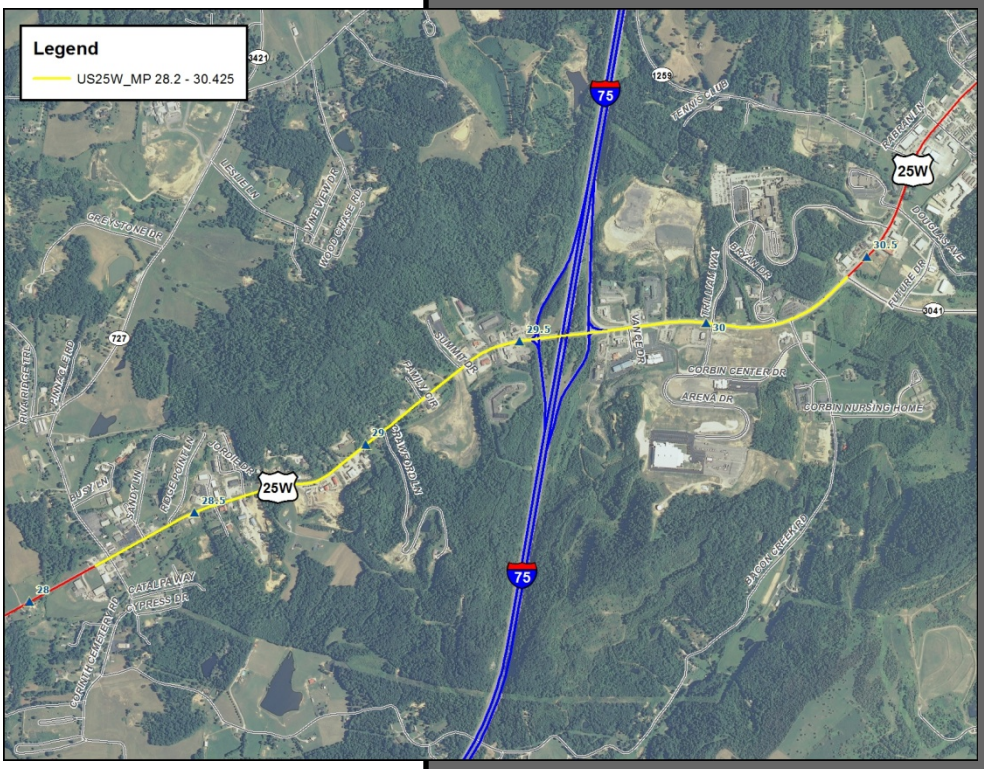
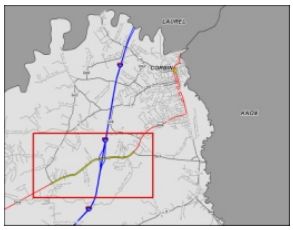
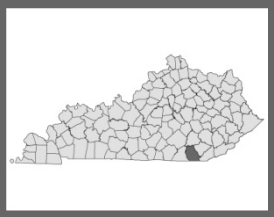
Data Needs Analysis





Scoping Study



Major Widening, Addresses Congestion, Freight Movement, And Access Along 25W From KY 727 to Ky3041
Item No. 11-186.00

Prepared by the KYTC Division of Planning
District 11

December 2012

KENTUCKY TRANSPORTATION CABINET

I. PRELIMINARY PROJECT INFORMATION

County: Whitley **Item No.:** 11-186.00
Route Number(s): US 25W **Road Name:** Cumberland Falls Highway
Program No.: 118 0025 028-031 **UPN:** FD 52 118 US 25W 28.2-30.4
Federal Project No.: STP 0902 005 **Type of Work:** Widening
2012 **Highway Plan Project Description:** Major Widening

Major widening, addresses congestion, freight movement, and access along 25W from KY 727 to KY 3041

Beginning MP: 28.2 **Ending MP:** 30.425 **Project Length:** 2.225

Functional Class.: ☑ Urban ☐ Rural — Arterial
State Class.: ☑ Primary ☐ Secondary
Route is on: ☐ NHS ☐ NN ☑ Ext Wt
MPO Area: Not Applicable
Truck Class.: AAA
In TIP: ☐ Yes ☐ No
% Trucks: 16.9
ADT (current): 19100 2011
Terrain: Rolling
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 : 45 **MPH Proposed Design Speed**

