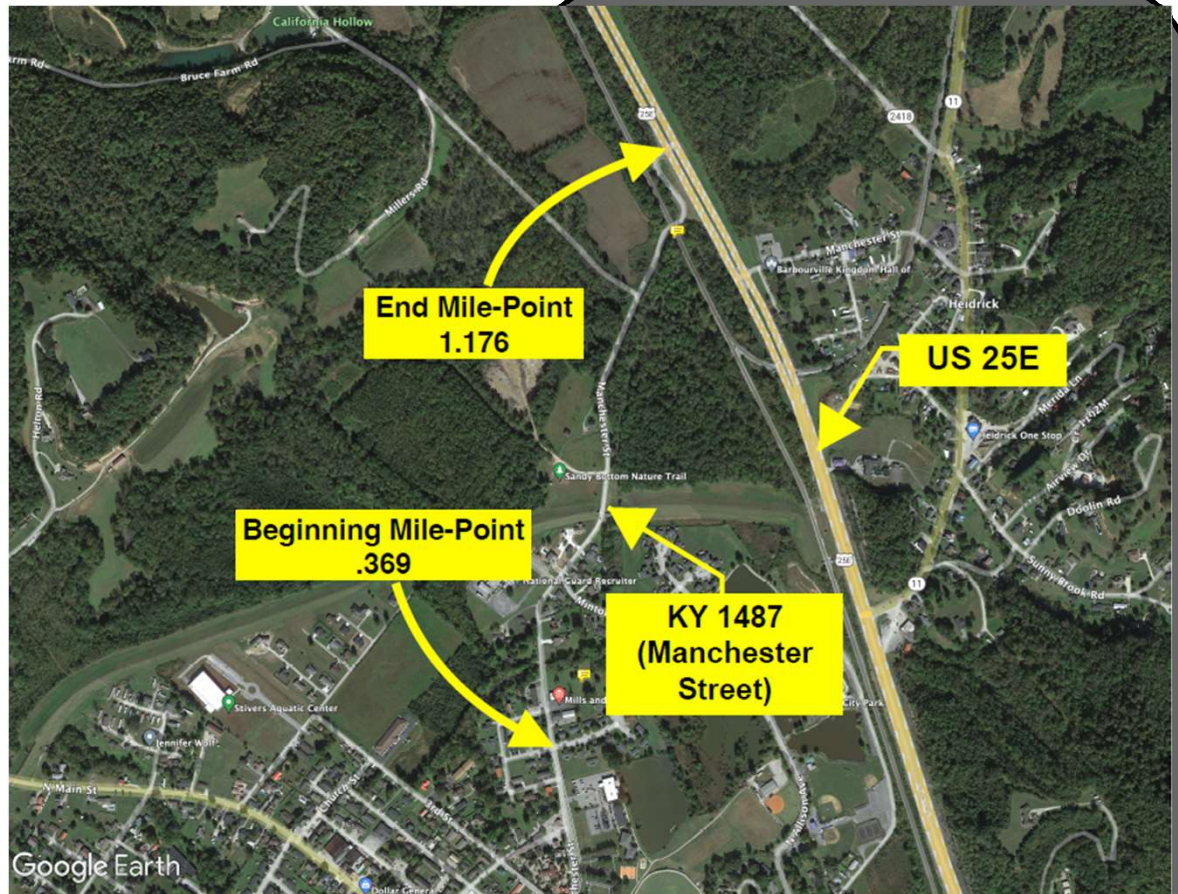


Data

Needs

Analysis



Scoping Study



Improve safety, address geometric deficiencies and provide flood mitigation on KY 1487 from Judge Street to US 25E.

Knox County
Item number 11-80155

Prepared by the KYTC
Division of Planning and
KYTC District 11

November 2021



I. PRELIMINARY PROJECT INFORMATION

County:	Knox	Item No.:	11-80155
Route Number(s):*	KY-1487	Road Name:	Manchester Street
Program No.:	13558	UPN:	FD04 061 1487 000-001
Federal Project No.:	9031022	Type of Work:	Safety

2020 Highway Plan Project Description:

Improve safety, address geometric deficiencies and provide flood mitigation on KY 1487 (Manchester Street) from Judge Street to US 25E.

