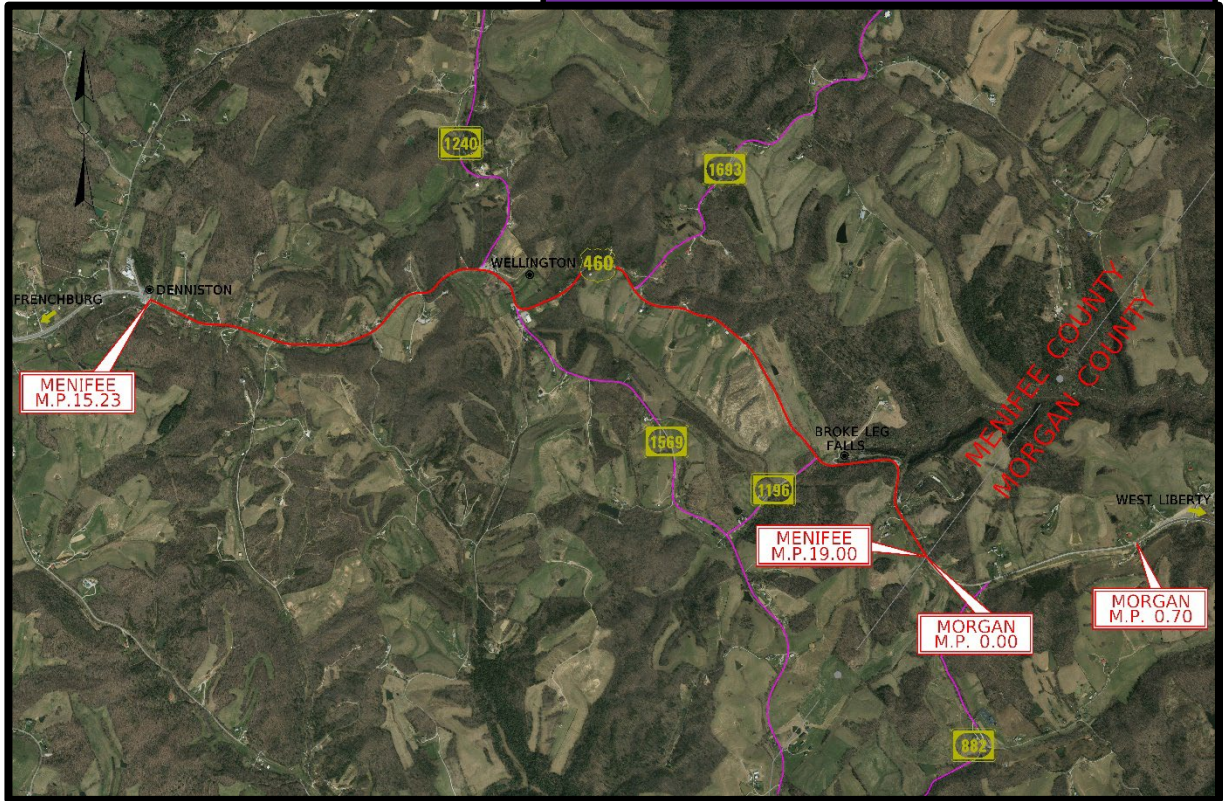


Data

Needs

Analysis



## Scoping Study



US 460, Menifee County  
From the KY 1240  
Intersection to 0.7 Miles  
East of the Morgan County  
Line  
Item No. 10-80200.00

