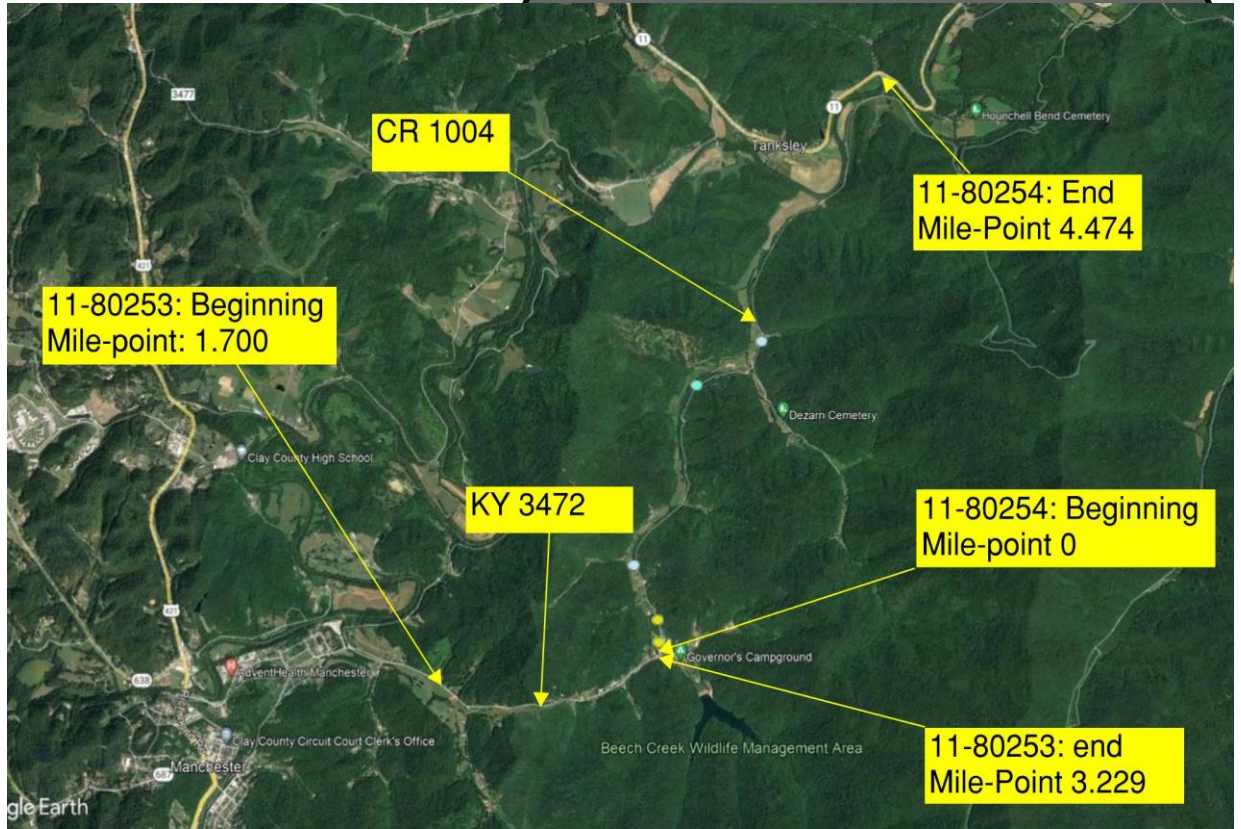


Data Needs Analysis



Scoping Study



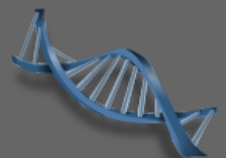
Improve the existing geometric alignment from KY3472 at MP 1.7 continuing past the Bert T. Combs Park onto CR1004 to its intersection with KY11.

Clay County
Item Numbers 11-80253 &
11-80254

Prepared by the KYTC
Division of Planning and
KYTC District 11



October 2022



Clay

Ia. PRELIMINARY PROJECT INFORMATION			
County:	Clay	Item No.:	11-80253.00
Route Number(s):*	KY-3472	Road Name:	Beech Creek Rd.
Program No.:		UPN:	
Federal Project No.:		Type of Work:	Realignment
2022 Highway Plan Project Description:			
Improve geometric Alignment from KY 3472 at MP 1.7 continuing past the Bert T. Combs Park to the intersection of Beech Creek Road and White Oak Road. (Approximately 1.5 miles of roadway to improve)			
Beginning MP:	1.7	Ending MP:	3.229
		Project Length:	1.529
In TIP:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Use PDP/CHAF to Verify Project Data
State Class.:	<input type="checkbox"/> Primary <input checked="" type="checkbox"/> Secondary		Route is on: <input type="checkbox"/> NHS <input type="checkbox"/> NN <input type="checkbox"/> Ext Wt
Functional Class.:	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural Local ▼		Truck Class.: ▼ % Trucks:
MPO Area:	Not Applicable ▼		Terrain: Rolling ▼
ADT (current):	1860 (2019) MP .512 to .7180		
Access Control:	<input type="checkbox"/> None <input checked="" type="checkbox"/> Permit <input type="checkbox"/> Fully Controlled <input type="checkbox"/> Partial Spacing: ▼		
Median Type:	<input checked="" type="checkbox"/> Undivided <input type="checkbox"/> Divided (Type): 		
Existing Bike Accommodations:	Shared Lane ▼		Ped: <input type="checkbox"/> Sidewalk
Posted Speed:	<input type="checkbox"/> 35 mph <input type="checkbox"/> 45 mph <input checked="" type="checkbox"/> 55 mph <input type="checkbox"/> Other (Specify): 		
KYTC Guidelines Preliminarily Based on :		45 MPH Proposed Design Speed	
COMMON GEOMETRIC PRACTICES**			
Roadway Data:	EXISTING	PRACTICES**	Existing Rdwy. Plans available?
No. of Lanes	2	2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Lane Width	9'-12'	11'	Year of Plans:
Shoulder Width	0-1'	3'	<input checked="" type="checkbox"/> Traffic Forecast Requested
Max. Superelevation***	Unknown	8%	Date Requested: 6/1/2022
Minimum Radius***	Unknown	587'	<input type="checkbox"/> Mapping/Survey Requested
Maximum Grade	Unknown	9%	Date Requested:
Minimum Sight Dist.	Unknown	360'	Type: ▼
Sidewalk Width(urban)	N/A		
Clear-zone [†]			
Project Notes/Design Exceptions?			

