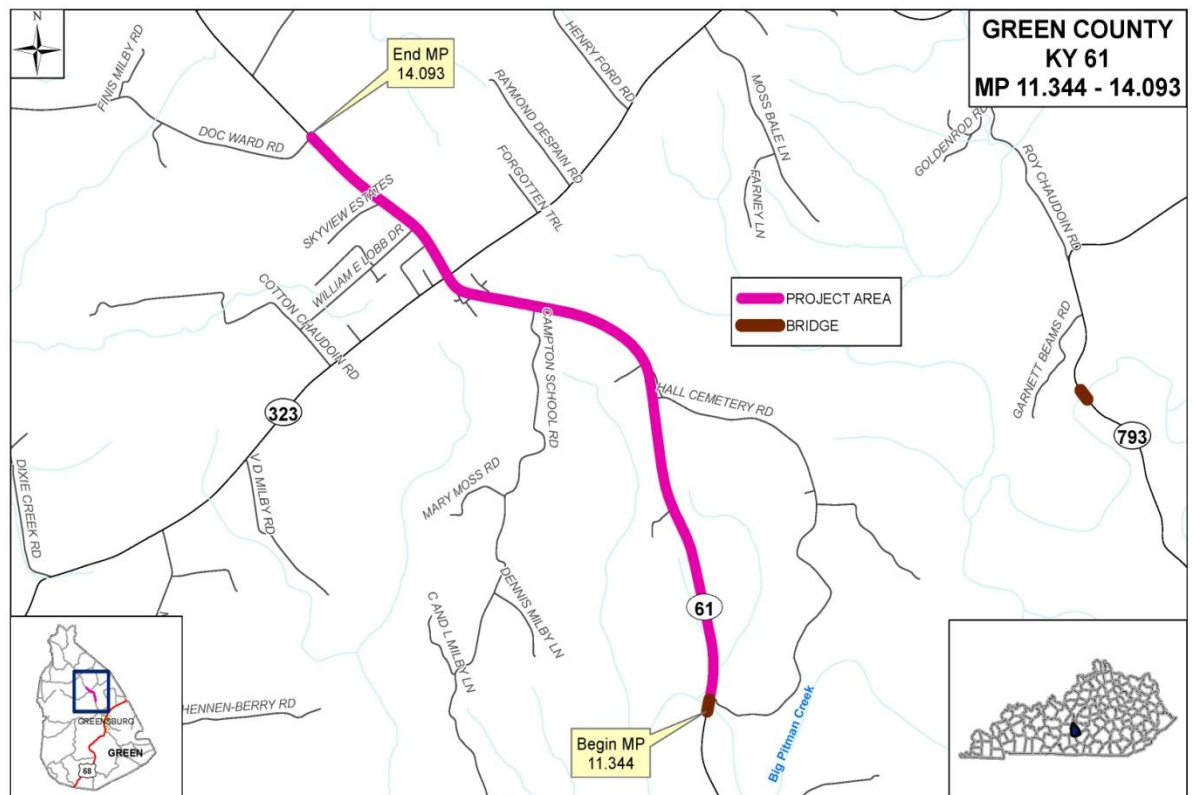


Data Needs Analysis



Scoping Study



KY 61, Green County
From Pitman Creek Bridge to
Doc Ward Road in
Summersville, Ky
Item No. 4-8712.00

Prepared by KYTC
District 4-Charlie Allen

April 2013



I. PRELIMINARY PROJECT INFORMATION

County: Green Item No.: 4-8712.00
Route Number(s): KY 61 Road Name: Hodgenville-Greensburg Rd
Program No.: 8780201D UPN: FD04 044 0061 011-015
Federal Project No.: _____ Type of Work: Major Widening

