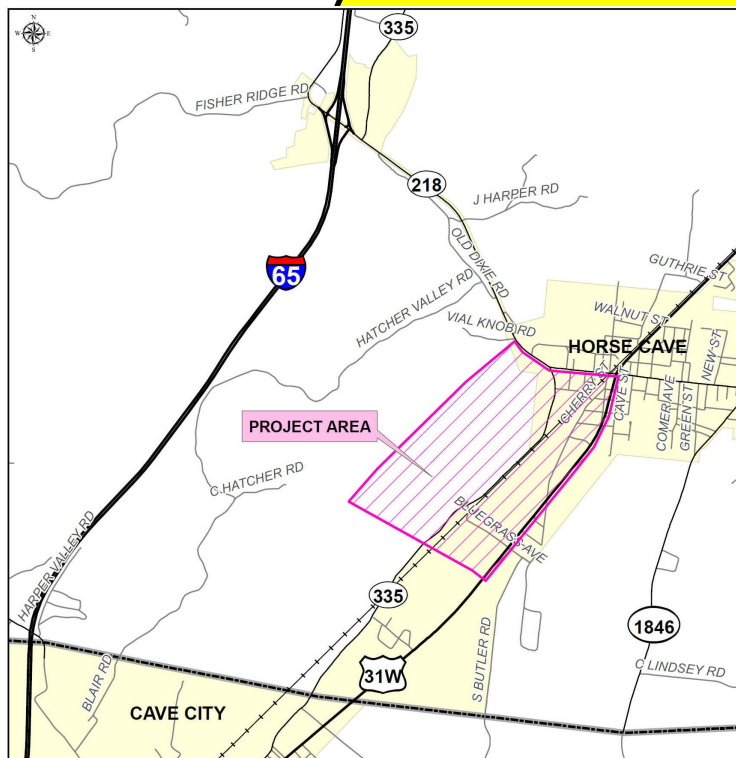
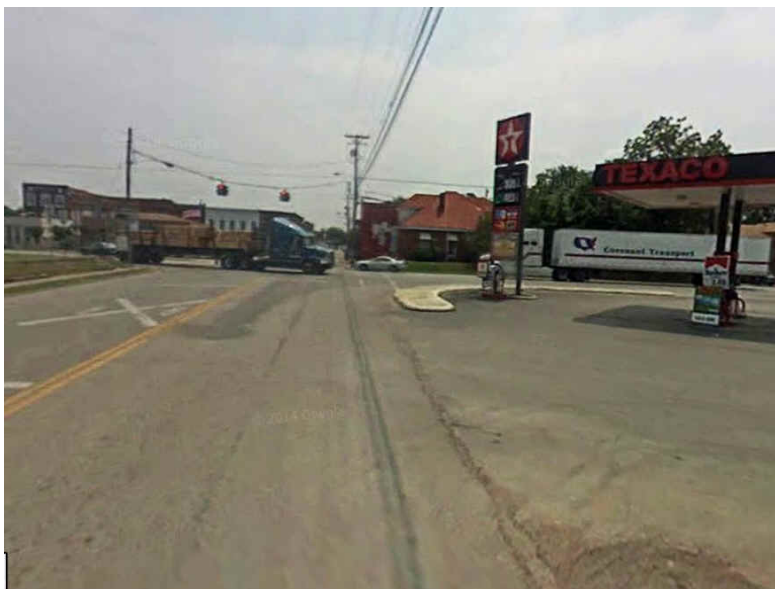


Data Needs Analysis



Scoping Study

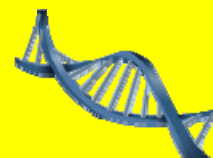


HART COUNTY
Improved Truck Route in
Horse Cave

From KY 218 to US 31W
Item No. 4-441.00

Prepared by KYTC
District 4-Charlie Allen

April 2017



I. PRELIMINARY PROJECT INFORMATION

County:	Hart	Item No.:	4-441.00
Route Number(s):*	KY 335	Road Name:	Old Dixie Highway
Program No.:	9278201D	UPN:	FD04 050 0335 001-003
Federal Project No.:	N/A	Type of Work:	New Route

2017 **Highway Plan Project Description:**

Improve Connectivity and Safety by providing a route for truck traffic west of Horse Cave from KY 218 to US 31W to avoid the Railroad Crossing and Downtown Area.

