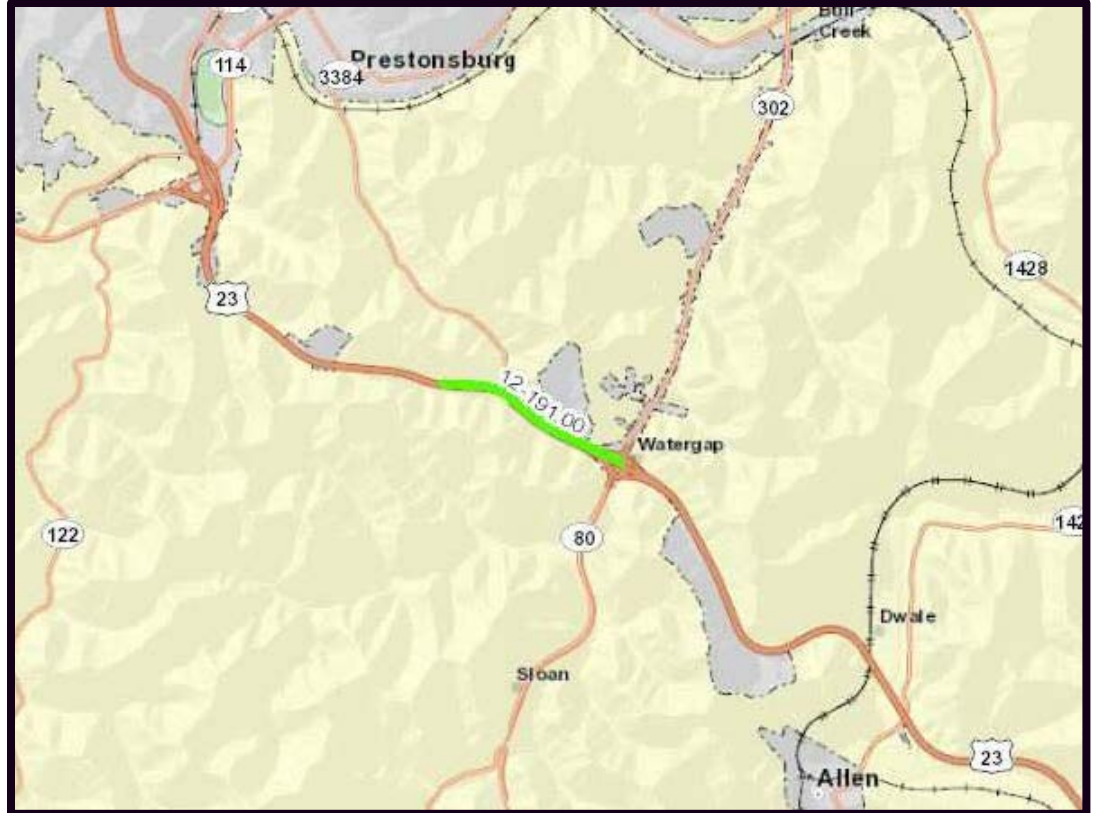


**D**ata

**N**eeds

**A**nalysis



## Scoping Study



US 23, Floyd County  
From KY 80 to KY 3384  
Item No. 12-0191.00

Prepared by the KYTC  
Division of Planning and  
KYTC District 12

September 2012



**I. PRELIMINARY PROJECT INFORMATION**

<b>County:</b>	Floyd	<b>Item No.:</b>	12-0191.00
<b>Route Number(s):</b>	US-0023	<b>Road Name:</b>	Pikeville - Prestonsburg Road
<b>Program No.:</b>		<b>UPN:</b>	(Function) Project Length (Route) (MPs)
<b>Federal Project No.:</b>		<b>Type of Work:</b>	Safety Improvements

2012 Highway Plan Project Description:

Mitigate safety hazards due to speed, poor access control between KY 80 and intersection with KY 3384.