2012 Highway Plan Project Description:

Construct a Truck Climbing Lane, Shoulders, and Turn Lane at KY 323

Beginning MP: 11.344 Ending MP: 14.093 Project Length: 2.749

Functional Class.: ☐ Urban ☒ Rural State Class.: ☒ Primary ☐ Secondary

Arterial

Route is on: ☐ NHS ☒ NN ☐ Ext Wt

MPO Area: Not Applicable

Truck Class.: AA

In TIP: ☐ Yes ☐ No

% Trucks: 7.8%

ADT (current): 4236 2009

Terrain: Rolling

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

COMMON GEOMETRIC

Roadway Data:

EXISTING

PRACTICES*

No. of Lanes	<u>2</u>	<u>2</u>
Lane Width	<u>9'</u>	<u>12'</u>
Shoulder Width	<u>3'</u>	<u>8'</u>
Max. Superelevation**	<u>Field measure</u>	<u>6%</u>
Minimum Radius**	<u>603'</u>	<u>1065'</u>
Maximum Grade	<u>6%</u>	<u>5%</u>
Minimum Sight Dist.	<u>Field measure</u>	<u>495'</u>
Sidewalk Width(urban)		<u>N/A</u>
Clear-zone***	<u>Field measure</u>	

[Existing Rdwy. Plans available?](#)

☒ Yes ☐ No

Year of Plans: 1929

☒ [Traffic Forecast Requested](#)

Date Requested: 13-Apr

☐ 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.*: 044B00005N (Bridge #2)

Sufficiency Rating 67.8

Total Length 171.9'

Width, curb to curb 24.0'

Span Lengths 40.0' max

Year Built 1940

Posted Weight Limit N/A

Structurally Deficient? no

Functionally Obsolete? no

[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 General Assembly's Enacted Highway Plan. The R/W, Utility and Construction funds are in the out years.

<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
SPP	D	2013	\$800,000
SPP	R	2015	\$1,200,000
SPP	U	2015	\$1,200,000
SPP	C	2016	\$6,000,000

B. Project Status

Design funds for this project have been authorized. There are no other construction projects in this area. There is currently a project on the UNL to improve safety/visibility of left turn maneuvers from KY 61 to KY 323 in Summersville (04 044 D0061 22.30).

C. System Linkage

This section of KY 61 connects Greensburg to the community of Summersville.

D. Modal Interrelationships

There are no bike routes, riverports, railroads, airports or ferries associated with the section of roadway. This is on the Freight Focus Network.

E. Social Demands & Economic Development

The only growth in the area has occurred in and around the Summersville area including a new Dollar Store, Laundry Service, Recycling Center and some minor residential development. The elementary school has closed in recent years. Some large agricultural and building supply businesses have seen growth in the past couple years to the south on KY 323. Other buildings near the KY 323 intersection have been recently restored in anticipation of future commercial development.

F. Transportation Demand

The last actual traffic count was 4236 in 2009. Traffic volumes have remained stable with a traffic count of 4210 in 2000.

II. PROJECT PURPOSE AND NEED (cont.)

G. Capacity

There are no capacity issues on this roadway with a VSF of 0.22. There are some Peak Hour capacity issues on the weekends during the months of April through September at the entrance to the Skyline Drive-In.

H. Safety

Collision Stats. Collision locations can be seen in Exhibit 2. Included are 12 injury crashes, 0 fatalities and a total of 16 crashes over a 3 year period. The CRF averages around 0.45 throughout the corridor. The majority of the crashes were single vehicle crashes.

I. Roadway Deficiencies

KYTC's Common Geometrics Practices for Rural Arterials recommends 12' lanes with 8' shoulders. This roadway currently has two 9' lanes with 3' shoulders. One horizontal curve at MP 13.294 to 13.418 does not meet current design standards for 55 mph design speed however the speed limit has been reduced to 35 mph and this curve meets that criteria. The sight distance for the KY 323 approach looking south towards this curve has 395' of sight distance which meets a 45 mph traveling speed. The turning radius for trucks attempting to turn south onto KY 61 from the west approach of KY 323 is inadequate. Drivers attempt to pass slow moving trucks coming up Pitman Creek Hill creating unsafe situations. The maximum grade of this section is +6%. Bridge 044B00005N is only 24' wide curb to curb creating a narrow roadway when 2 trucks pass in the bridge.