Prepared by the KYTC  
Division of Planning and  
KYTC District 10

September 2022



I. PRELIMINARY PROJECT INFORMATION			
<b>County:</b>	MENIFEE/MORGAN	<b>Item No.:</b>	10-80200.00
<b>Route Number(s):*</b>	US 460	<b>Road Name:</b>	Frenchburg - West Liberty Rd.
<b>Program No.:</b>		<b>UPN:</b>	(Function) (County #) (Route) (MPs)
<b>Federal Project No.:</b>		<b>Type of Work:</b>	Reconstruction
2022 <b>Highway Plan Project Description:</b>			
IMPROVE SAFETY, CORRECT GEOMETRICS, AND ENHANCE REGIONAL CONNECTIVITY ON US 460 FROM THE INTERSECTION OF KY 1240 TO 0.7 MILES EAST OF THE MORGAN COUNTY LINE			
<b>Beginning MP:</b>	15.233 (MENIFEE)	<b>Ending MP:</b>	0.700 (MORGAN) <b>Project Length:</b> 4.47 MILES
<b>In TIP:</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<a href="#">Use PDP/CHAF to Verify Project Data</a>	
<b>State Class.:</b>	<input checked="" type="checkbox"/> Primary <input type="checkbox"/> Secondary	<b>Route is on:</b>	<input type="checkbox"/> NHS <input type="checkbox"/> NN <input type="checkbox"/> Ext Wt
<b>Functional Class.:</b>	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural Arterial	<b>Truck Class.:</b>	AAA <b>% Trucks:</b> 5.13%
<b>MPO Area:</b>	Not Applicable	<b>Terrain:</b>	Mountainous
<b>ADT (current):</b>	2204 2020		
<b>Access Control:</b>	<input type="checkbox"/> None <input checked="" type="checkbox"/> Permit <input type="checkbox"/> Fully Controlled <input type="checkbox"/> Partial	Spacing: <input type="text"/>	
<b>Median Type:</b>	<input checked="" type="checkbox"/> Undivided <input type="checkbox"/> Divided (Type):		
<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	
<b>COMMON GEOMETRIC</b>			
<b>Roadway Data:</b>	<b>EXISTING</b>	<b>PRACTICES**</b>	
No. of Lanes	2	2	<a href="#">Existing Rdwy. Plans available?</a> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Year of Plans: 1922 <input checked="" type="checkbox"/> <a href="#">Traffic Forecast Requested</a> Date Requested: 9/26/2022 <input type="checkbox"/> Mapping/Survey Requested Date Requested: Type:
Lane Width	10'	12'	
Shoulder Width	3'	8'	
Max. Superelevation***		8%	
Minimum Radius***		960	
Maximum Grade	10%	6%	
Minimum Sight Dist.		495'	
Sidewalk Width(urban)	N/A	N/A	
Clear-zone <sup>†</sup>		24'	
Project Notes/Design Exceptions?			
<b>Bridge No.:#</b>	083B00010N	(Bridge #2)	<a href="#">Existing Geotech Data Available?</a> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  Detour Length(s): 20 miles
Sufficiency Rating	48.8		
Total Length	33.1'		
Width, curb to curb	24'		
Span Lengths	29.9'		
Year Built	1923		
Posted Weight Limit	40 tons		
Structurally Deficient?	No		
Functionally Obsolete?	No		
Existing Bridge Type	Concrete Tee Beam		
*If more than one road is included in the project, include additional sheets. **Based on proposed Design Speed ***AASHTO's A Policy on Geometric Design of Highways and Streets †AASHTO's Roadside Design Guide ‡If more than two bridges are located on the project, include additional sheets.			

**II. PROJECT PURPOSE AND NEED**

**A. Legislation**

This project was added to the 2022 Enacted Highway Plan with the description "Improve safety, correct geometrics, and enhance regional connectivity on US 460 from the intersection of KY 1240 to 0.7 miles east of the Morgan County line." All phases of the project are in the plan.

<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
NH	D	2022	\$1,500,000
SPP	R	2025	\$6,000,000
SPP	U	2025	\$3,000,000
SPP	C	2026	\$29,000,000

**B. Project Status**

There is design funding available in the current biennium and it has been authorized. This section of US 460 is intended to be a continuation of corridor upgrades that have been in progress for many years. On either side of this section of US 460 are recent sections that have been improved.

**C. System Linkage**

US 460 is an east-west route that runs from Norfolk, VA to Frankfort, KY. It was one of the first major corridors in Eastern Kentucky. It is the heaviest traveled route in Menifee County and is the primary route for anyone traveling to the county seat of Frenchburg. It connects Menifee County to Morgan County to its east and Montgomery County to its west.

**D. Modal Interrelationships**

US 460's primary users will be passenger cars with 5.13% of traffic being trucks.

**E. Social Demands & Economic Development**

This route is used daily by commuters for work and recreation. It is the most used route for residents of Morgan and Menifee County to access the growing area of Mount Sterling and the I-64 corridor. As the Mt. Sterling area continues to grow it is expected that the demand for a better corridor will increase. This route is also used by tourists and visitors wanting to access the Cave Run Lake and Red River Gorge Areas. Broke Leg Falls is located adjacent to this route near MP 18.62. It is classified as a Nature Preserve and is owned by the Menifee County Fiscal Court through the Kentucky Heritage Land Conservation Fund. Botts Elementary School is located on the western end of the project near MP 15.32 and has direct access to US 460.