Roadway Data:	**EXISTING**	**COMMON GEOMETRIC**
No. of Lanes	2-5	2-5
Lane Width	10'-12'	12'
Shoulder Width	2'-9'	8'
Max. Superelevation**	---	4%
Minimum Radius**	744'	711'
Maximum Grade	6%	7%
Minimum Sight Dist.	---	360
Sidewalk Width(urban)		
Clear-zone***		

Existing Rdwy. Plans available? ☑ Yes ☐ No
Year of Plans:
☐ Traffic Forecast Requested
Date Requested: 12/26/2012
☐ Mapping/Survey Requested
Date Requested:
Type:

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

Bridge No.*:
Sufficiency Rating
Total Length
Width, curb to curb
Span Lengths
Year Built
Posted Weight Limit
Structurally Deficient?
Functionally Obsolete?
Existing Bridge Type

Existing Geotech data available? ☐ Yes ☑ No

Detour Length(s): 10 miles

*If more than two bridges are located on the project, include additions sheets.

II. PROJECT PURPOSE AND NEED

A. Legislation

The following funds are listed in the 2012 General Assembly's Enacted Highway Plan.

Funding	*Phase*	*Year*	*Amount*
STP	D	2013	$1,345,000
STP	R	2015	$1,935,000
STP	U	2016	$1,000,000
STP	C	2017	$7,580,000

B. Project Status

Design funds for this project have been authorized. In 2012, Central Office completed the Corbin Small Urban Area Study, which is available on the planning website under planning studies and reports for District 11. In this study, several projects are identified within these project limits as long term and short term prioritized proposed projects.

C. System Linkage

This project is within the Corbin City Limits. Interstate 75's southern most Corbin exit (Exit 25) ties into this section of US 25W. Existing storage and capacity needs created by the Corbin Arena are currently being addressed in project 11-0014.82, which stems from it's parent project 11-0014.80 (I-75 Widening). The two projects will require coordination. US 25W is the main route for interstate traffic travelling to Cumberland Falls State Park, approximately 16 miles southwest of Exit 25. This can be seen in Exhibit 1.

D. Modal Interrelationships

This project is on a coal haul route.

E. Social Demands & Economic Development

This section of US 25W has numerous commercial and retail developments. The project area is accessed by interstate traffic and includes typical interchange development. There are numerous gas stations, restaurants, and hotels. Additionally, within the project limits are three high traffic generators for the area: The Corbin Arena, which experiences heavy event traffic, the Tri-County Cineplex Theater, and Baptist Regional Medical Center, which hosts a hospital, medical offices, and rehabilitation centers.

F. Transportation Demand

The last actual traffic counts for this section were done in 2011. They vary 12,200-19,100, depending on the location. Obviously, there is more traffic east of I-75, where most of the traffic generators are located. A traffic forecast has been requested.

II. PROJECT PURPOSE AND NEED (cont.)

G. Capacity

There is congestion in the area. The section of US 25W closest to the interstate experiences high truck volume. According to the Corbin SUA Study, in 2009 mile point 29.61 to 29.68 experiences a level of service D. Other developments and businesses in the area also produce high traffic volume. Mile point 30.42-30.47 has a 2009 level of service E.

H. Safety

Collision data was obtained from the Kentucky State Police database for a three and a half year period from January 1, 2009 to June 30, 2012 for the project limits. Exhibit 2 shows a total of 268 collisions over this period. Key areas of collisions include the intersection of KY 727 and US 25W, the on and off ramps to I-75, development east of I-75 interchange and the intersection of KY 3041 and US 25W. The type of accidents vary at each location. The collision map can be seen in Exhibit 2. The CRF for this section of road is 0.8

I. Roadway Deficiencies

From mile point 28.2 to 30.4, this area of US 25W transitions between several different templates. At the intersection with KY 727 there is a two lane template with a left turn lane. It transitions to a two lane template. Then as the roadway approaches the interstate interchange, it transitions again. Once project 11-0014.82 is complete, this section will have a two lane road with a continuous two way left turn lane. The section between the ramps has additional turn lanes. East of the interchange, the road has four lanes with a continuous two way left turn lane.

West of I-75 on US 25W are frequent grades without proper sight distance. There is one significant curve that will require the proposed alignment to veer off of the existing template to correct for deficiencies and improve safety.

Draft Purpose and Need Statement:

Need: US 25W from KY 727 to KY 3041 is congested during peak and event traffic periods. Growth is expected to continue. There are also collision patterns at intersections with KY 727, KY 3041, and the I-75 on/off ramps.