Draft Purpose and Need Statement:

Need: KY 61 connects the community of Summersville to the city of Greensburg to the south. This roadway has narrow lanes and minimum shoulder widths. Trucks can't make the turn at KY 323 without swinging into opposite lane. A truck climbing lane may be warranted northbound just beyond Pitman Creek Bridge. Existing bridge does not have adequate width from curb to curb.

Purpose: The purpose of this study is to address the turning movements of trucks at the KY 323 intersection and improve the safety, mobility and connectivity between Summersville and Greensburg.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

STIP Pg. #: TIP Pg. #:

Project will be added to the STIP when updated with the 2012 Highway Plan

B. Archeology/Historic Resources

☐ Known Archeological or Historic Resources are present

There are structures older than 50 years old within the project area. No archaeological information is known at this time. There could be a permit possible with the truck climbing lane so historic and arch surveys would be required.

C. Threatened and Endangered Species

If permits are required a BA will be required for Indiana Bat and Gray Bat. Other listed species can be cleared with a No Effect Determination.

D. Hazardous Materials

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

There is a gas station on the corner of KY323 and KY61. If substantial ROW is required from this parcel a Phase I investigation should be completed.

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

If the culvert North of Pitman Creek has to be extended

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

This project is state funded and will not require noise analysis

G. Socioeconomic

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

There are no socioeconomic issues with this project.

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

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

Since the project is state funded 4f and 6f do not apply.

Anticipated Environmental Document:

None (Completely State funded)



IV. POSSIBLE ALTERNATIVES

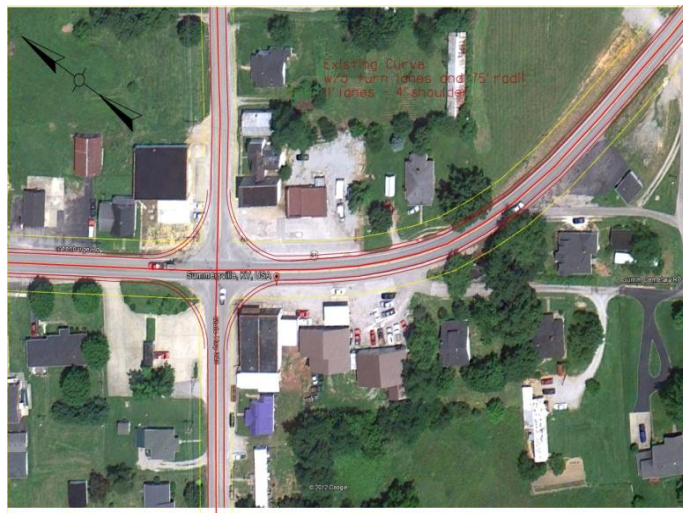
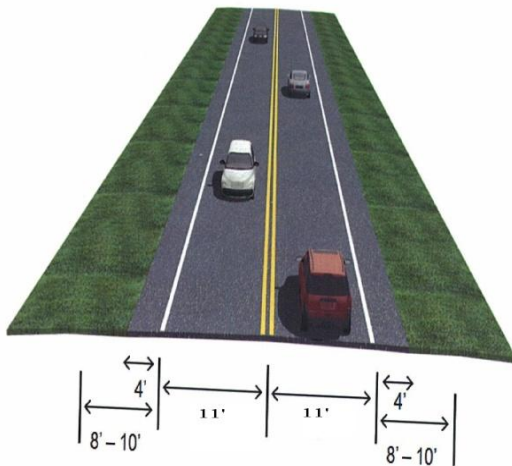
A. Alternative 1: No Build

This alternative should be carried forward, but does not address the needs identified.

