

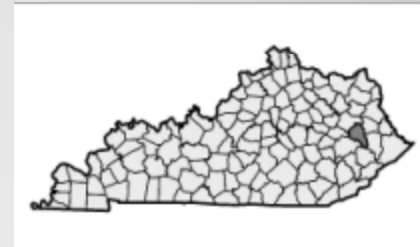
DNA STUDY

KY 9009
Magoffin County

2012 Highway Plan
Item No. 10-0167.00

Prepared by:
KYTC District 10

May 2012



I. PRELIMINARY PROJECT INFORMATION

County: Magoffin Item No.: 10-0167.00
Route Number(s): KY 9009 Road Name: Mountain Parkway
Program No.: UPN: (Function) 77 9009 70.00 - 71.00
Federal Project No.: Type of Work: New Interchange

2012 Highway Plan Project Description:

Preliminary Engineering for an Interchange at Gifford Road (MP 70.5)

Beginning MP: 70 Ending MP: 71 Project Length: 1.000 mile

Functional Class.: ☐ Urban ☒ Rural State Class.: ☒ Primary ☐ Secondary
Arterial Route is on: ☒ NHS ☒ Nat'l Truck Network

MPO Area: Not Applicable Truck Class.: AAA
In TIP: ☐ Yes ☐ No % Trucks:
ADT (current): 4085 Terrain: Mountainous

Access Control: ☒ Fully Controlled ☐ Permit ☐ Partial Spacing:

Median Type: ☒ Undivided ☐ Divided (Type):

Existing Bike Accomodations: Shared Lane Ped: ☐ Sidewalk

Posted Speed: ☐ 35 mph ☐ 45 mph ☐ 55 mph ☐ Other (Specify):

KYTC Guidelines Preliminarily Based on : 70 MPH Proposed Design Speed

COMMON GEOMETRIC

Roadway Data:	EXISTING	PRACTICES*	
No. of Lanes	<u>NA</u>	<u>4</u>	Existing Rdwy. Plans available?
Travelled Way Width	<u>NA</u>	<u>12</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Shoulder Width	<u>NA</u>	<u>6</u>	Year of Plans: <u>1962</u>
Max. Superelevation**	<u>NA</u>	<u>8%</u>	<input checked="" type="checkbox"/> Traffic Forecast Requested
Minimum Radius**	<u>NA</u>	<u>250</u>	Date Requested: <u>5/10/2012</u>
Maximum Grade	<u>NA</u>	<u>6%</u>	<input type="checkbox"/> Mapping Requested
Minimum Sight Dist.	<u>NA</u>	<u>250</u>	Date Requested: <u></u>
Sidewalk Width(urban)	<u>NA</u>	<u>NA</u>	Type: <u></u>
Clear-zone***	<u>NA</u>	<u>20</u>	

Project Notes/Design Exceptions?: Parkway will be upgraded to 4 lanes

*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	<u>66.3</u>	<u>81.1</u>	Existing Geotech data available?
Total Length	<u>149</u>	<u>281</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Width, curb to curb	<u>24</u>	<u>30</u>	
Span Lengths	<u>49.9</u>	<u>various</u>	
Max. Span Length	<u>49.9</u>	<u>49.9</u>	
Year Built	<u>1963</u>	<u>1963</u>	
Posted Weight Limit	<u>NA</u>	<u>NA</u>	
Structurally Deficient?	<u>NO</u>	<u>NO</u>	
Functionally Obsolete?	<u>NO</u>	<u>NO</u>	

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

II. PROJECT PURPOSE AND NEED

A. Legislation

This is a new Project added by the General Assembly into the 2012 Biennial Highway Plan.	<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
	SPP	DN	2013	\$500,000
	SPP	RW	2014	\$250,000
	SPP	UT	2014	\$150,000

B. Project Status

Design funds have been requested but not authorized at this time. This Interchange is located along the Mountain Parkway Corridor which has 40 miles of various stages of reconstruction funding in the 2012 Highway Plan.