Clay

Ib. PRELIMINARY PROJECT INFORMATION			
County:	Clay	Item No.:	11-80254.00
Route Number(s):*	CR-1004	Road Name:	Beech Creek Rd.
Program No.:		UPN:	
Federal Project No.:		Type of Work:	Realignment
2022 Highway Plan Project Description:			
Improve geometric alignment from the intersection of beech creek road and white oak road to KY-11 AT MP 14.24. (approximately 4.0 miles of roadway to improve) (2022CCN)			
Beginning MP:	0	Ending MP:	4.474
		Project Length:	4.474
In TIP:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Use PDP/CHAF to Verify Project Data	
State Class.:	<input type="checkbox"/> Primary <input checked="" type="checkbox"/> Secondary	Route is on:	<input type="checkbox"/> NHS <input type="checkbox"/> NN <input type="checkbox"/> Ext Wt
Functional Class.:	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural <input type="checkbox"/> Local	Truck Class.:	<input type="checkbox"/> % Trucks:
MPO Area:	Not Applicable	Terrain:	Rolling
ADT (current):	No data at this time		
Access Control:	<input type="checkbox"/> None <input checked="" type="checkbox"/> Permit <input type="checkbox"/> Fully Controlled <input type="checkbox"/> Partial	Spacing: <input type="text"/>	
Median Type:	<input checked="" type="checkbox"/> Undivided <input type="checkbox"/> Divided (Type): <input type="text"/>		
Existing Bike Accommodations:	Shared Lane	Ped:	<input checked="" type="checkbox"/> Sidewalk
Posted Speed:	<input type="checkbox"/> 35 mph <input type="checkbox"/> 45 mph <input type="checkbox"/> 55 mph	<input checked="" type="checkbox"/> Other (Specify):	None posted
KYTC Guidelines Preliminarily Based on :	45 MPH Proposed Design Speed		
COMMON GEOMETRIC			
Roadway Data:	EXISTING	PRACTICES**	
No. of Lanes		<u>2</u>	Existing Rdwy. Plans available? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Year of Plans: <input type="text"/>
Lane Width	<u>16'</u>	<u>11'</u>	
Shoulder Width	<u>0</u>	<u>3'</u>	<input checked="" type="checkbox"/> Traffic Forecast Requested Date Requested: <u>10/13/2022</u>
Max. Superelevation***	<u>Unknown</u>	<u>8%</u>	
Minimum Radius***	<u>Unknown</u>	<u>587'</u>	<input type="checkbox"/> Mapping/Survey Requested Date Requested: <input type="text"/>
Maximum Grade	<u>Unknown</u>	<u>9%</u>	
Minimum Sight Dist.	<u>Unknown</u>	<u>587'</u>	Type: <input type="text"/>
Sidewalk Width(urban)	<u>N/A</u>	<u>N/A</u>	
Clear-zone [†]			
Project Notes/Design Exceptions?			
Bridge No.:#	026C00144N		
Sufficiency Rating	<u>100</u>		
Total Length	<u>215</u>		
Width, curb to curb	<u>28</u>		
Span Lengths	<u>150/65</u>		
Year Built	<u>2017</u>		
Posted Weight Limit	<u>N/A</u>		
Structurally Deficient?	<u>Not Deficient</u>		
Functionally Obsolete?	<u>No</u>		
Existing Bridge Type	<u>2-span, 0 Skew</u>		
		Detour Length(s):	<u>5</u>
Existing Geotech Data Available? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			

II. PROJECT PURPOSE AND NEED

A. Legislation

The projects appeared in the 2022 Highway Plan with the following descriptions
11-80253: "Improve geometric Alignment from KY 3472 at MP 1.7 continuing past the Bert T. Combs Park to the intersection of Beech Creek Road and White Oak Road. (Approximately 1.5 miles of roadway to improve)"
11-80254: "Improve geometric alignment from the intersection of beech creek road and white oak road to KY-11 AT MP 14.24. (approximately 4.0 miles of roadway to improve) (2022CCN)"

<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount (11-80253/ 11-80254)</i>
SPP	D	2023	\$1,300,000/\$1,600,000
SPP	R	2024	\$2,000,000/\$2,000,000
SPP	U	2025	\$1,900,000/\$1,200,000
SPP	C	2026	\$7,500,000/\$16,000,000

All phases of both projects have funding in the highway plan at this time.

B. Project Status

There is funding in the 2022 Highway Plan for all phases of these project at this time. There are no other projects scheduled for these locations at this time. The slide repair that is referenced in the photo below (Approximately MP 2.9) will likely be completed by placment of an asphalt strip patch in the near future.