Purpose: The purpose of this project is to address congestion, freight movement, and access on US 25W to impove safety by widening and improving access management along US 25W from KY 727 to KY 3041.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

STIP Pg.#: 126 of 2013 Plan **TIP Pg.#:**

Whitley Co is attainment for all monitored air pollutants. Review of the project during the environmental phase will determine increase in pollutants should additional lanes be developed. Air quality during construction will be controlled with good construction practices.

B. Archeology/Historic Resources

☐ Known Archeological or Historic Resources are present

A phase I archaeological survey will determine cultural significance and if eligible sites are located in the project footprint. No historic resources have been identified.

C. Threatened and Endangered Species

The USGS Quadrangles are Corbin and Vox. Current species listed for Whitley County are indiana bat, gray bat, Cumberland elktoe, cumberlandian combshell, oyster mussel, littlewing pearly mussel, fluted kidneyshell, little spectaclecase, cumberland bean pearlymussel, blackside dace, cumberland arrow darter and cumberland darter. Future study will address the requirements of USFWS and prevent detriment to the protected species.

D. Hazardous Materials

☑ Potentially Contaminated Sites are present ☐ Potential Bridge or Structure Demolition

Fueling stations or where petroleum products have been used can be identified for hazardous materials during phase I investigations and determine if phase II will be necessary. Other possible hazardous materials to review will be asbestos in structures.

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

The USGS Quadrangles are Corbin and Vox. Wetlands are not identified on the project. A water of the United States with impacts below ordinary high water will require coordination with the officers of the CORP and DOW. Construction activities may need a USACE 404 permit and a DOW 401 permit. Additionally, a surface water KYR 10 permit may be required for construction disturbance.

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

Noise receptors will be addressed in the environmental study.

G. Socioeconomic

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

No known land use plan. Mostly commercial occupancy in corridor.

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

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

Commercial area.