<b>Beginning MP:</b>	12.775	<b>Ending MP:</b>	13.775	<b>Project Length:</b>	1.0
<b>Functional Class.:</b>	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural	<b>State Class.:</b>	<input checked="" type="checkbox"/> Primary <input type="checkbox"/> Secondary		
	Arterial ▼	<b>Route is on:</b>	<input checked="" type="checkbox"/> NHS <input checked="" type="checkbox"/> NN <input checked="" type="checkbox"/> Ext Wt		
<b>MPO Area:</b>	Not Applicable ▼	<b>Truck Class.:</b>	AAA ▼		
<b>In TIP:</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<b>% Trucks:</b>			
<b>ADT (current):</b>	23570 2012	<b>Terrain:</b>	Mountainous ▼		
<b>Access Control:</b>	<input checked="" type="checkbox"/> None <input type="checkbox"/> Permit <input type="checkbox"/> Fully Controlled <input type="checkbox"/> Partial	<b>Spacing:</b>	▼		
<b>Median Type:</b>	<input type="checkbox"/> Undivided <input checked="" type="checkbox"/> Divided (Type):	Raised Mountable			
<b>Existing Bike Accommodations:</b>	None ▼	<b>Ped:</b>	<input type="checkbox"/> Sidewalk		
<b>Posted Speed:</b>	<input type="checkbox"/> 35 mph <input type="checkbox"/> 45 mph <input checked="" type="checkbox"/> 55 mph <input type="checkbox"/> Other (Specify):				
<b>KYTC Guidelines Preliminarily Based on :</b>	55 MPH Proposed Design Speed				

**COMMON GEOMETRIC PRACTICES\***

Roadway Data:	EXISTING	PRACTICES*
No. of Lanes	4	<a href="#">Existing Rdwy. Plans available?</a> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Year of Plans: 1970 <input type="checkbox"/> <a href="#">Traffic Forecast Requested</a> Date Requested: <input checked="" type="checkbox"/> Mapping/Survey Requested Date Requested: Type: Conventional ▼
Lane Width	12	
Shoulder Width	10	
Max. Superelevation**	N/A	
Minimum Radius**	N/A	
Maximum Grade	4.4%	
Minimum Sight Dist.	N/A	
Sidewalk Width(urban)	N/A	
Clear-zone***	N/A	
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

<b>Bridge No.:</b>	N/A	(Bridge #1)	(Bridge #2)	<a href="#">Existing Geotech data available?</a> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  *If more than two bridges are located on the project, include additions sheets.
Sufficiency Rating				
Total Length				
Width, curb to curb				
Span Lengths				
Year Built				
Posted Weight Limit				
Structurally Deficient?				
Functionally Obsolete?				

**II. PROJECT PURPOSE AND NEED**

**A. Legislation**

The following funding was listed in the 2012 General Assembly's Enacted Highway Plan.	<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
	NH	Design	2012	\$400,000
	STP	Right of Way	2012	\$400,000
	STP	Utilities	2012	\$500,000
	NH	Construction	2015	\$1,800,000

**B. Project Status**

Design funds for this project has been authorized.

**C. System Linkage**

KY 3384 connects the city of Prestonsburg to U.S. 23. U.S. 23 is a major north/south arterial within this region of the United States.

**D. Modal Interrelationships**

This section of U.S. 23 is a major arterial for coal freight for Kentucky. It is the most heavily traveled coal haul route in Kentucky.

**E. Social Demands & Economic Development**

This area of U.S. 23 has seen significant growth with commercial and retail developments. Additional commercial and/or residential sites have been developed for future growth in the area.

**F. Transportation Demand**

ADT of U.S.23 has increased due to commercial development of the area. Bull Creek Trade Center located adjacent to U.S. 23, adds significant traffic to this section of U.S. 23 on the weekends.

## II. PROJECT PURPOSE AND NEED (cont.)

### G. Capacity

There is congestion in the project area along U.S. 23, especially during the weekend due to Bull Creek Trade Center. A shortened acceleration ramp from KY 80 onto U.S. 23 at M.P. 13.0 increases congestion with merging traffic especially during the morning and evening commutes in this area.