B. Alternative 2

Widen KY 61 throughout this corridor to two 11' lanes with 8' shoulders (4' paved). Improve the radius of KY 323 on the west approach of KY 61 at MP 13.39 to 75' to accommodate large trucks. Rework ditches and drainage structures to improve drainage in the area. Construct a 11' wide truck climbing lane from MP 11.387 to 12.056. Widen the existing bridge 044B00005N if feasible to allow for safer passage of trucks. The majority of the project will follow the existing alignment.

A significant gas line is present along this corridor.



Without Bridge Widening

Phase	Estimate
Design	\$800,000
R/W	\$1,300,000
Utilities	\$1,100,000
Const	<u>\$6,200,000</u>
Total	\$9,400,000

Planning Level Cost Estimate:

With Bridge Widening

Phase	Estimate
Design	\$900,000
R/W	\$1,300,000
Utilities	\$1,100,000
Const	<u>\$6,800,000</u>
Total	\$10,100,000

IV. POSSIBLE ALTERNATIVES (cont.)

B. Alternative #3

Same as Alt #2 including the addition of left turn lanes at KY 323.



Planning Level Cost Estimate:

<u>Phase</u>	<u>Estimate</u>
Design	\$900,000
R/W	\$2,000,000
Utilities	\$2,000,000
Const	\$6,500,000
Total	\$11,400,000

Add \$700,000 for
Bridge.

V. Summary

This study is a Data Needs Analysis (DNA) of a roadway project for the KY 61 corridor in Green County, Item Number 4-8712. Through analysis of the existing roadway geometrics, 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) Turning movements at the KY 323 intersection.
- 2) Vertical curve north of bridge
- 3) Narrow Bridge
- 4) Narrow lanes and shoulders
- 5) Ky 61 connects Summersville and Greensburg.

The purpose of this study is to address the turning movements of trucks at the KY 323 intersection and improve the safety, mobility and connectivity between Summersville and Greensburg. Included in the alternates were a no build recommendation, a widening alternative, and addition of turning lanes at KY 323. The project team recommends Alternate #2. The current highway plan has only funded the D phase.

Alt #	Description	D (\$)(SPP)	R (\$)(SPP)	U (\$)(SPP)	C (\$)(SPP)	Total (\$mil)
1	No Build	-	-	-	-	-
2	Minor Widening	800,000	1,300,000	1,100,000	6,200,000	9,400,000
3	With Turn Lanes	900,000	2,000,000	2,000,000	6,500,000	11,400,000
-	Current Hwy Plan Estimated Cost	800,000	1,200,000	1,200,000	6,000,000	9,200,000
-	Current Pre-Con Estimated Cost					