C. System Linkage

The following information is provided for project understanding and is not applicable to defining the project purpose. KY 3472 is an east/west route that Connects US 421 to Beech Creek Road/Bert T Combs Lake Road. The road begins at US 421 and ends at the intersection with Beech Creek Road and Bert Combs Lake Road. CR 1004 is a north/south local Rd. that Connects KY 3472 to KY 11. The road begins at the intersection with Beech Creek Road and Bert Combs Lake Road and ends at the intersection with KY 11.

D. Modal Interrelationships

The following information is provided for project understanding and is not applicable to defining the project purpose. KY 3472's primary users will be passenger cars. Some larger vehicles such as school buses and garbage trucks also travel this route as it is primarily a residential area. KY 3472 has residential properties throughout the length of the project with the eastern end of the project being more densely populated. There are several schools on US 421 that are in close proximity to the project, these would include: Clay County Middle School, Clay County High School, and Manchester Elementary School. It is also noteworthy that the park at the end of the project also has campsites and horseback riding trails, so RVs and Trucks with large trailers travel this route frequently as well.
 CR 1004 primary users will be passenger cars. The area is primarily residential so the only larger vehicles would likely be school buses/ garbage trucks. Other large vehicles would likely choose another route into this area at this time do the existing conditions of this route.

E. Social Demands & Economic Development

N/A

II. PROJECT PURPOSE AND NEED (cont.)

F. Transportation Demand

The following information is provided for project understanding and is not applicable to defining the project purpose. There is currently not any traffic count data from MP .718 - MP 3.229 or Cr 1004 from MP 0 - MP 3.9 The closest sets of traffic count data are from KY 3472 MP 0.512 to MP 0.718 ADT of 1860, KY 11 MP 10.443 to 12.892 ADT of 1405, and KY 11 MP 12.892 to 19.611 ADT of 1216. It is likely that a two lane rural typical section would handle the traffic into the future but, new counts should be completed to verify this.

G. Capacity

There are currently no capacity issues on these routes.

H. Safety

The following information is provided for project understanding and is not applicable to defining the project purpose. KY 3472 experienced 8 collisions from milepoint 1.700 to 3.229 from 2017 to 2021. Of these collisions, 4 resulted in injuries and 1 of them resulted in a fatality. None of the collisions involved a commercial vehicle. Of the 8 collisions, 3 of them were located in close proximity to an F rated curve at approximately milepoint 1.95. CR 1004 Experienced 6 Collisions From milepoints 0 to 4.474 Of these collisions 3 resulted in injuries and 0 of them resulted in a fatality. None of the collisions involved a commercial vehicle. Of the 6 collisions, 2 were located in close proximity to the series of curves near CR 1004 MP 0.1.

I. Roadway Deficiencies

11-80253: The existing alignment has a large number of horizontal curves relative to the length of the project. Of those, 7 have D ratings, 3 have E ratings, and 2 have F ratings. The first curve with an F rating is located at approximately MP 1.95; 3 crashes occurred near this location from 2017-2021. The second with an F rating is located at approximately MP 3.226; there have been no crashes at this location from 2017-2021 but will likely be inadequate for the ultimate design of this roadway. This roadway also has instances of undesirable vertical geometry such as steep grades and abrupt changes in grade. This road is also narrow with varying lane width of 9-12 feet and 0-1 foot shoulders. There is also poor site distance at many of these horizontal and vertical curves due to the poor geometry. Various examples of roadside hazards also exist in this area which include but are not limited to critical slopes and utility poles well within the clear zone with no roadside barriers present for either. Existing pavement structure appears to be in poor condition with various forms of cracking and base failures are present within this area.

11-80254: The existing roadway is very narrow with the road being only 16' wide with no shoulders. The road is winding for the majority of its length with substandard horizontal and vertical geometry throughout this project area. Many sections along the western side of the alignment have critical foreslopes with no barriers. These steep foreslopes along with being located along a stream have created numerous embankment failures throughout the site in which many have been repaired with rail steel and cribbing. Also due to the steep backslopes on the eastern side of the alignment it has created some issues with minor rockfalls/slides. The existing pavement is in poor condition with many breaks in the pavement due to the previous slides. There is only one structure within the limits and it is structurally and functionally sufficient.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW	
A. Air Quality	Project is in: <input checked="" type="checkbox"/> Attainment area <input type="checkbox"/> Nonattainment or Maintenance Area <input type="checkbox"/> PM 2.5 County STIP Pg.#: _____ TIP Pg.#: _____
The projects must be added to STIP. TIP is not applicable because they are not in an MPO. Clay county is attainment for all monitored air pollutants. If the projects receive federal funding and if they significantly change or increase traffic, or add additional lanes, they may require MSAT analysis. If structures are impacted they will need to be inspected for asbestos containing materials, and KY DAQ will require advanced notification prior to demolition.	
B. Archeology/Historic Resources	<input type="checkbox"/> Known Archeological or Historic Resources are present Several structures along the routes appear > 50 years old. If federal funding is applied to the projects, then investigations of archeological and historic resources will be required for the entire APE of both projects. Even with SPP funds, investigation within USACE Jurisdictional Areas will be required for Corps permitting.
C. Threatened and Endangered Species	USFWS IPaC report generated for 11-80253 lists potential habitat for Gray Bat, Indiana Bat, Northern Long-eared Bat, Kentucky Arrow Darter, and Snuffbox Mussel. For 11-80254 the USFWS IPaC report lists potential habitat for Gray Bat, Indiana Bat, Northern Long-eared Bat, Kentucky Arrow Darter, and Clubshell, Fanshell, and Rabbitsfoot mussels. There is no critical habitat in either project area. Several trees and wooded areas are adjacent to the roadway. Hibbard Branch, Hart Branch, and an unnamed tributary of Beech Creek are within the 11-80253 project area. Beech Creek, Little Beech Creek, Inyart Branch, an unnamed tributary of Beech Creek and Goose Creek are within the 11-80254 project area. If federal funds are applied to the project, then review will have to address the requirements of USFWS to prevent detriment to the protected species. Even with SPP funds, investigation within USACE Jurisdictional Areas will be required for Corps permitting. A habitat assessment, biological assessment or mitigation measures will address potential impacts.
D. Hazardous Materials	<input type="checkbox"/> Potentially Contaminated Sites are present <input checked="" type="checkbox"/> Potential Bridge or Structure Demolition No obvious sites noted from aerial photography, however a UST/HAZMAT SME should review the projects for issues such as prior fuel stations or known monitoring wells. Structures requiring demolition will need to be inspected for asbestos.
E. Permitting	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 checked="" type="checkbox"/> Wetlands <input checked="" type="checkbox"/> Stream/Lake/Pond <input type="checkbox"/> ACE LON <input checked="" type="checkbox"/> ACE NW <input checked="" type="checkbox"/> ACE IP <input type="checkbox"/> DOW IWQC <input checked="" type="checkbox"/> Special Use Waters
404 and 401 permit requirements TBD based upon impacts from alternatives and improvements selected. KYR10 construction permits will likely be required. Floodplain permits may be required. For 11-80254, the section of Goose Creek along Beech Creek Rd. from MP 0.00 - 1.00 is designated as an OSRW. Impacts to special use waters do not qualify for Nation Wide permits and will require an Individual Permit.	