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

**F. Transportation Demand**

The current ADT through this section of US 460 begins with a count of 2204 (completed in 2020) on the western side and drops off to 1063 (completed in 2021) near the county line. It should be noted that the % trucks nearly doubled to 10.71% at the county line. There are no indications that these numbers will rise or fall dramatically in the future.

**G. Capacity**

There are no known capacity issues on this section of US 460 and this project will not add or decrease capacity.

**H. Safety**

A review of crash data from the Kentucky State Police database was performed and 19 crashes occurred within the project limits on US 460 within the past 5 years. There were no fatalities or injuries reported. Of the 19 total, 10 were single vehicle crashes, 4 were angle/sideswipe, 3 were backing, 1 rear end, and 1 head on. 5 of the accidents occurred near MP 17.2 which is in a D rated horizontal curve and also near the crest of a vertical curve.

**I. Roadway Deficiencies**

The existing roadway has little shoulder, substandard clear zone, and consists of several horizontal curves and steep grades. There are 8 horizontal curves that are rated as 'D' or worse. There are 24 sections with grades rated at a 'D' or worse and the grade is rated an 'F' from MP 18.187 - MP 18.399 with the grade reaching nearly 10% in this area. These horizontal and vertical curves cause sight distance problems and decrease driver comfort. This road does not meet the geometric standards for roads of this class.

<b>III. PRELIMINARY ENVIRONMENTAL OVERVIEW</b>				
<b>A. Air Quality</b>	Project is in: <input type="checkbox"/> Attainment area <input type="checkbox"/> Nonattainment or Maintenance Area <input type="checkbox"/> PM 2.5 County STIP Pg. #: _____    TIP Pg. #: _____			
No air quality impacts are anticipated.				
<b>B. Archeology/Historic Resources</b>	<input type="checkbox"/> Known Archeological or Historic Resources are present Section 106 will apply and SHPO clearances for archeology and cultural historic will be required.			
<b>C. Threatened and Endangered Species</b>	USFWS IPaC report generated for this location lists Gray Bat, Indiana Bat, Northern Long-eared Bat, Virginia Big-eared Bat, Snuffbox Mussel, Northern Riffleshell, and Pink Mucket as threatened or endangered species in the project area. The Monarch butterfly is listed as a candidate and may be added to this list by the time the project is developed.			
<b>D. Hazardous Materials</b>	<input checked="" type="checkbox"/> Potentially Contaminated Sites are present <input checked="" type="checkbox"/> Potential Bridge or Structure Demolition An active gas station exists at MP 15.36. A former gas station is located at MP 16.7. A UST/HAZMAT SME should review the project for issues such as other prior fuel stations or known monitoring wells. The existing structure should be evaluated for asbestos.			
<b>E. Permitting</b>	Check all that may apply: <input checked="" type="checkbox"/> Waters of the US <input type="checkbox"/> MS4 area <input checked="" type="checkbox"/> Floodplain Impacts <input type="checkbox"/> Navigable Waters of the US Impacts Are 401/404 Permits likely to be required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Impacts to: <input type="checkbox"/> Wetlands <input checked="" type="checkbox"/> Stream/Lake/Pond <input type="checkbox"/> ACE LON <input type="checkbox"/> ACE NW <input checked="" type="checkbox"/> ACE IP <input type="checkbox"/> DOW IWQC <input type="checkbox"/> Special Use Waters			
401 and 404 permit requirements to be determined based upon impacts from alternatives and improvements selected. A KYR10 construction permit will likely be required. Though construction impacts will not directly impact Special Use Waters, streams in the vicinity of this project do carry that designation.				
<b>F. Noise</b>	Are existing or planned noise sensitive receptors adjacent to the proposed project? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is this considered a "Type I Project" according to <a href="#">KYTC Noise Analysis and Abatement Policy?</a> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Several noise sensitive receptors are along the route including but not limited to: residences, churches. Due to the expected curve revisions with horizontal and vertical changes, it is likely this would be a Type I Project. Noise analysis required if federal funds are used on the project.			
<b>G. Socioeconomic</b>	Check all that may apply: <input checked="" type="checkbox"/> Low Income/Minority Populations <input checked="" type="checkbox"/> Relocations <input type="checkbox"/> Local Land Use Plan available There are several residences very close to the existing roadway and some are likely to be low income. The project should not pose hardships to the community during construction provided that traffic access is maintained during construction.			
<b>H. Section 4(f) or 6(f) Resources</b>	The following are present on the project: <input type="checkbox"/> Section 4(f) Resources <input type="checkbox"/> Section 6(f) Resources No known 4(f) or 6(f) resources present. Broke Leg Falls is a locally owned nature preserve but no evidence of federal funding being involved has been found.			
<table style="width: 100%; border: none;"> <tr> <td style="border: none;"><a href="#">Anticipated Environmental Document:</a></td> <td style="border: none; text-align: center;">CE Level 2</td> <td style="border: none; text-align: right;">▼</td> </tr> </table>		<a href="#">Anticipated Environmental Document:</a>	CE Level 2	▼
<a href="#">Anticipated Environmental Document:</a>	CE Level 2	▼		