Beginning MP:	1.200	Ending MP:	2.545	Project Length:	1.345
In TIP:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Reconcile Project Information in Clearview		
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	Collector	Truck Class.:	AAA	% Trucks: 7.5
MPO Area:	Not Applicable		Terrain:	Rolling	
ADT (current):	7839	2015			
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 checked="" type="checkbox"/> Sidewalk	
Posted Speed:	<input checked="" type="checkbox"/> 35 mph <input checked="" type="checkbox"/> 45 mph <input checked="" type="checkbox"/> 55 mph		<input type="checkbox"/> Other (Specify):		
KYTC Guidelines Preliminarily Based on :	50 MPH Proposed Design Speed				

COMMON GEOMETRIC

Roadway Data:	EXISTING *	PRACTICES**	
No. of Lanes	3	2	Existing Rdwy. Plans available?
Lane Width	11'	12'	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Shoulder Width	4'	8'	Year of Plans: 1937
Max. Superelevation***	Field Measure	8%	<input checked="" type="checkbox"/> Traffic Forecast Requested
Minimum Radius***	3800'	760'	Date Requested: 3/29/2017
Maximum Grade	2%	7%	<input type="checkbox"/> Mapping/Survey Requested
Minimum Sight Dist.	Field Measure	425'	Date Requested:
Sidewalk Width(urban)	4'	5'	Type:
Clear-zone [†]	30'	30'	

Project Notes/Design Exceptions? * The roadway evaluated is US 31W from MP 1.0 to 2.667

Bridge No.: [‡]	(Bridge #1)	(Bridge #2)	
Sufficiency Rating			Existing Geotech Data Available?
Total Length			<input type="checkbox"/> Yes <input type="checkbox"/> No
Width, curb to curb			
Span Lengths			
Year Built			
Posted Weight Limit			Detour Length(s):
Structurally Deficient?			
Functionally Obsolete?			
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 following funding was listed in the 2016 General Assembly's Enacted Highway Plan. The project was included in the District's Transportation Plan and highly ranked by the Barren River ADD.

<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
SPP	D	2017	\$1,000,000
SPP	R	2018	\$1,500,000
SPP	U	2019	\$1,000,000
SPP	C	2020	\$8,400,000

B. Project Status

Design funds have been authorized. The route that is identified in the Highway Plan is KY 335, however, the controlling route used in the data analysis is US 31W due to the fact that most of the industry is located along this route. The PIF associated with the project is 04 050 D0335 59.00.

C. System Linkage

This new route will connect US 31W to KY 218 to improve access to I-65. The industrial sites along US 31W south of Horse Cave employ hundreds of people and several hundred trucks per day travel this corridor. Currently, there is no direct route from the industrial site to I-65.

D. Modal Interrelationships

The Cave Region Trails run through this area and consideration should be given for accommodations such as shared use paths, paved shoulders or Share the Road signage. Contact Troy Hearn in the Central Office Division of Planning for information regarding the Cave Region Trail.

E. Social Demands & Economic Development

Several manufacturers and other companies are located in and around Horse Cave including Dart Container Corporation that employs over 1500 people and has expanded six times in recent years. Other large employers include Sister Schubert's, Marzetti, Geothermal Supply, Kentucky Chrome Works, Southern States, and Hart County Stone.

II. PROJECT PURPOSE AND NEED (cont.)

F. Transportation Demand

The last actual count for this section of US 31W was 7839 in 2015. Prior count data shows an AADT of 7420 in 2009 before dropping to 6421 in 2012. Because of the growth of the industrial site, traffic seems to be increasing.

G. Capacity

There does not appear to be a capacity issue (VSF=0.25). However, there could be peak time delays during shift changes at the factories.