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 [KYTC Noise Analysis and Abatement Policy?](#) Yes No
 Several noise sensitive receptors are along both routes including but not limited to: residences, a church, and a public part at the Eastern end of 11-80253. Due to the expected curve revisions with horizontal and vertical changes, it is likely these would be Type I Projects. Noise analysis required if federal funds are used on the projects.

G. Socioeconomic
 Check all that may apply: Low Income/Minority Populations Relocations Local Land Use Plan available
 There are several residences very close to the existing roadway for both projects. According to the "Demographic Indicators 2020" layer available through the KYTC mapping tools, over 80% of the population along both routes may qualify as Low Income. The project should not pose hardships to the community during construction provided that traffic access is maintained during construction. There is no Local Land use plan.

H. Section 4(f) or 6(f) Resources
 The following are present on the project: Section 4(f) Resources Section 6(f) Resources
 No known 4(f) resources, however potential for historic structures exist pending eligibility determination, if required, for Corps permitting. No known 6(f) resources are in the project area. However, it should be noted that Bert T. Combs Park and Campground is just to the East of the 11-80253 project area.

[Anticipated Environmental Document:](#)

IV. PROJECT NEED, PURPOSE & SCOPE

A. Need:
 KY 3472/CR 1004 has deficiencies in both the horizontal and vertical alignments along with lane/shoulder width and clear zone.

B. Purpose:
 The purpose of these projects is to correct the substandard geometrics of the roadway.

C. Scope:
 The focus of these projects will be to improve the existing geometric alignment from KY 3472 at MP 1.7 continuing past the Bert T. Combs Park onto CR 1004 to its intersection with KY-11. This includes approximately 5.5 miles of roadway to be improved.