Anticipated Environmental Document: CE Level 2

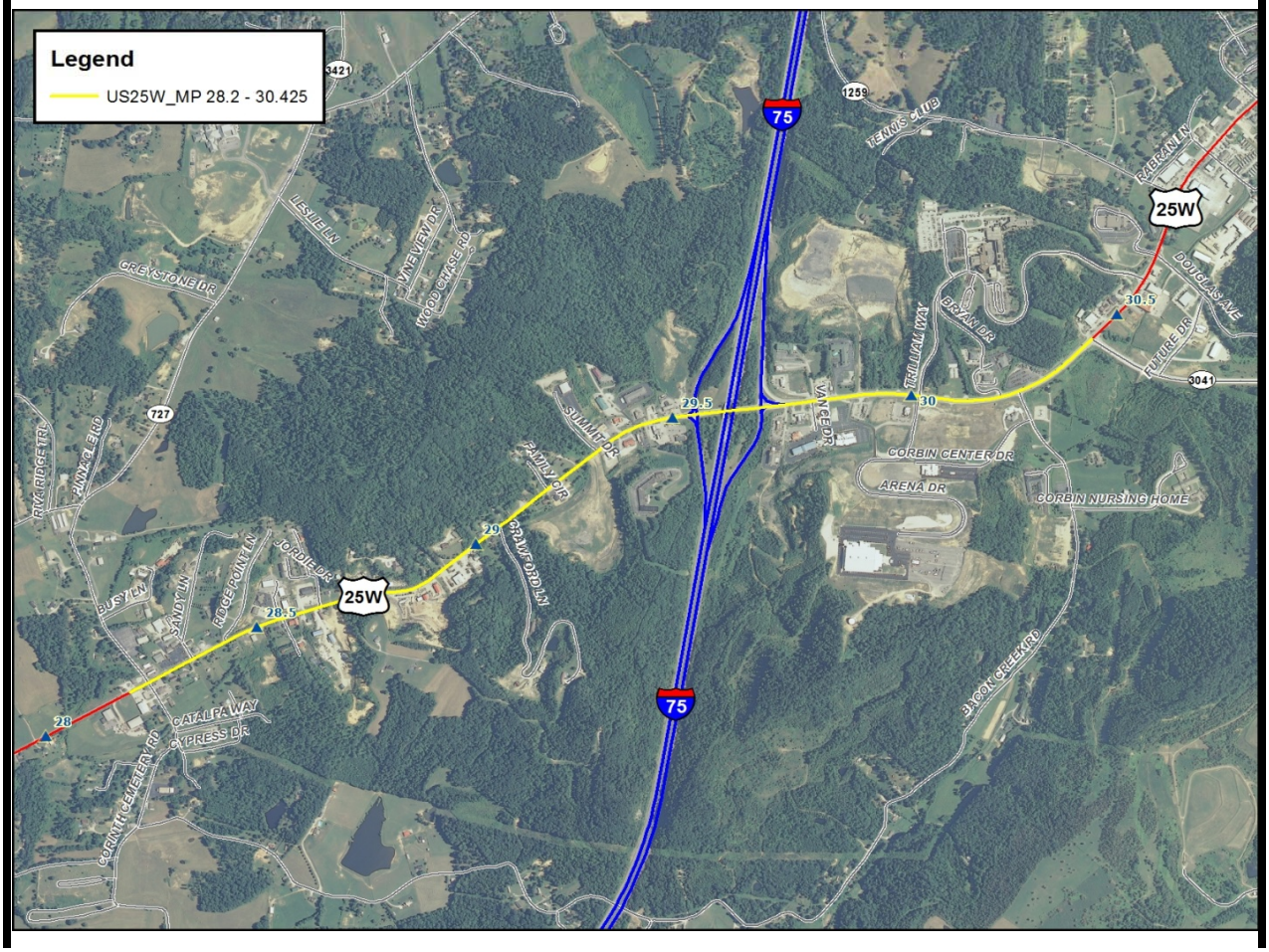
IV. PROJECT SCOPING

Current Estimate	
Phase	Estimate
Planning	---
Design	$1,000,000*
R/W	$1,900,000
Utilites	$600,000
Const	$7,500,000
Total	**$11,000,000**

* To be divided between Phase I and Phase II.
Due to the ongoing work of 11-0014.82, the design estimate is expected to be lower than the 2012 Enacted Highway Plan amount.

In the 2.225 miles of the US 25W project length, the template transitions from 3-lanes to 2-lanes to 5-lanes. For the rural section, the project team discussed possible alternatives to the existing template in the rural area which does not accommodate vehicles turning left or right without interrupting the flow of traffic. The section west of I-75 has numerous driveways and entrances. Many of these businesses do not have a defined entrance but long lengths of pavement where multiple cars turn in and out at the same time, often contributing to accidents along this section of road. There is one significant horizontal curve between mile points 28.5 and 29 that should be considered the only place to vary from the original alignment. A two lane template with a continuous two way left turn lane is preferred from KY 727 to the tie-in to Project 11-0014.82 west of I-75. Additionally, shoulders, designated right turn lanes, and defined entrances are needed to address congestion and safety.

The section east of I-75 has a tremendous amount of traffic. The existing five lane template will remain to KY 3041. However, frontage roads may be needed in this area along with curb and gutter to define specific spacing between entrances to address access management.