Beginning MP: 0.369 **Ending MP:** 1.176 **Project Length:** 0.807

In TIP: Yes No [Use PDP/CHAF to Verify Project Data](#)

State Class.: Primary Secondary **Route is on:** NHS NN Ext Wt

Functional Class.: Urban Rural **Truck Class.:** A **% Trucks:**

MPO Area: Not Applicable **Terrain:** Rolling

ADT (current): 2,400 2018

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 : 35 MPH Proposed Design Speed

Roadway Data: EXISTING COMMON GEOMETRIC

No. of Lanes	2		Existing Rdwy. Plans available? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Year of Plans: 1944 <input checked="" type="checkbox"/> Traffic Forecast Requested Date Requested: <input type="checkbox"/> Mapping/Survey Requested Date Requested: Type:
Lane Width	10'-11'	11'	
Shoulder Width	0'(C&G) - 3'	6'	
Max. Superelevation***	Unknown	8%	
Minimum Radius***	Unknown	314'	
Maximum Grade	Unknown	9'	
Minimum Sight Dist.	Unknown	250'	
Sidewalk Width(urban)	Unknown		
Clear-zone ^T			
Project Notes/Design Exceptions?			

Bridge No.: 061R00601N (Bridge #2)

Sufficiency Rating	N/A	Existing Geotech Data Available? <input type="checkbox"/> Yes <input type="checkbox"/> No Detour Length(s): 1.9 mi
Total Length	17.1'	
Width, curb to curb	0	
Span Lengths	17.1	
Year Built	1920	
Posted Weight Limit	N/A	
Structurally Deficient?	N	
Functionally Obsolete?	N	
Existing Bridge Type		

*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

The project appeared in the 2020 Highway Plan with the description "IMPROVE SAFETY, ADDRESS GEOMETRIC DEFICIENCIES AND PROVIDE FLOOD MITIGATION ON KY 1487 (MANCHESTER STREET) FROM JUDGE STREET TO US 25E (2020CCN)."

<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
SPP	D	2021	\$500,000
SPP	R	2022	\$850,000
SPP	U	2022	\$1,150,000
SPP	C	2023	\$5,500,000

All phases of the project have state funds allocated in the Highway Plan, as shown in the table above.

B. Project Status

KY 1487 is scheduled to be resurfaced in 2022.

C. System Linkage

KY 1487 is a north/south route that connects US 25E to downtown Barbourville. The road begins at the intersection with US 25E and ends at the intersection of KY 6. It is mainly used as a quick route for local residents to access US 25E.

D. Modal Interrelationships

KY 1487 does not have any large truck and freight traffic because trucks cannot fit through the railroad underpass. There are some sidewalks that begin at milepoint 0.00 and end approximately at the intersection of KY 1487 and Judges Street (MP 0.369). However, these sidewalks will not have an effect on this project unless there is a need to extend the sidewalks. KY 1487 currently crosses underneath the railroad through a tunnel. Due to frequent flooding issues, it is recommended this tunnel be replaced with an at-grade railroad intersection.

E. Social Demands & Economic Development

This project will result in a more dependable road for the local residents to use. Due to frequent flooding, the road is often closed. The project aims to solve these flooding issues. With a much more reliable road, the local traffic will have a greater confidence in using the road. With Barbourville High School sitting directly at the south end of KY 1487, a dependable road in which school buses can easily access would be beneficial.

II. PROJECT PURPOSE AND NEED (cont.)

F. Transportation Demand

In 2018, the ADT on KY 1487 was 2400 cars per day. With the exception of the one-lane tunnel, a two lane, undivided road is sufficient for the amount of traffic on the road. However, it is worth noting that the ADT dropped from 3171 in 2015 to 2400 in 2018. An ADT of only 2400 cars is the lowest KY 1487 has seen since 1994.

G. Capacity

The current two-lane rural roadway is sufficient in handling the amount of traffic currently on KY 1487, and with little development occurring in the area, it will continue to handle future traffic needs.

H. Safety

KY 1487 experienced 18 collisions from milepoint 0.369 to 1.176 from 2016 to 2020. Of these collisions, 6 of them resulted in injuries and 0 of them resulted in fatalities. None of the collisions involved a commercial vehicle. Of the 18 total collisions, half of them occurred at the one-lane railroad underpass.

I. Roadway Deficiencies

KY 1487 follows rolling terrain, but has poor sight distance in some areas especially at the railroad underpass. The roadway is located in the floodzone of Richland Creek and floods frequently. The road is also very narrow and does not have shoulders. There are two curves which have ratings of F. The first one, beginning near milepoint .52, is a sharp curve which could be dangerous if taken at high speeds. However, the collision data does not indicate many accidents have occurred at this location. The second curve, beginning near milepoint 1.0, contains the underpass. The underpass naturally slows the majority of traffic, so the steepness of the curve does not seem to be as much of an issue as the sight distance issues caused by the underpass.