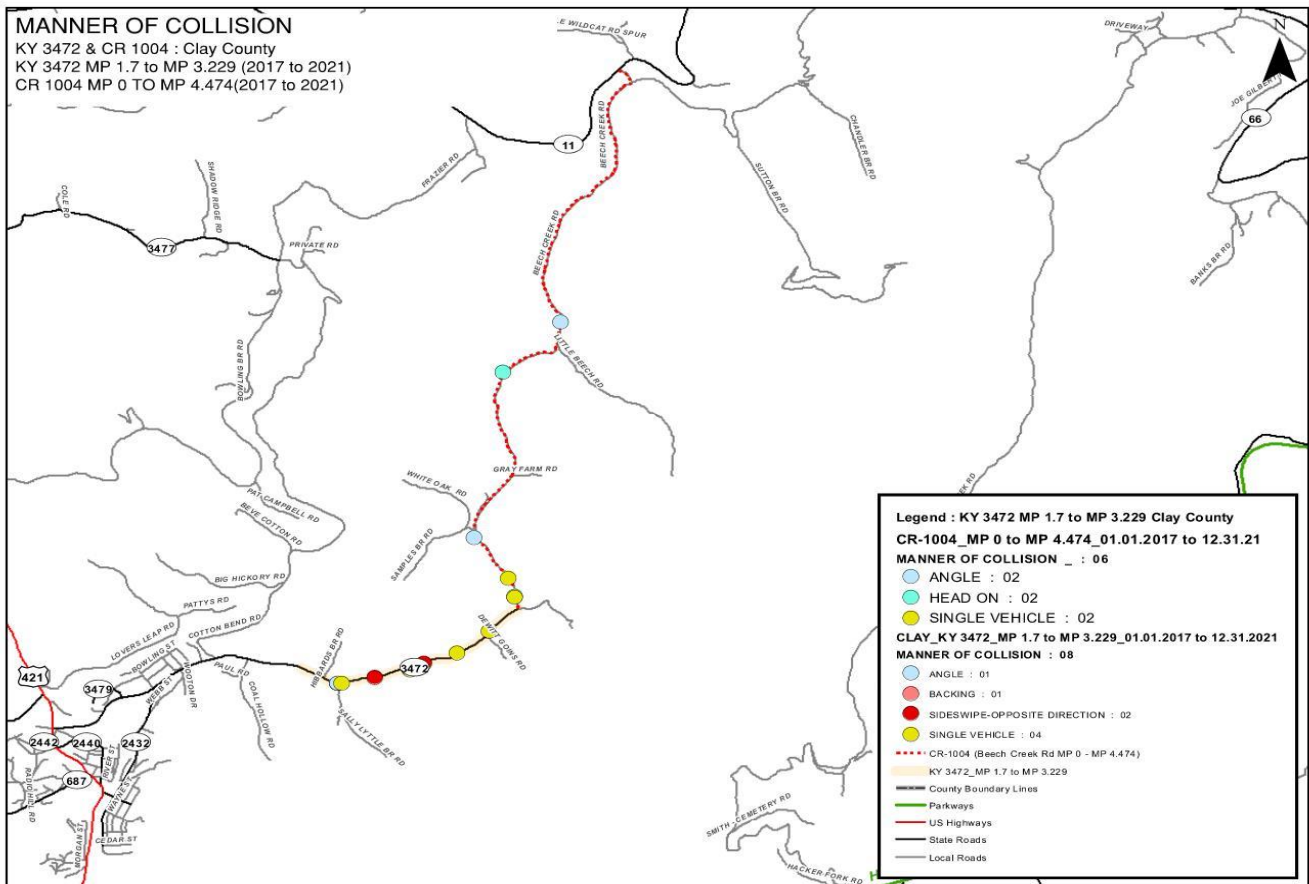
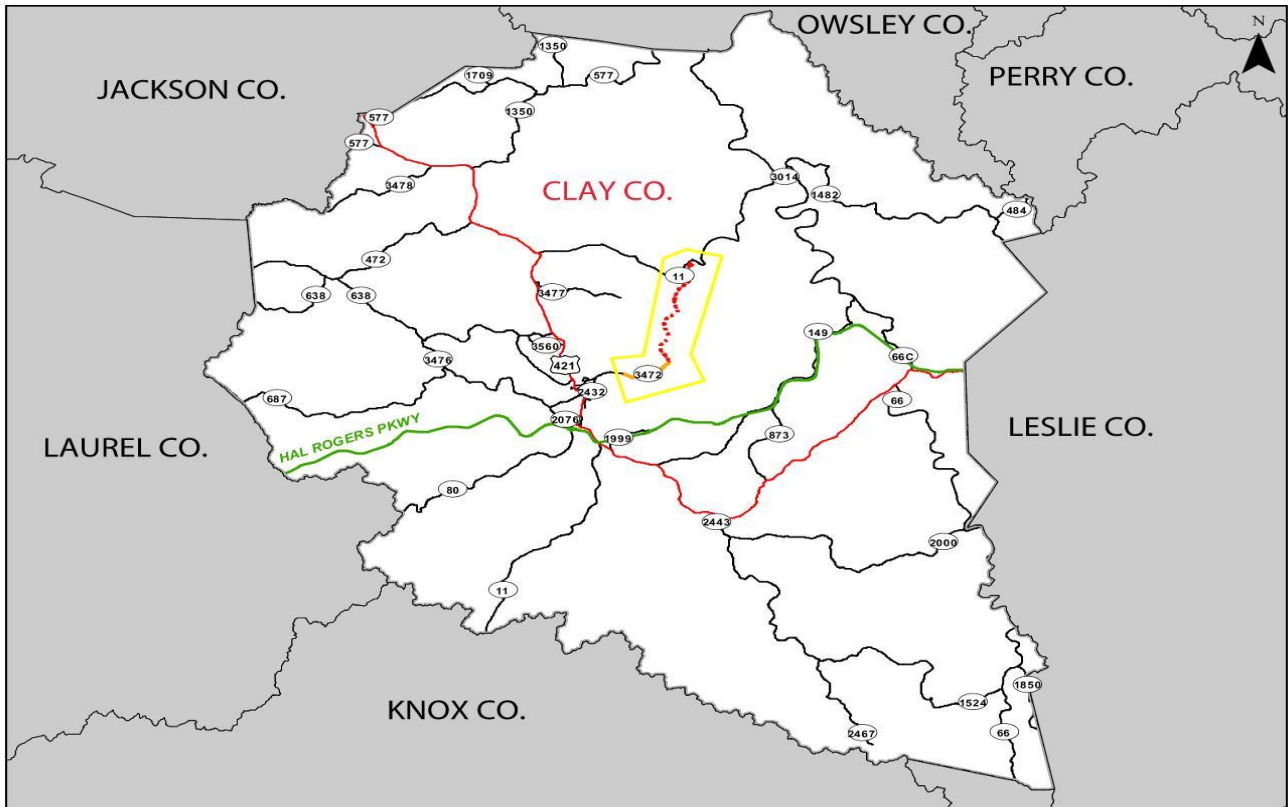
V. PROJECT ESTIMATE & METHODOLOGY

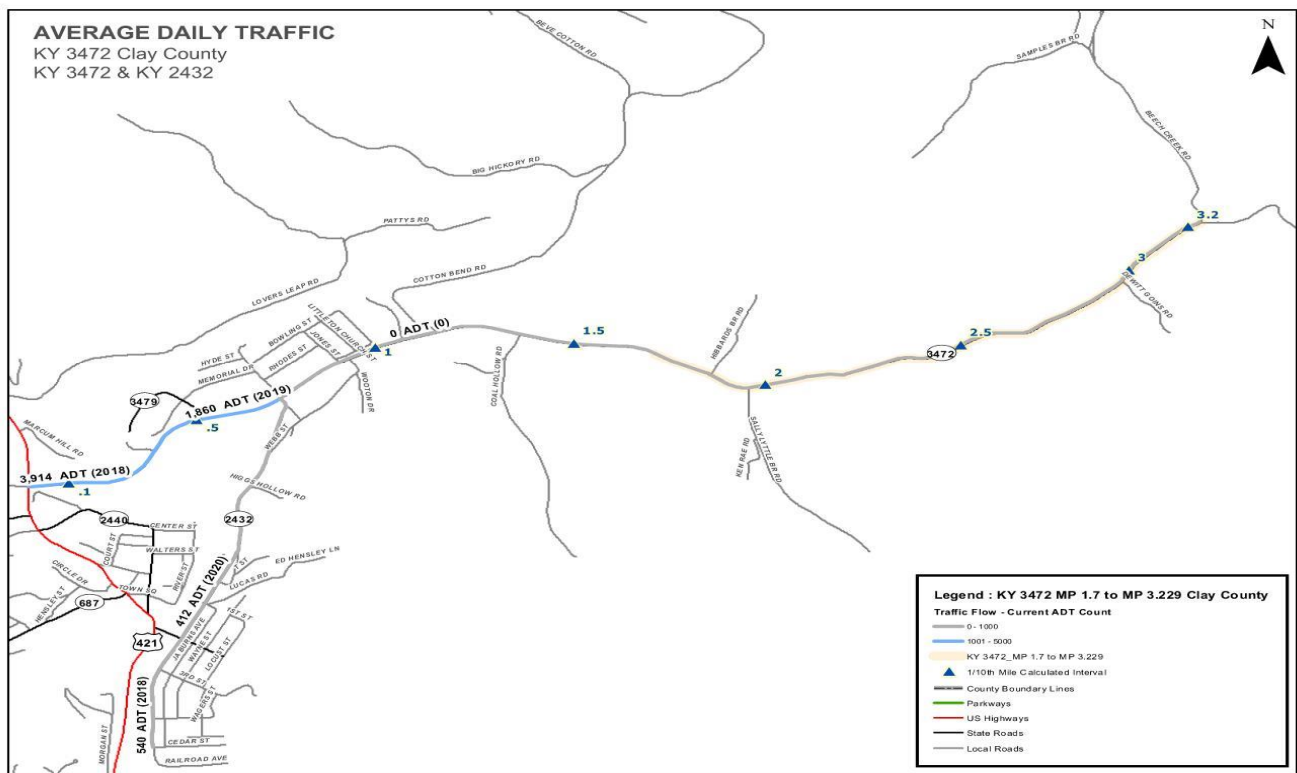
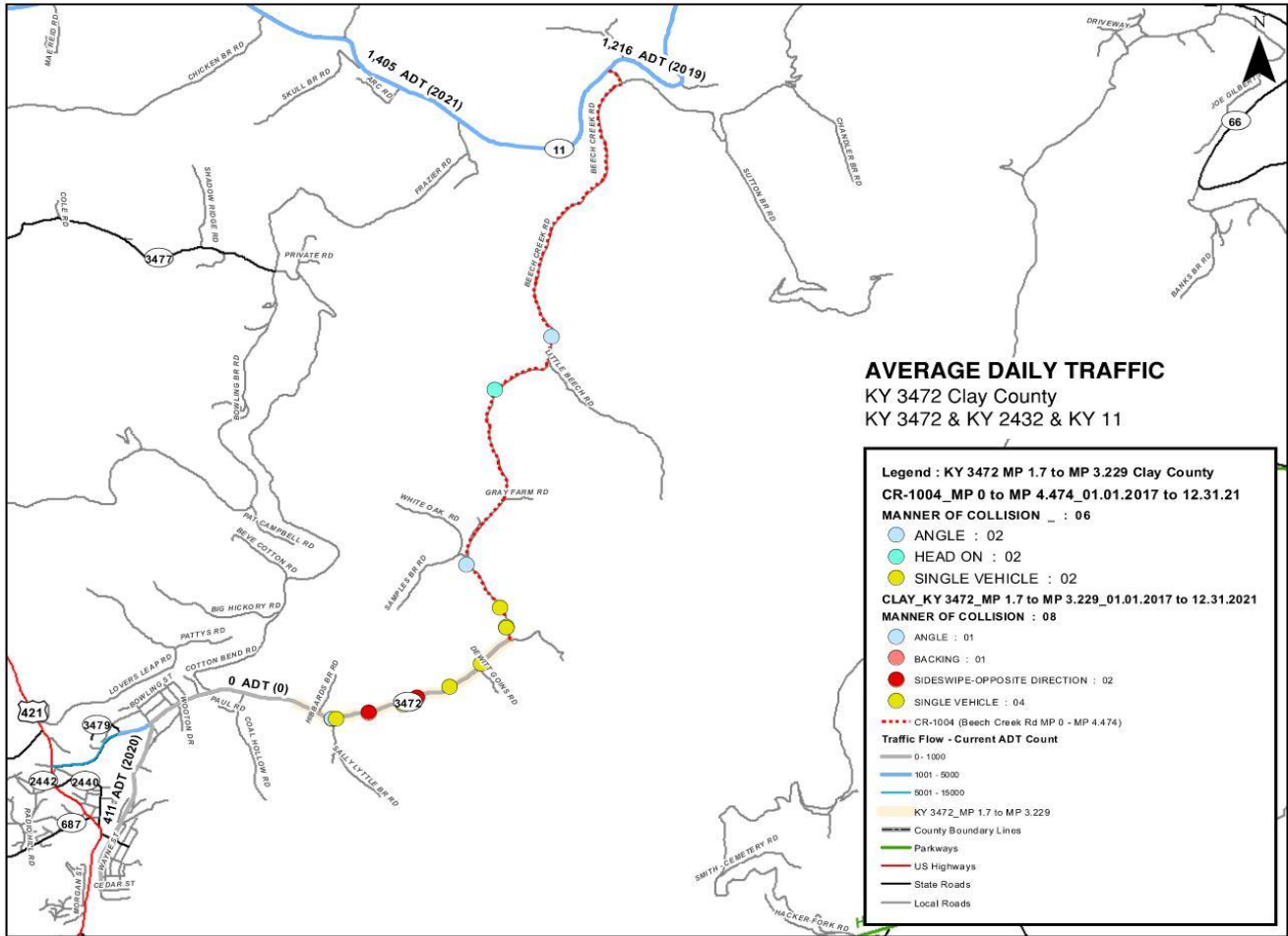
Estimate Methodology:			
All necessary right of way will likely be from residential properties. Multiple utility companies will likely be impacted throughout the length of the project. Construction will be focused on improvements so portions of the existing roadway will be reused in some capacity.	Phase	11-80253 Current Estimate	11-80254 Current Estimate
	Planning		
	Design	\$1,300,000	\$1,600,000
	R/W	\$2,000,000	\$2,000,000
	Utilities	\$1,900,000	\$1,200,000
	Const	\$7,500,000	\$16,000,000
Total		\$12,700,000	\$20,800,000