H. Safety

Eighteen total crashes have occurred within the study area on US 31W and KY 218 in the past 5 years from 3/2012 to 2/2017 leading to a CRF of 0.32. Included were three fatalities and 12 injury crashes. **See Figure 2.**

I. Roadway Deficiencies

No horizontal or vertical deficiencies exist. A portion of the roadway was widened to three lanes with 4' shoulders, however the majority of the study area has two 11' lanes with 4' shoulders. Drainage issues do not appear evident along the route.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

STIP Pg.#: [Redacted]

TIP Pg.#: [Redacted]

The project will be added to the STIP

B. Archeology/Historic Resources

Known Archeological or Historic Resources are present

It is the opinion of DEA Archaeologist that the project area has a high probability for archaeological resources from Paleoinidian through historic eras. Surveys should be completed as soon as possible to identify any significant resources.

C. Threatened and Endangered Species

The project occurs within areas determined as sensitive for forest dwelling bats. Design work should minimize disturbance to cave and forested areas.

D. Hazardous Materials

Potentially Contaminated Sites are present Potential Bridge or Structure Demolition

Existing and former gas stations are present within the project area.

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

Nationwide level permits may be required for stream crossings.

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

Any new alignments considered would require Noise Analysis.

G. Socioeconomic

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

Hart County is economically poor so the potential to impact low income populations is present.

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

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

N/A.

Anticipated Environmental Document:

EA/FONSI



IV. PROJECT SCOPING, NEEDS & PURPOSE

A. Scoping & Need:

The industrial site in Horse Cave is located along US 31W south of the KY 218 intersection. This site is home to multiple manufacturers which employ hundreds and use numerous trucks to transport goods from these facilities to I-65. The Average Daily Traffic (ADT) on US 31W from MP 0.000 to 2.667 in 2015 was 7839 with 7.5% trucks and the ADT on KY 218 from MP 5.500 to 7.640 was 2415 (2014) with 19.6% trucks. The intersection of US 31W and KY 218 is poorly designed including an at-grade railroad crossing within 200 ft of the intersection and poor geometry. The combination of traffic congestion at the intersection, railroad traffic and poor geometry has resulted in delays for all legs of the intersection and increases the potential for crashes. There have been 18 crashes in the last five years in the study area including three fatalities and 12 injury crashes.

B. Draft Project Purpose:

The purpose of this project is to improve the connectivity and mobility for truck traffic from US 31W, just south of Horse Cave, to I-65.

V. PROJECT ESTIMATE & METHODOLOGY

Estimate Methodology:	Current Estimate	
Cost estimates are derived assuming a typical section of two 12' lanes with 8' paved shoulders and an estimated project length of 1.4 miles. The following costs/mile were used: D=\$700,000/mile; R=\$1,000,000/mile; U=\$700,000/mile; C=\$6,000,000/mile. It was assumed the roadway would be a new route in the project area per Figure 1 .	<u>Phase</u>	<u>Estimate</u>
	Planning	
	Design	\$ 1,000,000.00
	R/W	\$ 1,500,000.00
	Utilities	\$ 1,000,000.00
	Const	\$ 8,400,000.00
	Total	\$ 11,900,000.00

VI. UTILITIES POTENTIALLY AFFECTED - CONTACT INFORMATION

Company Name -	Farmers RECC
Contact -	Chuck Bishop
Address -	504 S. Broadway St. Glasgow KY, 42141
Phone No. -	270-651-2191
Company Name -	Kentucky Utilities
Contact -	Greg Geiser
Address -	820 W. Broadway Louisville, KY 40232
Phone No. -	502-627-3708
Company Name -	South Central Rural Telephone
Contact -	Tim Durham
Address -	1399 Happy Valley Rd. Glasgow, KY 42142
Phone No. -	270-678-8236
Company Name -	Green River Valley Water District
Contact -	David Paige
Address -	85 E. Les Turner Rd. Cave City, KY 42127
Phone No. -	270-773-2135
Company Name -	Caveland Sanitation Authority
Contact -	David Peterson
Address -	508 South Dixie Hwy. Cave City, KY 42127
Phone No. -	270-773-2887
Company Name -	
Contact -	
Address -	
Phone No. -	