VI. Tables and Exhibits

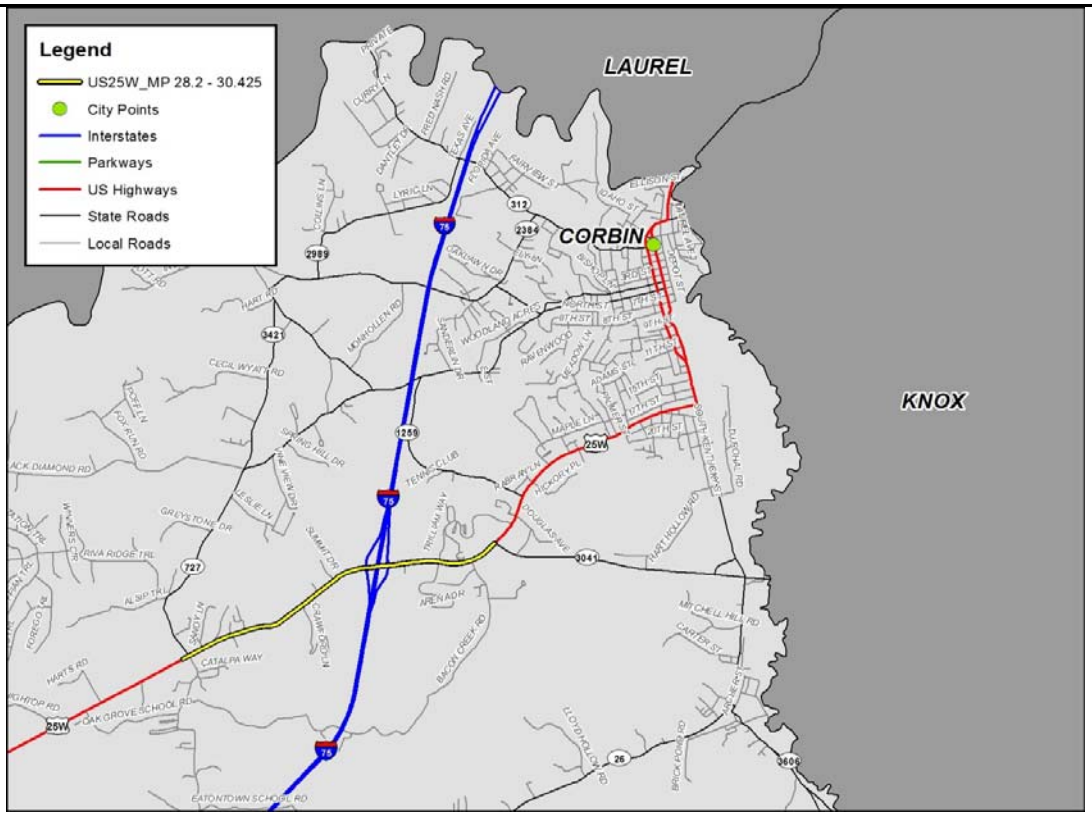


Exhibit 1: Vicinity Map

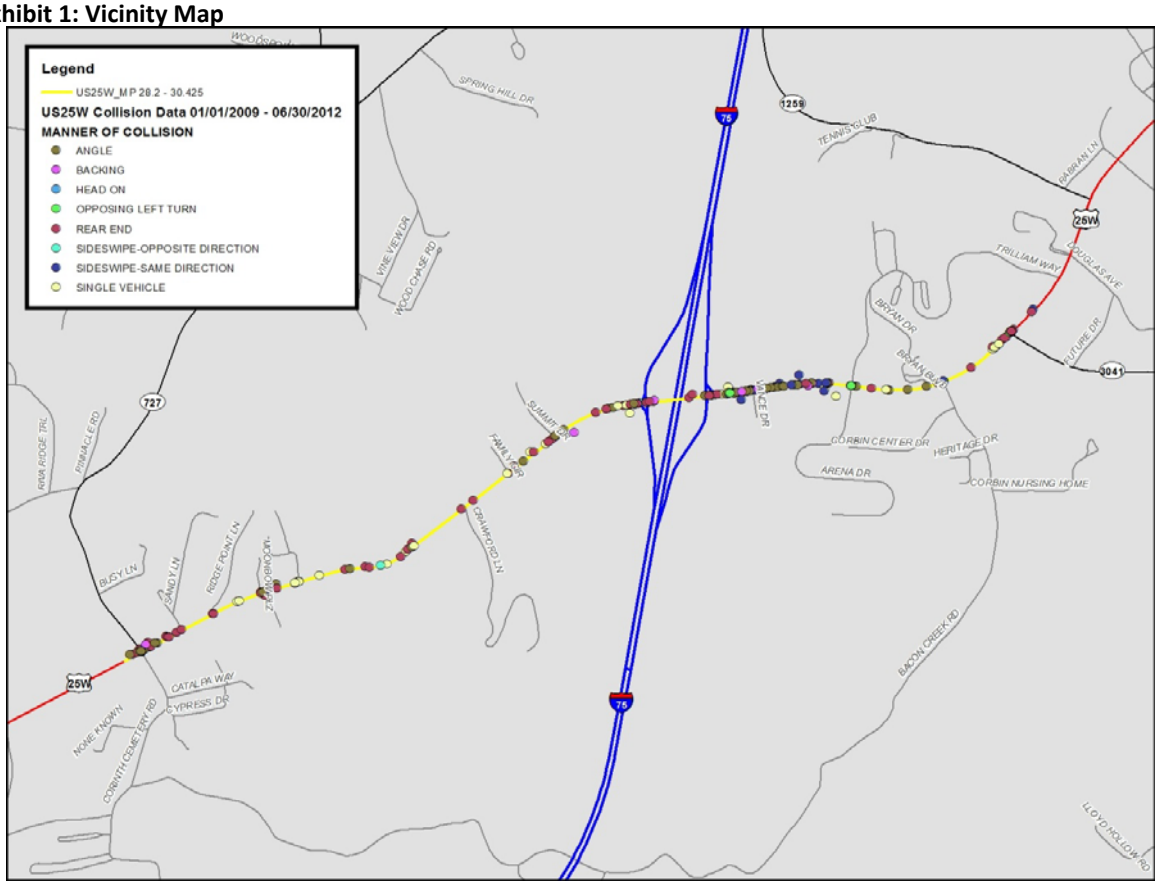


Exhibit 2: Collision Map