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 must be added to STIP. No TIP because it is not in an MPO.

B. Archeology/Historic Resources

Known Archeological or Historic Resources are present

Several residences within Barbourville city limits appear >50 years old and would need to be evaluated for NR eligibility. No known archaeological resources are present, but a survey would be required for undisturbed areas.

C. Threatened and Endangered Species

USFWS IPaC report generated for this location lists Gray Bat, Indiana Bat, Northern Long-eared Bat, and Blackside Dace. There is no critical habitat in the project area. Several trees and wooded areas are adjacent to the roadway. The Northern segment of the project is adjacent to an unnamed tributary that eventually drains to Richland Creek which is an OSRW and potential Black-sided Dace habitat.

D. Hazardous Materials

Potentially Contaminated Sites are present Potential Bridge or Structure Demolition

No obvious sites noted from aerial photography, however a UST/HAZMAT SME should review the project for issues such as prior fuel stations. A narrow railroad underpass exists at the Northern section of the project. If effected, it will need to be inspected for asbestos.

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

404 and 401 permit requirements TBD based upon impacts from alternatives and improvements selected. A KYR10 construction permit will likely be required. A floodplain permit may be required.

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

Substantial vertical realignment may occur at the railroad underpass vicinity MP 1.06, however it does not appear that

G. Socioeconomic

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

Relocations are not known at this time. 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 for Barbourville according

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. No known 6(f) resources are in the project area. However, it should be noted that a National Guard Armory is adjacent to the project vicinity MP 0.56.

[Anticipated Environmental Document:](#)

None (Completely State funded)



IV. PROJECT NEED, PURPOSE & SCOPE

A. Need:

KY 1487's primary need is to be built up so that it floods less frequently. Since 2015, the road has flooded 10 times. The geometrics of this road also need to be improved. The road has 10 ft lanes with no shoulders. Finally, the road has very poor sight distance in some places.

B. Purpose:

The purpose of this project is to address and correct the one-lane railroad underpass, sight distance issues, narrow roadways, and frequent flooding problems.

C. Scope:

KY 1487 connects US 25E to downtown Barbourville. Drivers primarily take KY 1487 to bypass the busier roadways with heavier traffic. However, due to frequent flooding and poor geometrics, KY 1487 isn't always a safe option for drivers. The improvements this project would make will make KY 1487 a safer, more reliable roadway.

V. PROJECT ESTIMATE & METHODOLOGY

Estimate Methodology:

Since the area is in a low flood plain, the cost of the right-of-way decreases. However, this increases the cost of construction to do a lot of fill needed. Water and sewer utilities are not involved.