VII. TABLES AND EXHIBITS

**PROJECT MAP
HART COUNTY
ITEM NO. 4-441.00**

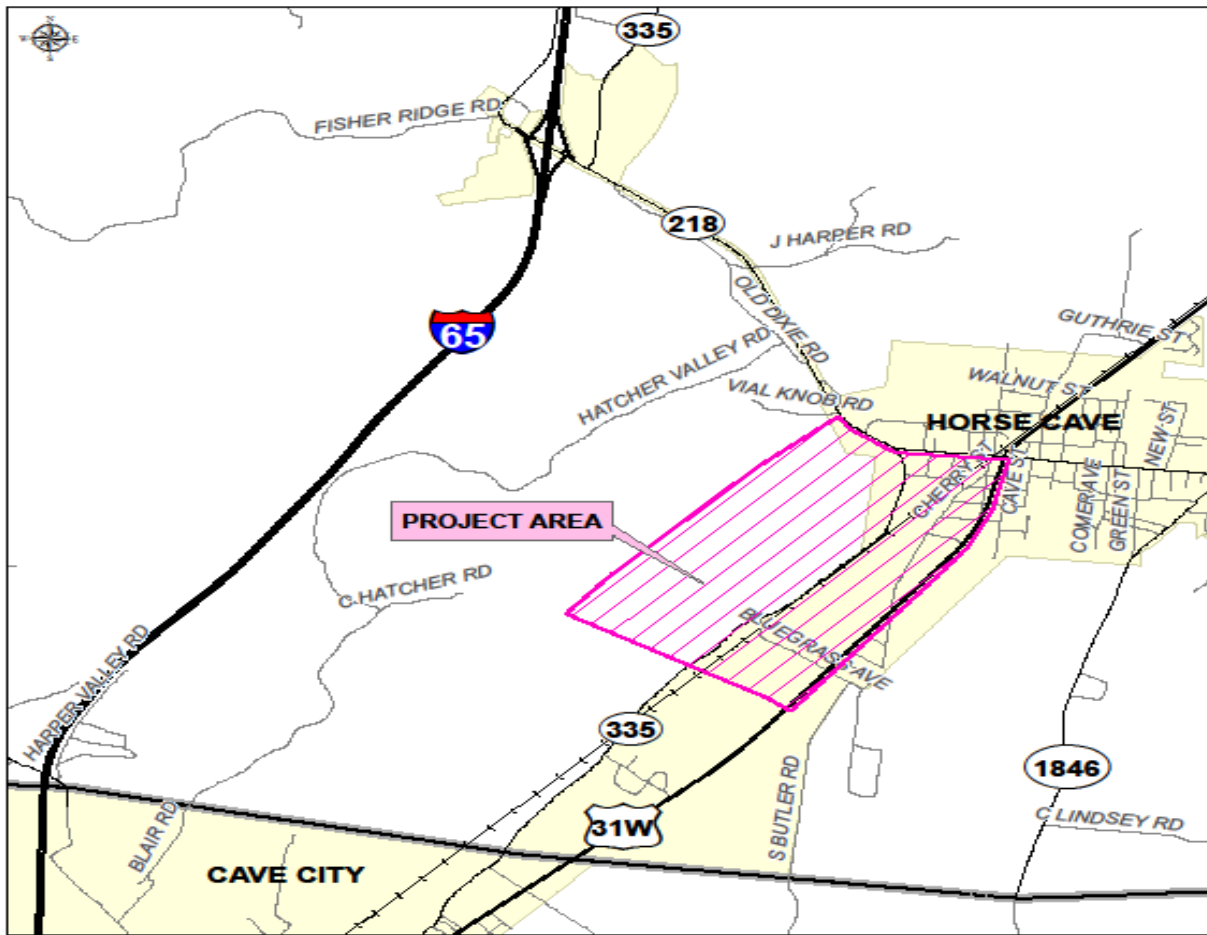
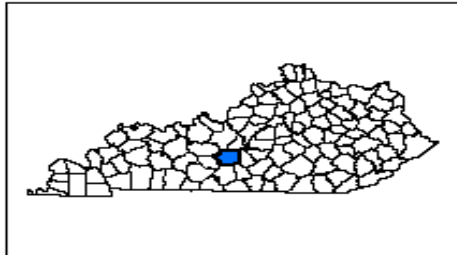
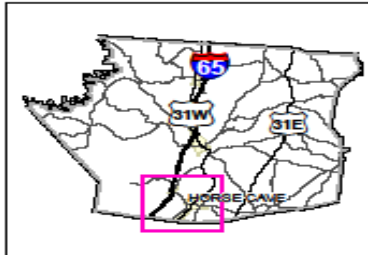