### H. Safety

Accident reports were reviewed from 2002 to 2011 between M.P. 12.7 to M.P. 13.8 of U.S. 23. One hundred twelve (112) accidents were reported including five (5) fatalities. A large concentration of accidents occur at the intersection of KY 3384 and U.S. 23 (see Exhibit 3), with another concentration of accidents occurring around M.P. 13.0 where traffic from KY 80 merges with U.S. 23.

### I. Roadway Deficiencies

Roadway deficiencies are not present on either U.S. 23 or KY 3384 that would contribute for the need of this project, however, lack of access management creates safety problems that this project is to address.

### Draft Purpose and Need Statement:

Need: Over a 10 year period, there have been 112 accidents, including 5 fatalities, between M.P. 12.7 to M.P. 13.8 of U.S. 23. The safety problems are compounded in this area by intersecting state roads, a trade center, a church, and other businesses, among other issues.

Purpose: To improve safety through this section of U.S. 23 primarily through improved access management and attention to the location of the proposed intersections and entrances on U.S. 23.

### III. PRELIMINARY ENVIRONMENTAL OVERVIEW

#### A. Air Quality

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

STIP Pg. #: 31

TIP Pg. #:

FY 2013-2016 STIP Draft

#### B. Archeology/Historic Resources

Known Archeological or Historic Resources are present

No Section 106 notifications have been generated from the District at this point. If the historical survey indicates that there may be an impact to historical sites, then the 106 process will be started.

#### C. Threatened and Endangered Species

The Indiana Bat (*Myotis Sodalis*) is listed as threatened or endangered species in the project area. However, no trees or habitat will be affected by project, therefore resulting in a No Effect Document.

#### D. Hazardous Materials

Potentially Contaminated Sites are present  Potential Bridge or Structure Demolition

An underground storage tank could be potentially affected depending on the final alternative chosen.

#### 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

ACE LON may be required depending on the final alternative chosen. There is a potential of affecting approximately 1400 feet of stream, which parallels U.S. 23.

#### 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

No socioeconomic impacts anticipated.

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

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

No 4(f) or 6(f) resources will be affected by project.

Anticipated Environmental Document:

CE Level 1



**IV. POSSIBLE ALTERNATIVES**

**A. Alternative 1: No Build**

This alternative does not address the needs identified.

**B. Alternative 2: Extend KY 3384 to Intersect U.S. 23 at M.P. 13.3 and Create Single Entrance**

This alternative would extend KY 3384 in front of Bull Creek Trade Center and create an intersection with U.S. 23 at M.P. 13.3. A frontage road would be created for the gas station, church, and medical offices that would tie into KY 3384 around the new intersection. All existing entrances would be closed and combined into this single entrance. By combining entrances, traffic generated at the new entrance may warrant a traffic signal at the intersection. This alternative may also allow for the acceleration lane from KY 80 onto U.S. 23 to be lengthened to aid in congestion relief of merging traffic. Also, there may be underground fuel tanks that are affected with this alternative and are not reflected in the right-of-way cost estimate.



Planning Level Cost Estimate:

<u>Phase</u>	<u>Estimate</u>
Design	\$400,000
R/W	\$723,700
Utilities	\$737,000
Const	\$2,034,987
<b>Total</b>	<b>\$3,895,687</b>



**IV. POSSIBLE ALTERNATIVES**

**C. Alternative 3: Construct Barrier Wall on U.S. 23 from M.P. 12.7 to M.P. 13.8**

With this alternative the existing barrier wall on U.S. 23 that currently ends at approximately M.P. 13.0, would be extended north to M.P. 13.8. This alternative would restrict southbound traffic from left turns onto KY 3384 and the business entrances located within the project limits. This would also prohibit KY 3384 and adjacent business traffic from making left turns onto southbound U.S. 23.

Traffic analysis of Alternative 3 indicates that without extending the barrier wall completely to the existing wall located around M.P. 14.4, there is a possibility that traffic wanting to make left turns will U-turn at the end of the proposed barrier wall, thus creating a dangerous situation. Also, any barrier wall may be detrimental to present and future businesses.