Current Estimate

<u>Phase</u>	<u>Estimate</u>
Planning	
Design	\$500,000
R/W	\$660,000

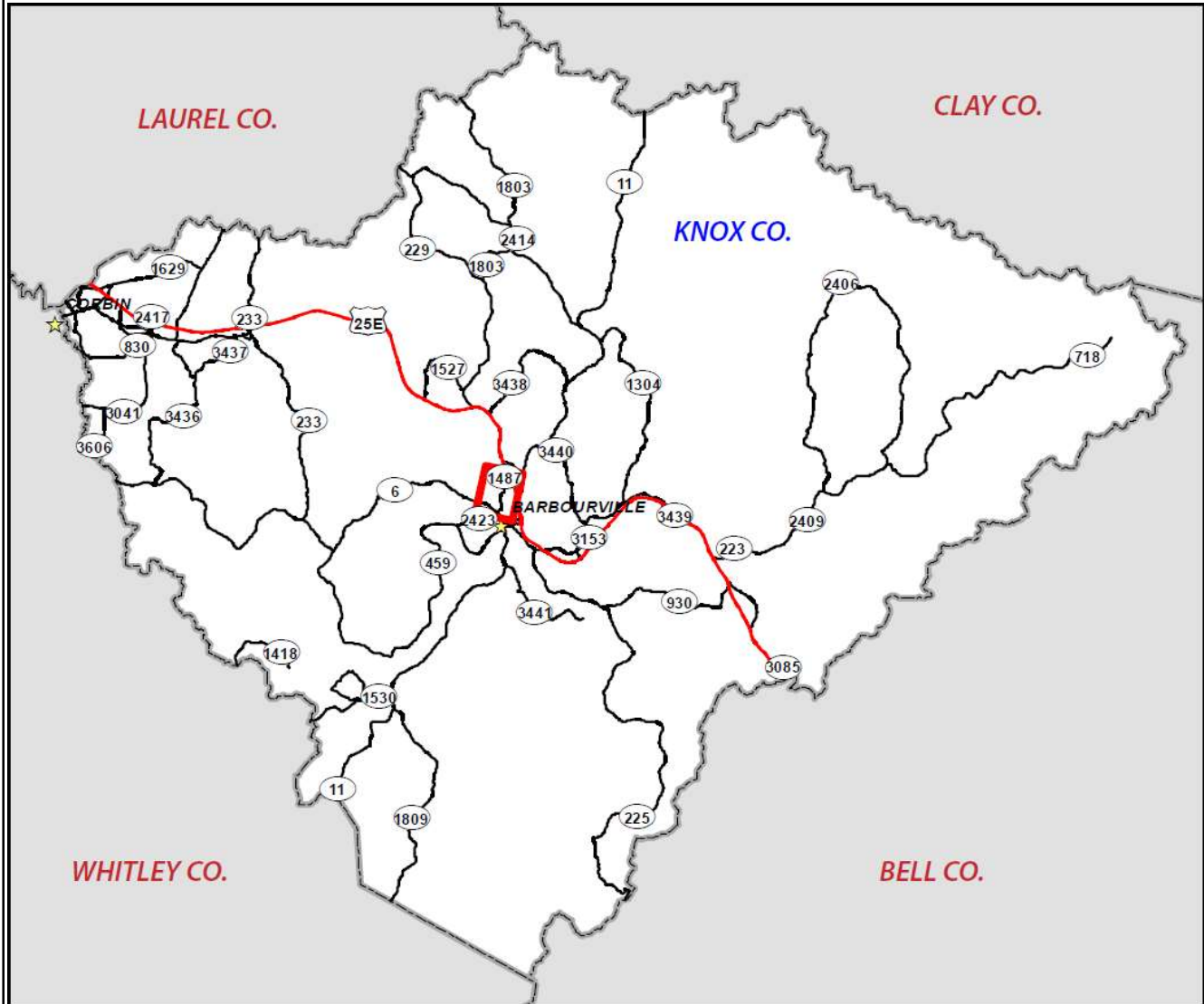
Utilities	\$100,000
Const	\$2,500,000
Total	\$3,760,000