C. System Linkage

This Corridor is one of the most important Link's between eastern Kentucky and the rest of the state. It traverses through five counties and ends at Interstate 64 in Clark County.

D. Modal Interrelationships

This route is one of the main routes for various freight that is brought into Eastern Kentucky that is off loading from rail and air in the northern part of the state.

E. Social Demands & Economic Development

This Interchange would serve the proposed Magoffin County Industrial Park located at Gifford.

F. Transportation Demand

It is anticipated that the new Industrial Park will bring companies that will utilize the new Interchange.

II. PROJECT PURPOSE AND NEED (cont.)

G. Capacity

NA

H. Safety

No known accidents at this location.

I. Roadway Deficiencies

Both bridges discussed in this study have substandard shoulders.

Purpose and Need Statement:

Need: This project will help open a large area of land in anticipation of new development along one of Eastern Kentucky's most important corridors.

Purpose: The purpose of this project is to design a new interchange that will allow access of a large section of Magoffin County to the Mountain Parkway Corridor and improve roadway Connectivity in the Appalachian Section of Kentucky.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

STIP Pg. #:

TIP Pg. #:

B. Archeology/Historic Resources

☐ Known Archeological or Historic Resources are present

None known.

C. Threatened and Endangered Species

Indiana Bat

D. Hazardous Materials

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

This project could require the demolition and reconstruction of two new bridges.

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

There are four residential houses that could be affected.

J. 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:

EA/FONSI



IV. POSSIBLE ALTERNATIVES

A. Alternative 1: No Build

This does not further the goals as set forth by the 2012 Legislature.

B. Alternative 2

This alternate proposes to construct a new Diamond/Cloverleaf Hybrid Interchange on the West side of the existing overpass. It also widens the existing bridge along the Parkway in order to accommodate the on westbound on-ramps.



Planning Level Cost Estimate:

<u>Phase</u>	<u>Estimate</u>
Design	\$500,000
R/W	\$250,000
Utilities	\$150,000
Const	\$4,000,000
Total	\$4,900,000

IV. POSSIBLE ALTERNATIVES (cont.)

B. Alternative #3

This alternate is basically the same design as Alternate #2 except that it also replaces the existing bridge along the Parkway to the left of the proposed interchange.



Planning Level Cost Estimate:	Phase	Estimate
	Design	\$625,000
	R/W	\$250,000
	Utilities	\$200,000
	Const	\$6,000,000
	Total	\$7,075,000

V. Summary

The purpose of this DNA Study for item 10-0167.00 is to design a new interchange that will allow access of a large section of Magoffin County to the Mountain Parkway Corridor and improve roadway Connectivity in the Appalachian Section of Kentucky.

As part of this study three alternatives were examined by the project team - 1. No Build, 2. Interchange with Bridge Widening, and 3. Interchange with New Bridge along Parkway.

After reviewing the available data it is the recommendation of the Project Team that Alternate 3 be moved into the design phase when the whole parkway Corridor is taken into account.

Alt #	Description	D (\$) SPP	R (\$) SPP	U (\$) SPP	C (\$)	Total (\$mil)
1	No Build	-	-	-	-	-
2	Interchange with bridge widening	\$ 500,000.00	\$ 250,000.00	\$ 150,000.00	\$ 4,000,000.00	\$ 4,900,000.00
3	Interchange with new bridge	\$ 625,000.00	\$ 250,000.00	\$ 200,000.00	\$ 6,000,000.00	\$ 7,075,000.00
-	Current Hwy Plan Estimated Cost	\$ 500,000.00	\$ 250,000.00	\$ 150,000.00		\$ 4,900,000.00
-	Current Pre-Con Estimated Cost	\$ 500,000.00	\$ 250,000.00	\$ 150,000.00		\$ 4,900,000.00