Figure 1: Project Map

VII. TABLES AND EXHIBITS (cont.)

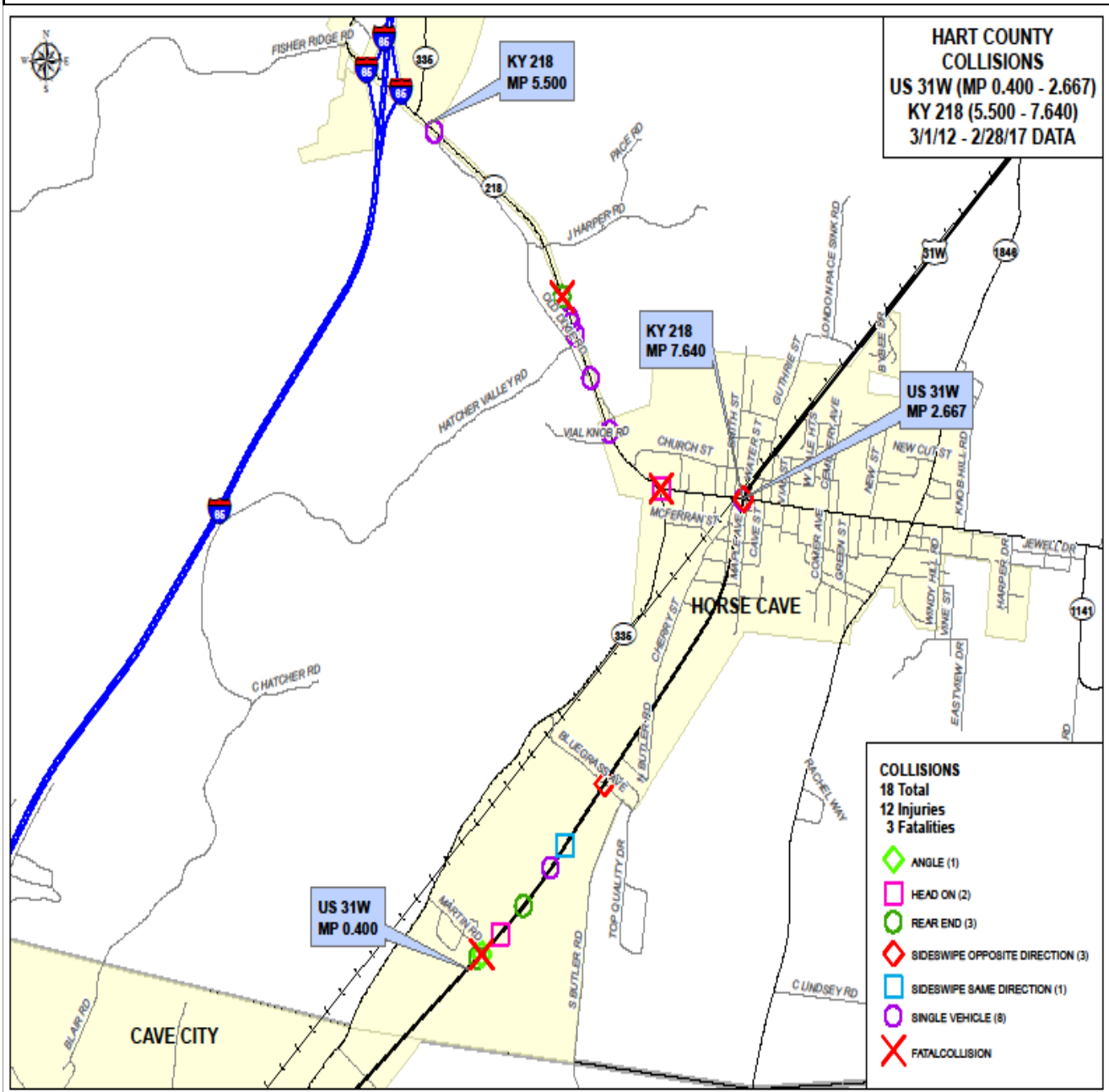


Figure 2: Collision Map