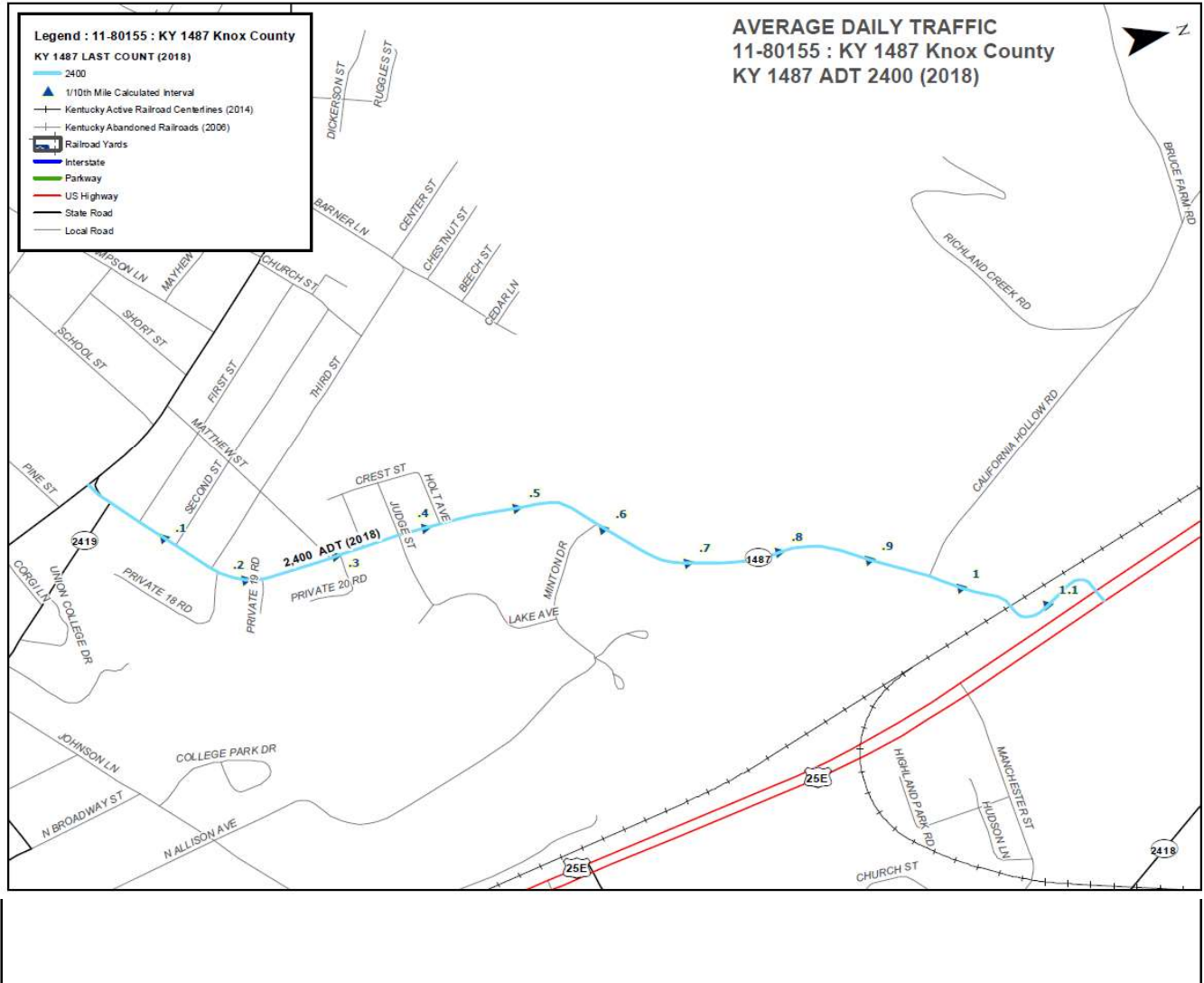
VI. UTILITIES POTENTIALLY AFFECTED - CONTACT INFORMATION

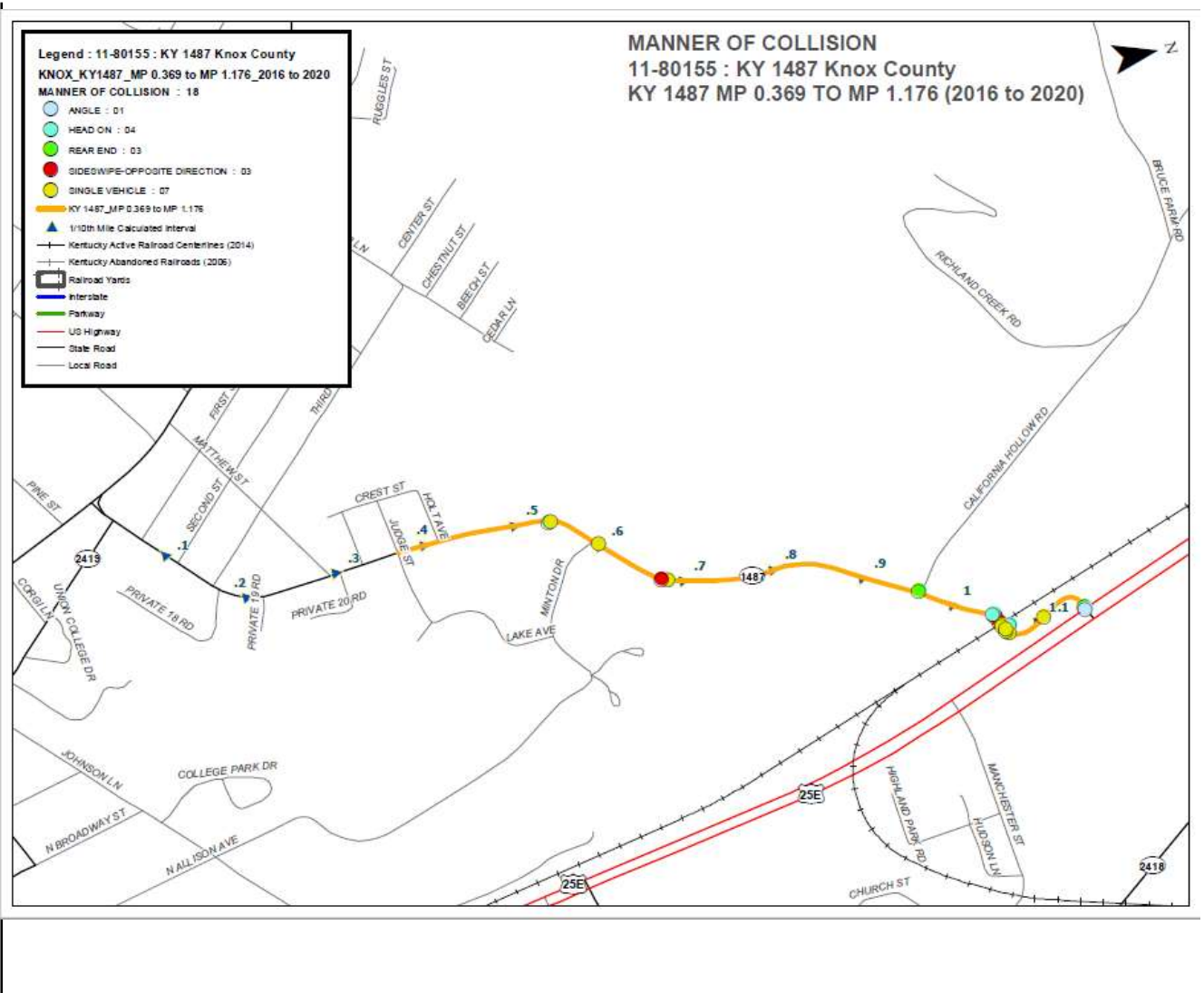
Company Name - Barbourville Utility Commission
Contact - Josh Callihan
Address - 202 Daniel Boone Drive, Barbourville, KY 40906
Phone No. - (606)546-3187