VI. UTILITIES POTENTIALLY AFFECTED - CONTACT INFORMATION

Company Name -	Charter
Contact -	Phillip Akers
Address -	201 W Chester Ave., Middlesboro, KY 40965
Phone No. -	(606) 431-3131
Company Name -	City of Manchester
Contact -	Mike White
Address -	207 Church Street, Manchester, KY 40963
Phone No. -	(606) 598-6043
Company Name -	Delta Natural Gas Company
Contact -	Rob Nellipowitz
Address -	3617 Lexington Road, Winchester, KY 40391
Phone No. -	(859) 744-6171
Company Name -	House Cable
Contact -	Stella House
Address -	PO Box 422, Manchester, KY 40962
Phone No. -	(606) 598-2292
Company Name -	Jackson Energy Cooperative
Contact -	Brent Bingham
Address -	115 Jackson Energy Lane, McKee, KY 40447
Phone No. -	(606) 364-9227
Company Name -	Kentucky Utilities
Contact -	Chad Francisco
Address -	180 Substation Rd., London, KY 40741
Phone No. -	(606) 864-2821
Company Name -	People Rural Telephone Network
Contact -	Keith Gabbard
Address -	PO Box 159, McKee KY 40447
Phone No. -	(606) 287-7101
Company Name -	Windstream
Contact -	Tommy Lewis
Address -	719 North Main, London, KY 40741
Phone No. -	(606) 309-2279

VII. TABLES AND EXHIBITS





Looking east at transition from previously constructed project to proposed project at MP 1.7



The previously constructed project referenced above is Item No. 11-8001.00

F-Rated Horizontal Curve at intersection with Sallie Lytle Rd. Approximately Mp 1.95



Horizontal curve at approximately MP 2.23



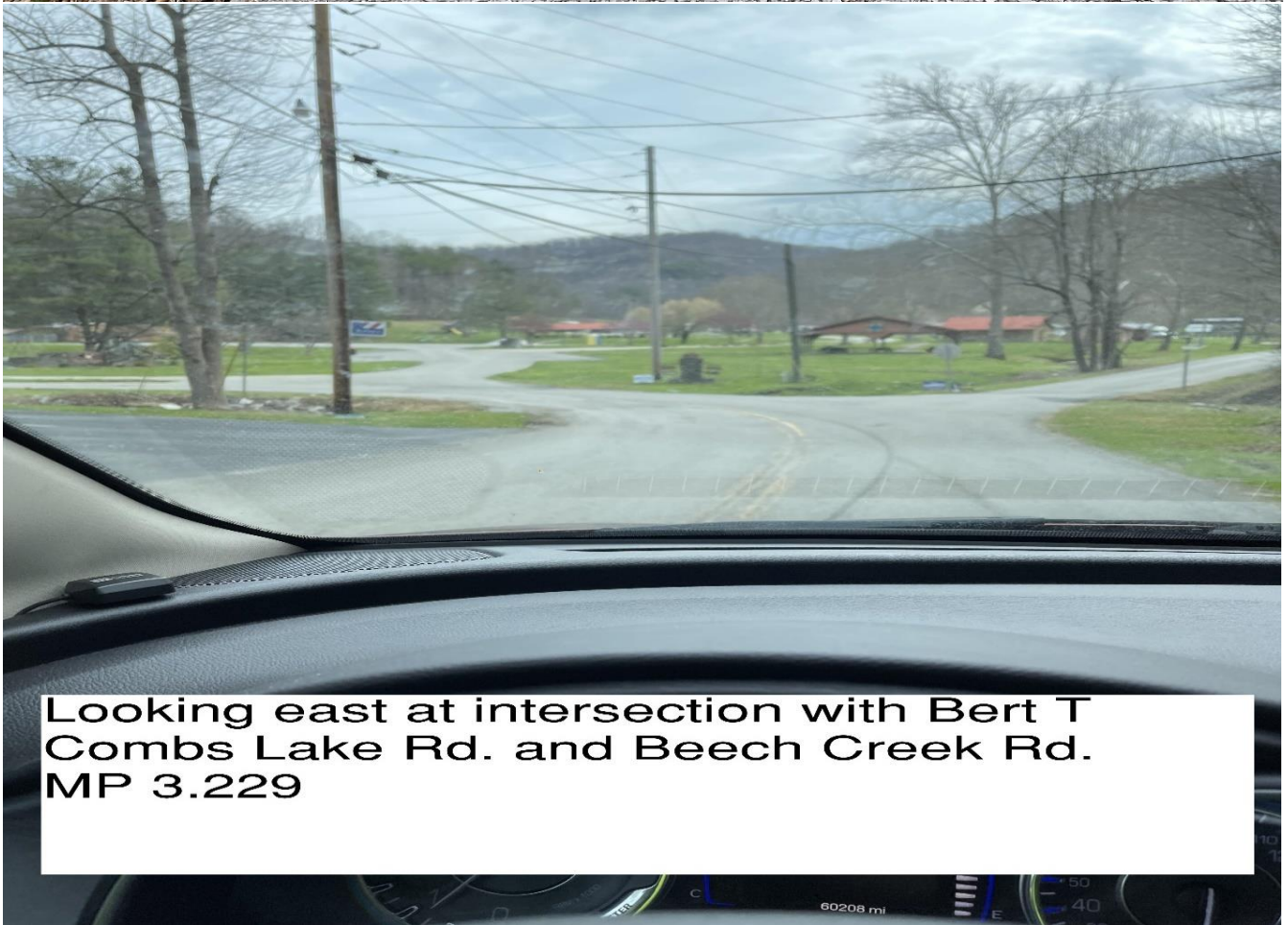
Horizontal Curve at approximately MP 2.67