VI. Tables and Exhibits

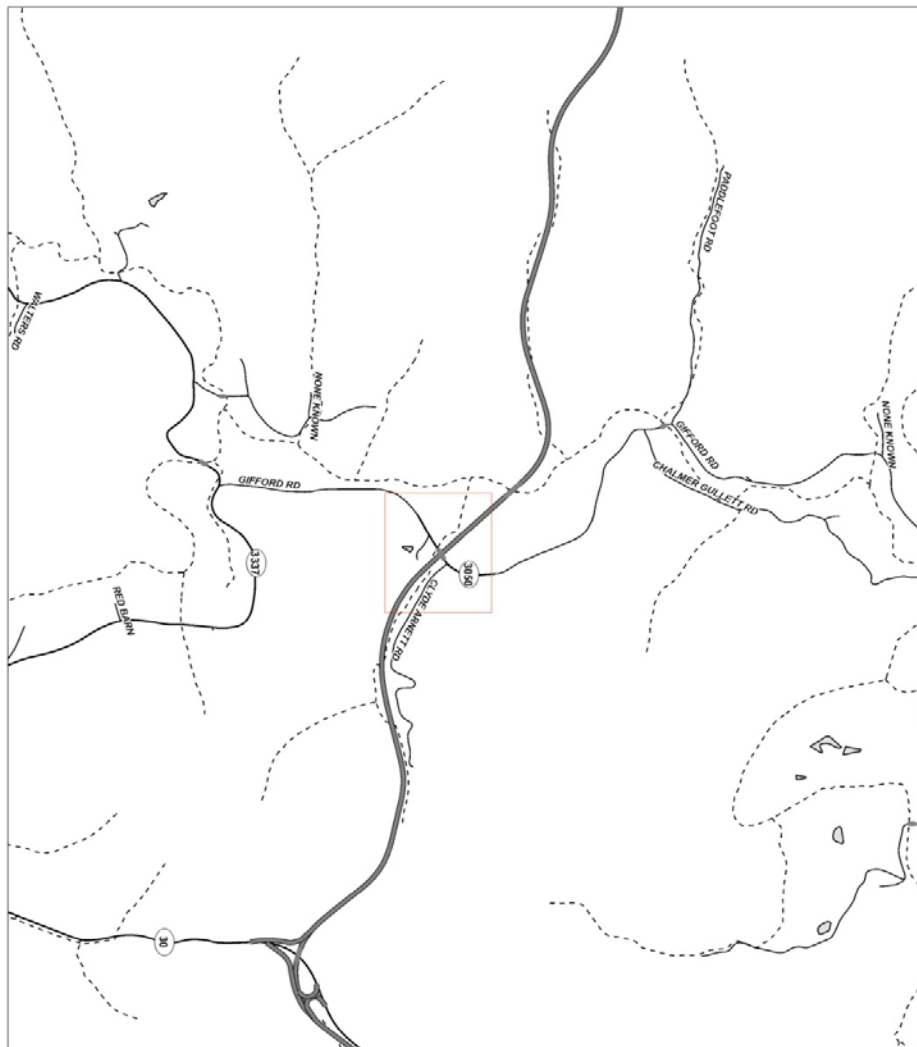
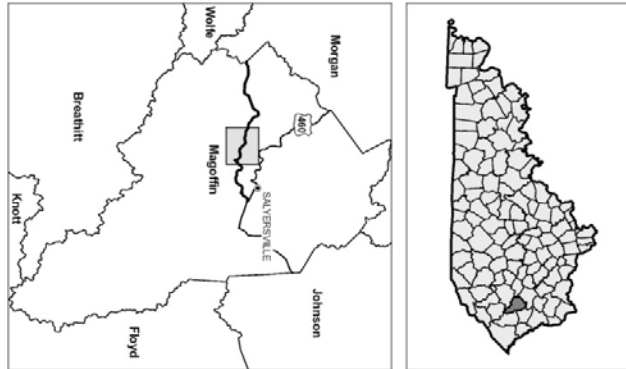


Exhibit 1:

VI. Tables and Exhibits (cont.)



Exhibits 2&3: