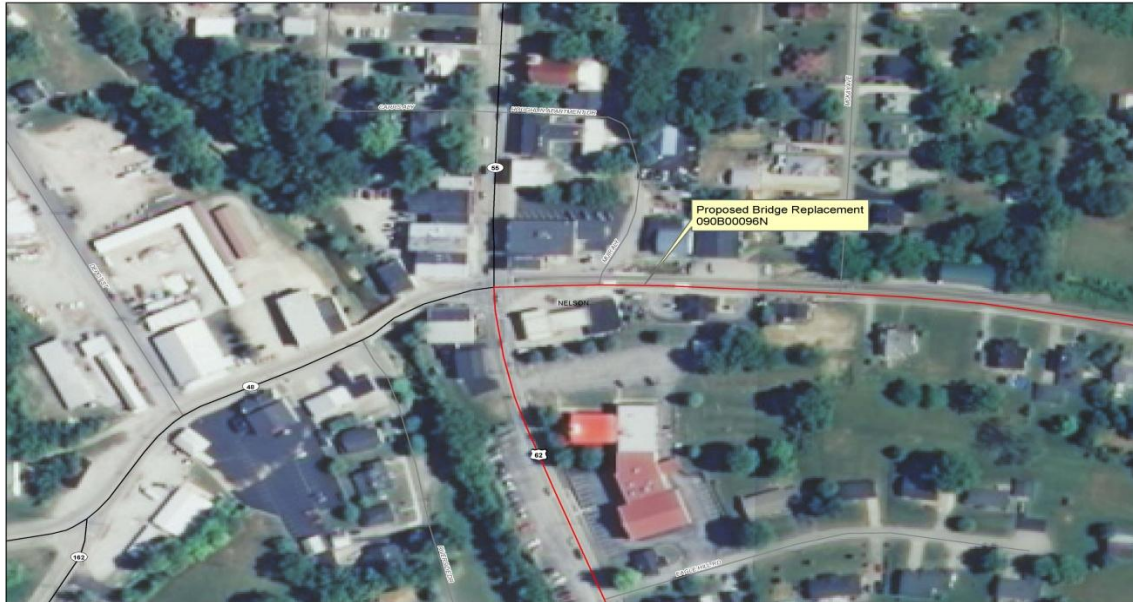
A. Alternative 1: No Build

This alternative does not meet the Purpose and Need of the project but should be carried forward.

B. Alternative 2

Remove and replace the existing structure (B00096N) with a single span bridge of same dimensions as existing structure. The structure is located at approximately MP 27.298 on US 62 within the city of Bloomfield. The bridge is connected to a culvert that extends westerly under the adjacent private parking lot then under US 62 at MP 27.266 and then under a private porch and outlets into Hinkle Creek. Traffic control will be a concern. Local streets will likely be utilized by local traffic. There is not a suitable state route detour. 20' of Right of Way from center which may allow building bridge part width. **May consider a slip lining system if hydraulic analysis is acceptable.**

See Exhibit #3
 for Utility



Planning Level Cost Estimate:

A state route
 detour via KY 458
 to KY 55 is about
 8.2 miles long.

Phase	Estimate
Design	\$100,000
R/W	\$100,000
Utilities	\$150,000
Const	\$400,000
Total	\$750,000

IV. POSSIBLE ALTERNATIVES (cont.)

B. Alternative #2B

District 4 is seeking additional funding source to replace the bridge on KY 48 (B00095N) at MP 6.539. An additional item of need to consider if funds are available would be to replace the top slab of the culvert under US 62 located near the intersection of US 62/Ky 55. The existing walls are in good condition. If funds are secured this would be included with Alt #2.



STRUCTURE B00095N

Phase	Estimate
Design	\$100,000
R/W	\$75,000
Utilities	\$100,000
Const	\$500,000
Total	\$775,000

SLAB REPLACEMENT

Phase	Estimate
Design	\$0
R/W	\$0
Utilities	\$25,000
Const	\$100,000
Total	\$125,000

V. Summary

This study is a Data Needs Analysis (DNA) of a roadway project on US 62 in Nelson County, Item #4-1078.00. Through analysis of the existing roadway geometrics, bridge data, crash data, site visits, and discussion with the project team, several needs were identified within the project limits. The following were identified as project needs.

1. B00096N on US 62 has a low sufficiency rating and is obsolete.
2. B00095N on KY 48 has a low sufficiency rating with a very poor superstructure.
3. The top slab of the culvert under US 62 west of the intersection is in poor condition.
4. There are some collision patterns in the intersection mostly related to the lack of access control.

*The purpose of this study is to address the deficient structures along this route and improve the safety, mobility and connectivity between Bloomfield and surrounding communities.

*Included in the alternatives are a no build option and a bridge replacement option. Should an additional fund source be secured then include an option to replace the top of the culvert under US 62 and the KY 48 Bridge. A total of \$1,000,000 is available for this project in the current Highway Plan.

Alt #	Description	D (\$)(2013)	R (\$)(2013)	U (\$)(2013)	C (\$)(2014)	Total (\$mil)
1	No Build	-	-	-	-	-
2	Replace B00096N	100,000	100,000	150,000	400,000	750,000
3	Add B00095N top slab and Culvert top	200,000	175,000	275,000	1,000,000	1,650,000
-	Current Hwy Plan Estimated Cost	100,000	150,000	150,000	600,000	1,000,000
-	Current Pre-Con Estimated Cost					

VI. Tables and Exhibits

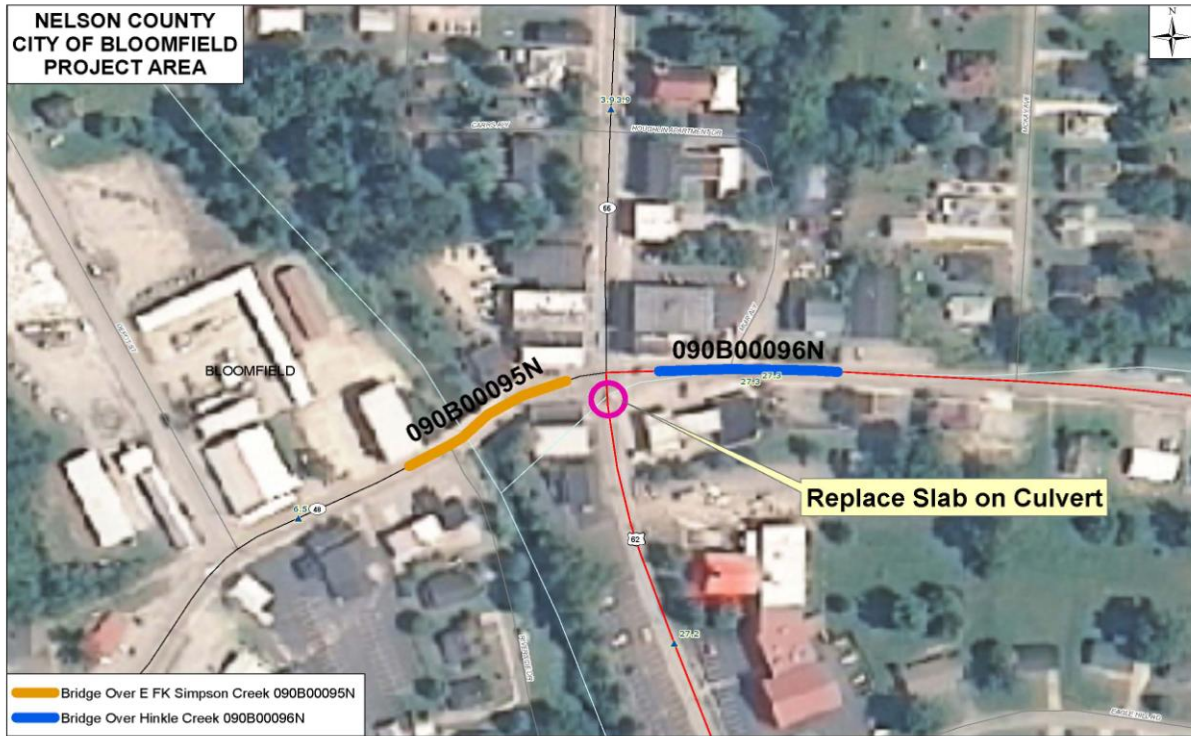


Exhibit 1: Project Location Map

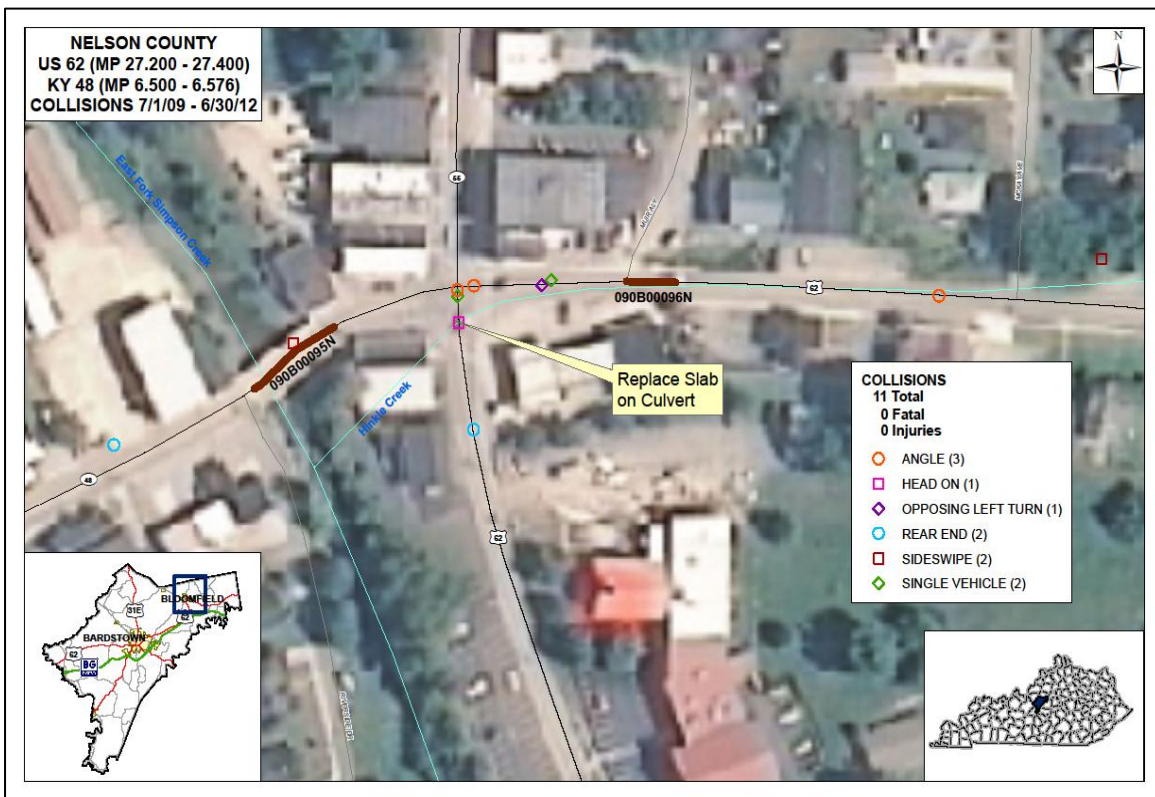


Exhibit 2: Collision Map

Table 1: Utility Companies in Project Area

KU-Electric

Ms. Paula Clifford, Eng. Design Tech. Sr.

Kentucky Utilities Co.

1100 Main St.

Shelbyville, KY. 40065

(502) 333 - 6611 – office

City of Bardstown-CATV

Jeffrey C. Mills, City Electrical Engineer

220 North 5th Street

Bardstown, KY 40004

502-348-5947 (office)

AT&T-Telephone

Morgan Herndon, Manager Outside Plant Planning & Engineering Design

AT&T Kentucky

3719 Bardstown Rd

Louisville KY 40218

502 458-7312

City of Bloomfield-Water

Mr. Craig Werner

PO Box 204

Bloomfield, KY 40008

502-252-5746