**IV. PROJECT NEED, PURPOSE & SCOPE**

**A. Need:**

US 460 is an arterial route that is a vital corridor for Eastern Kentucky and needs to be modernized to current standards. This section of US 460 does not meet current geometric guidelines for this class of road.

**B. Purpose:**

The purpose of this project is to continue a multi-county corridor reconstruction by improving the geometrics of this section to enhance safety and regional connectivity.

**C. Scope:**

The goal of this project will be to bring this section of US 460 to 55mph design speed standards with a typical section consistent with adjoining sections of US 460. I think this can be achieved by widening the existing road in many places and going off alignment only when needed to improve horizontal or vertical curves. Care should be taken with the maintenance of traffic design to not shut the road down for extended periods of time. Right of Way and Utility impacts should be evaluated early on and avoided if feasible.

<b>V. PROJECT ESTIMATE &amp; METHODOLOGY</b>															
<b>Estimate Methodology:</b>	<b>Current Estimate</b>														
This estimate was developed using numbers from other sections of the corridor and a cost per mile average. Several residential relocations are expected. Utility impacts will be to water along the length of the project and most utility poles will need to be relocated.	<table border="1"> <thead> <tr> <th style="text-align: left;"><u>Phase</u></th> <th style="text-align: center;"><u>Estimate</u></th> </tr> </thead> <tbody> <tr> <td>Planning</td> <td></td> </tr> <tr> <td>Design</td> <td style="text-align: right;">\$1,500,000</td> </tr> <tr> <td>R/W</td> <td style="text-align: right;">\$6,000,000</td> </tr> <tr> <td>Utilities</td> <td style="text-align: right;">\$3,000,000</td> </tr> <tr> <td>Const</td> <td style="text-align: right;">\$29,000,000</td> </tr> <tr> <td><b>Total</b></td> <td style="text-align: right;"><b>\$39,500,000</b></td> </tr> </tbody> </table>	<u>Phase</u>	<u>Estimate</u>	Planning		Design	\$1,500,000	R/W	\$6,000,000	Utilities	\$3,000,000	Const	\$29,000,000	<b>Total</b>	<b>\$39,500,000</b>
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	Const	\$29,000,000													
<b>Total</b>	<b>\$39,500,000</b>														

**VI. UTILITIES POTENTIALLY AFFECTED - CONTACT INFORMATION**

Company Name -	Cave Run Water Commission
Contact -	Larry Workman
Address -	7522 Highway 1693, Wellington, KY
Phone No. -	(606)768-6665
Company Name -	City of Frenchburg
Contact -	Mayor Edward Bryant
Address -	157 Old Campus Road, Frenchburg, KY
Phone No. -	(606)768-3457
Company Name -	Licking Valley RECC
Contact -	Wes McKinney
Address -	271 Main Street, West Liberty, KY
Phone No. -	(606)743-3179
Company Name -	Mountain Rural Telephone Cooperative
Contact -	Steve Gullett
Address -	425 Main Street, Suita A, West Liberty, KY
Phone No. -	(606)743-3121
Company Name -	
Contact -	
Address -	
Phone No. -	
Company Name -	
Contact -	
Address -	
Phone No. -	

**VII. TABLES AND EXHIBITS**

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**VII. TABLES AND EXHIBITS (cont.)**

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