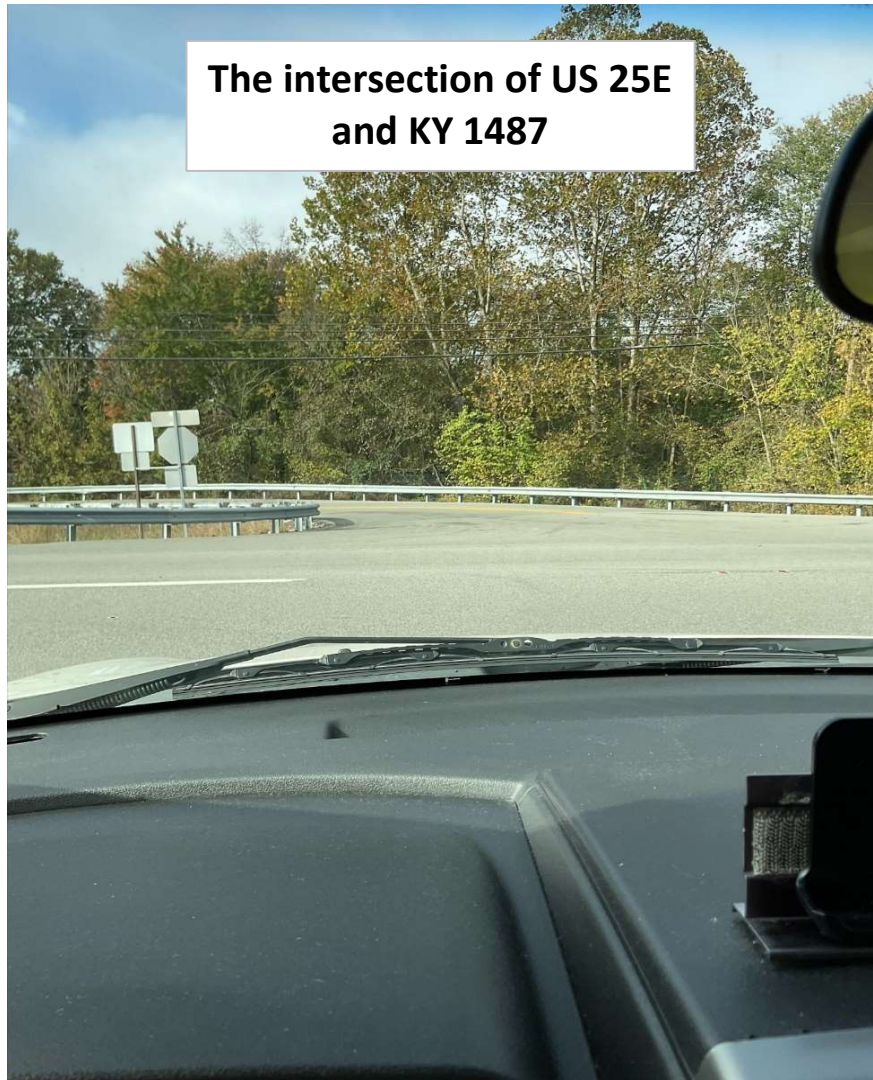
Company Name - Delta Natural Gas Company
Contact - Rob Nellipowitz
Address - 3617 Lexington Road, Winchester, KY 40391
Phone No. - (859)744-6171