**Previously Repaired Embankment
Failure (Approximately MP 2.9)**

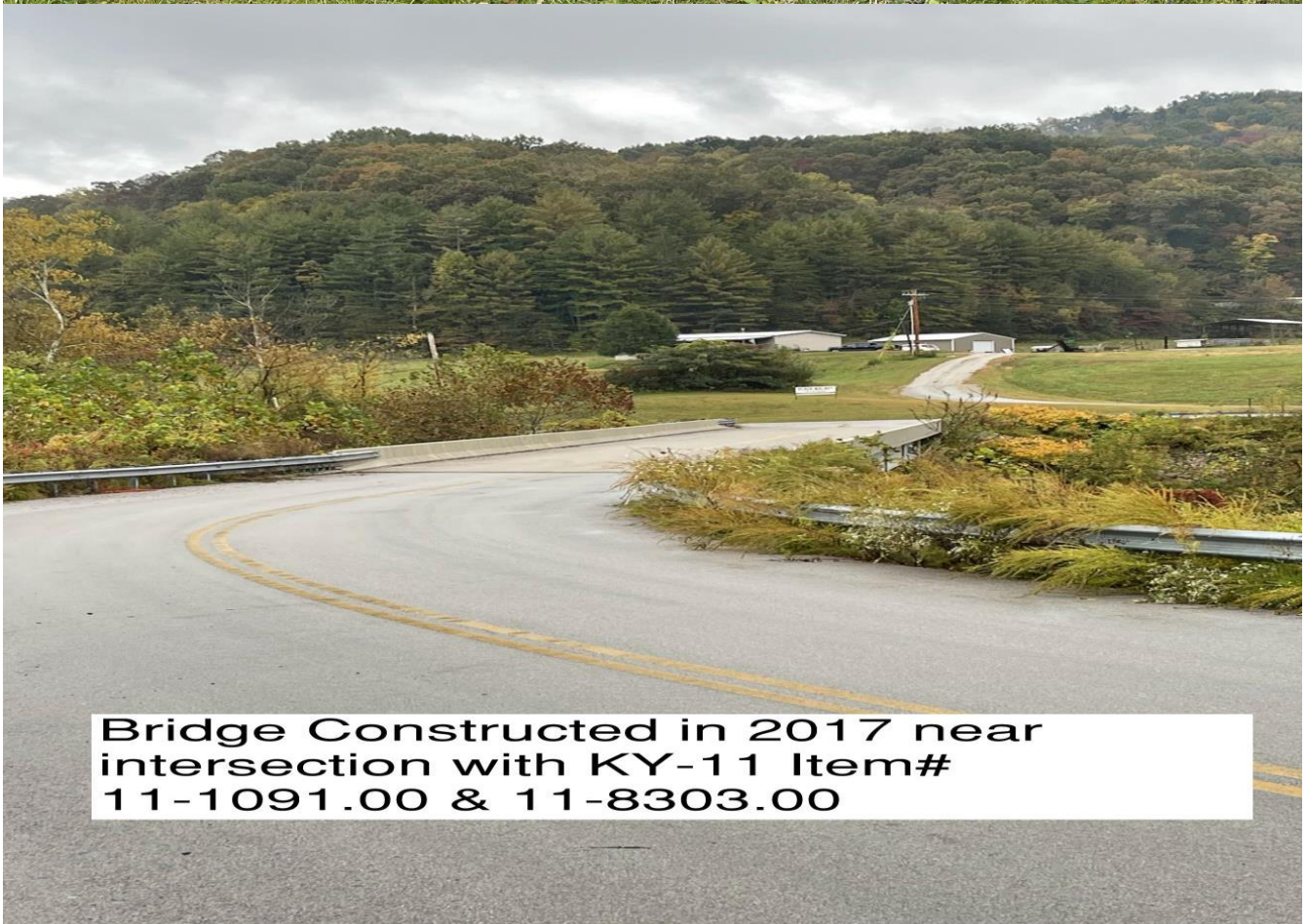


**Looking east at intersection with Bert T
Combs Lake Rd. and Beech Creek Rd.
MP 3.229**





**Looking West at
Intersection With Bert T.
Combs Lake Rd. and
Beech Creek Rd.
(MP 3.229)**



**Bridge Constructed in 2017 near
intersection with KY-11 Item#
11-1091.00 & 11-8303.00**



West View of intersection with KY-11



East view of intersection with KY-11