VI. Tables and Exhibits

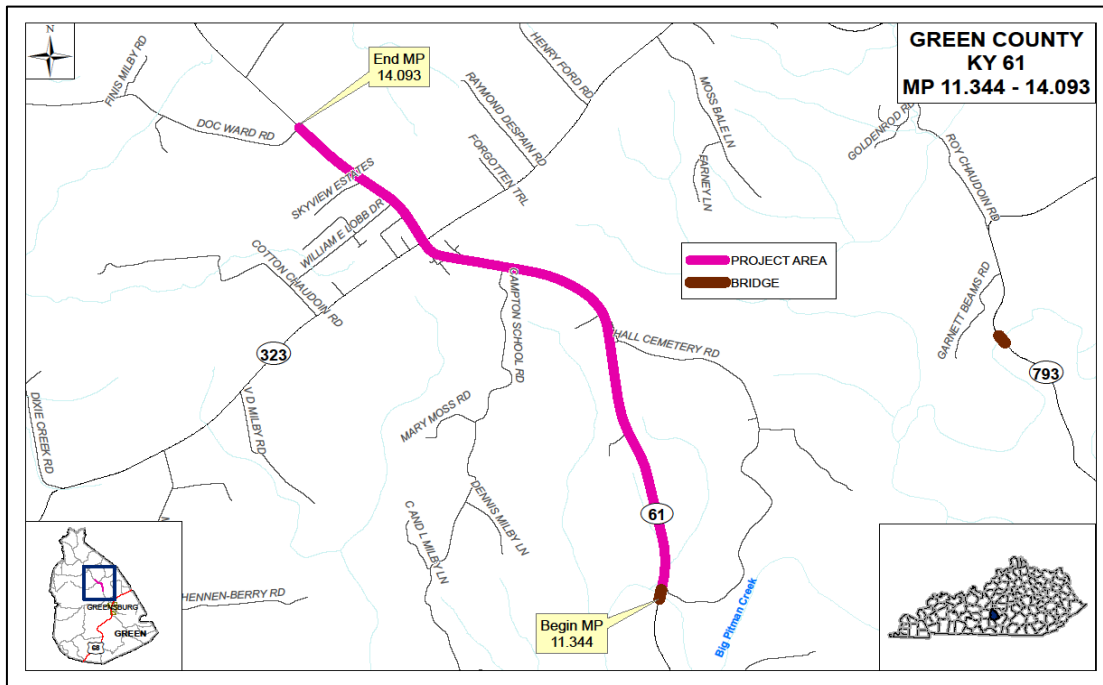


Exhibit 1: Project Location Map

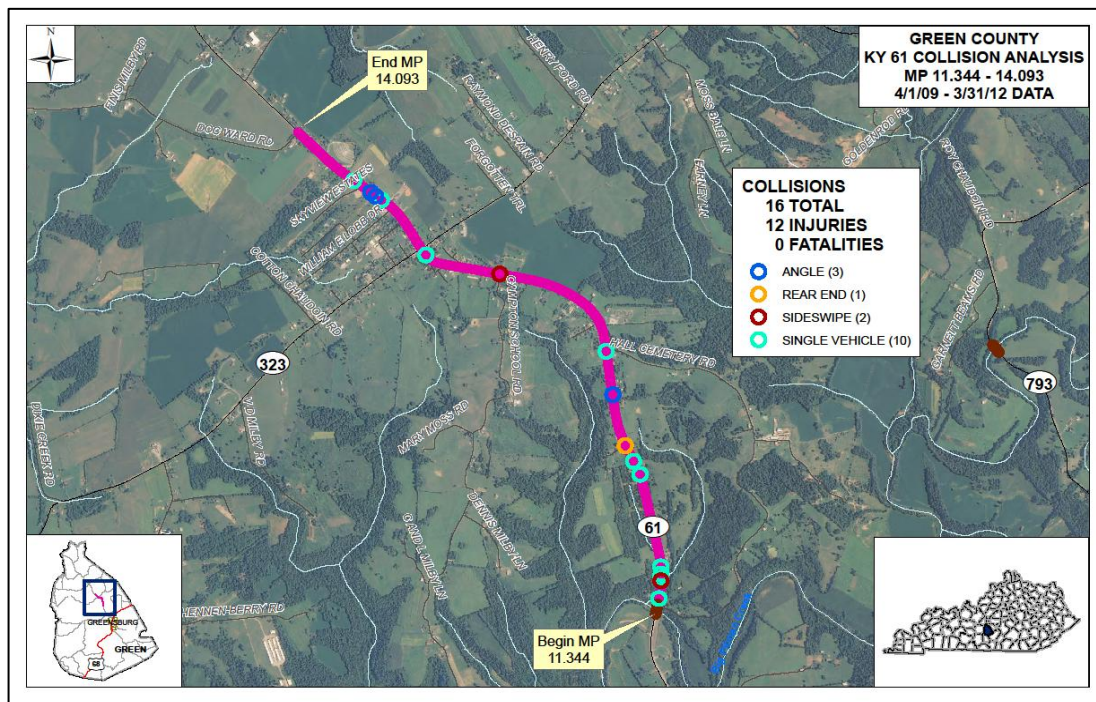


Exhibit 2: Collision Map

VI. Tables and Exhibits (cont.)

Plan Archives

<http://maps.kytc.ky.gov/planarc/dms51350/Pj06576.pdf>