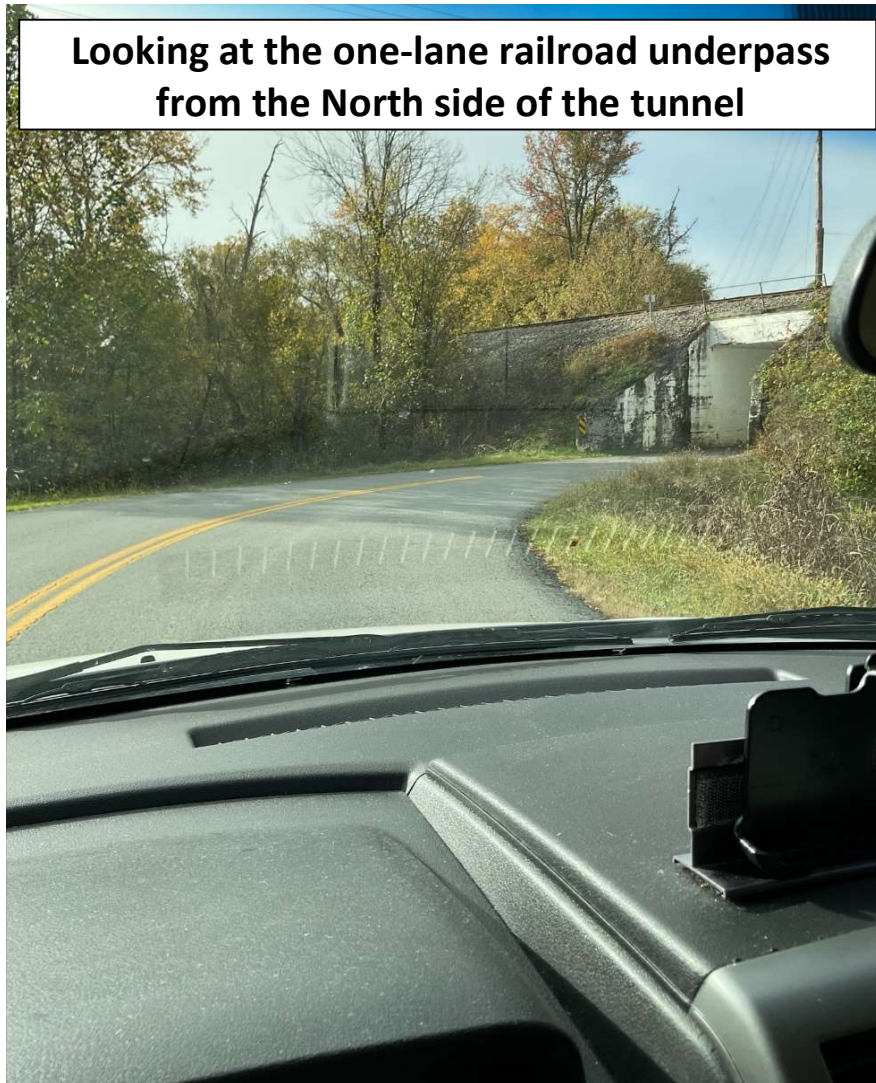
VII. TABLES AND EXHIBITS





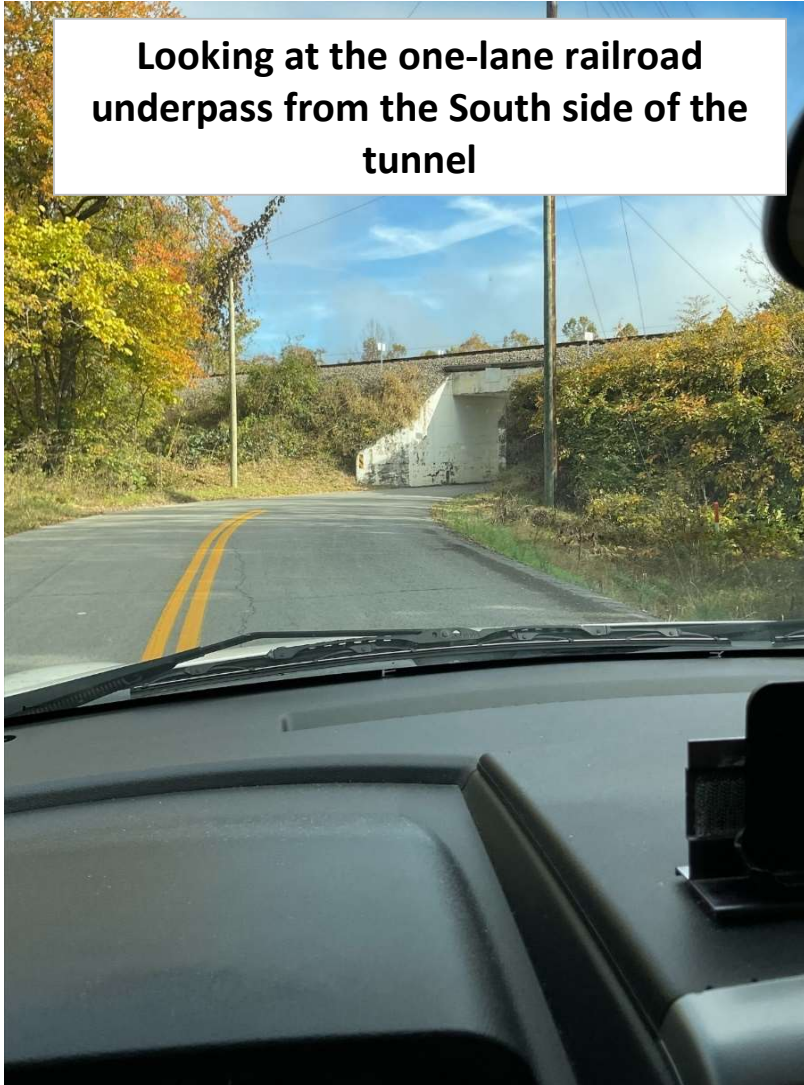


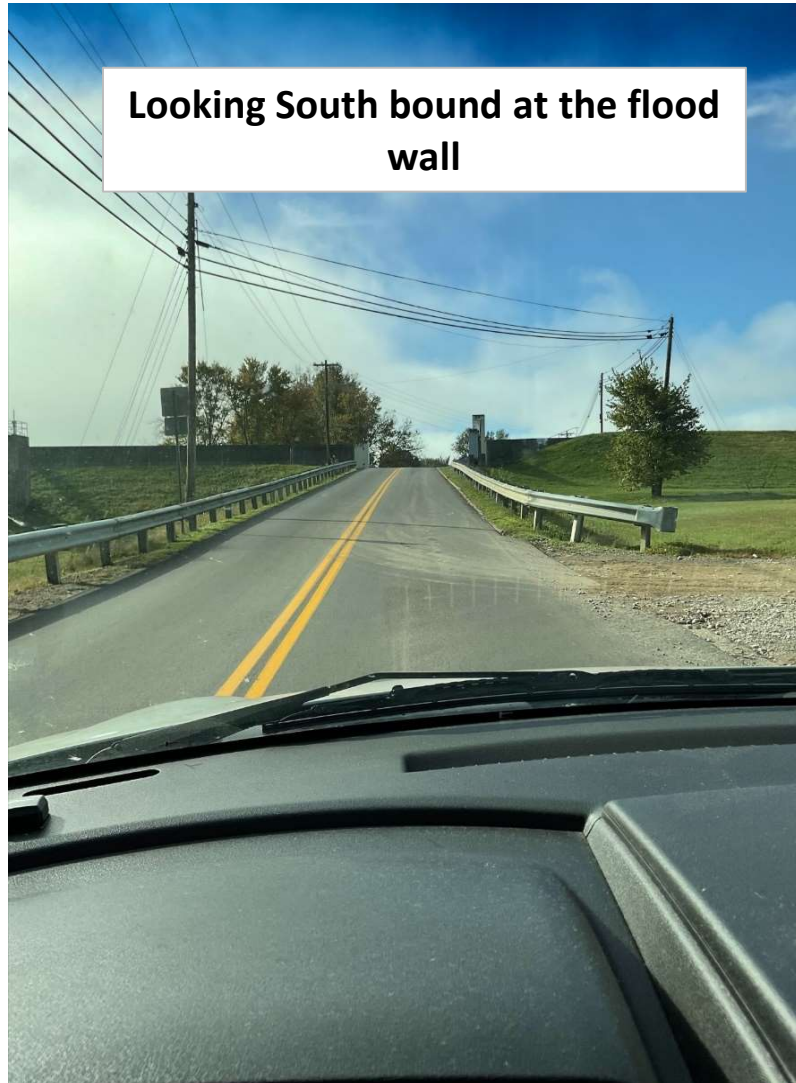






**Looking at the one-lane railroad
underpass from the South side of the
tunnel**





**Looking North bound at the
intersection of KY 1487 and Judge's
Street**