Planning Level Cost Estimate:

<u>Phase</u>	<u>Estimate</u>
Design	\$400,000
R/W	\$0
Utilities	\$0
Const	\$1,045,789
<b>Total</b>	<b>\$1,445,789</b>

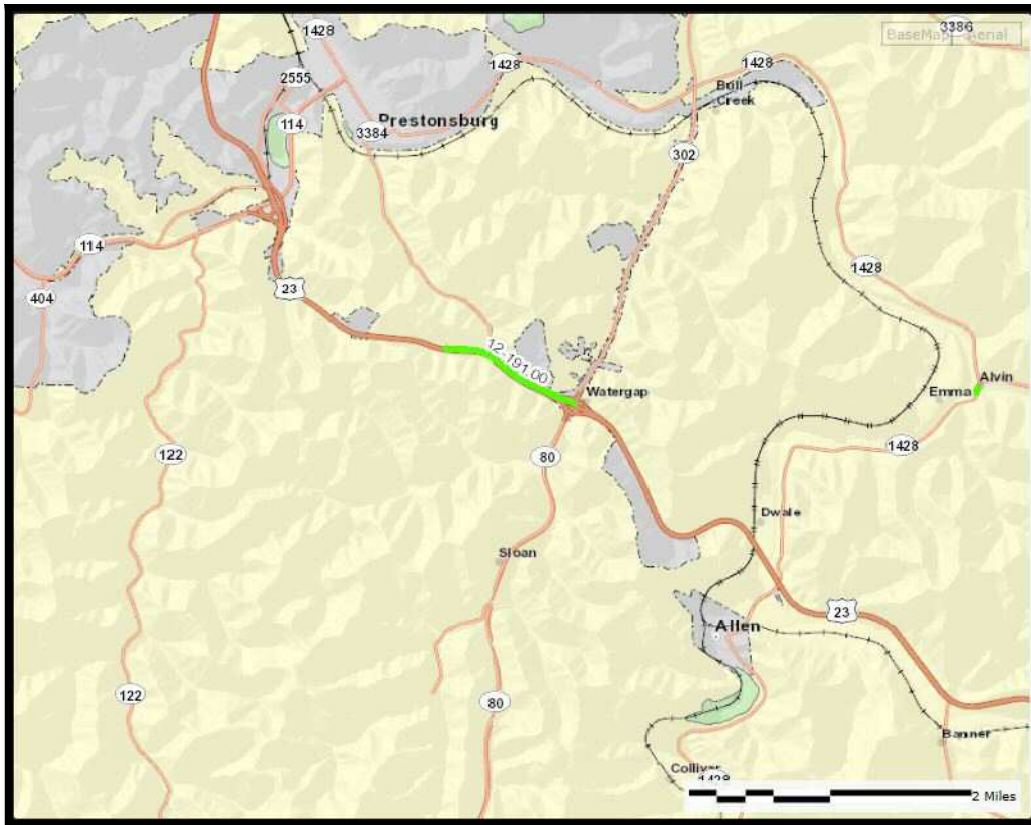
**V. Summary**

This study is a Data Needs Analysis (DNA) of a roadway project for the U.S. 23 Safety Improvements in Floyd County, Item Number 12-0191.00. 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:

- The No Build Alternative is not feasible due to the accident history at the project site.
- With the current alternatives presented, a traffic signal may be warranted.
- Special consideration should be given to the locations of any proposed entrances, as access management and safety are the primary goals of the project.
- Stakeholder interaction and coordination will likely be beneficial.

Alt #	Description	D (\$)(Fund)	R (\$)(Fund)	U (\$)(Fund)	C (\$)(Fund)	Total (\$mil)
1	No Build	-	-	-	-	-
2	KY 3384 Extension to U.S. 23	400,000	723,700	737,000	2,034,987	3,895,687
3	Barrier Wall on U.S. 23	400,000	0	0	1,045,789	1,448,789
-	Current Hwy Plan Estimated Cost	400,000	400,000	500,000	1,800,000	3,100,000
-	Current Pre-Con Estimated Cost					





**Exhibit 1: Project Location Map**



**Exhibit 2: Gas Line Location**

VI. Tables and Exhibits (cont.)

