2012

Corbin Small Urban Area Study

Laurel, Knox and Whitley Counties

Prepared by:

Kentucky Transportation Cabinet

Central Office and District-11

Division of Planning

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Project Description

The *Corbin Small Urban Area Study* was prepared by the Division of Planning and Highway District 11 of the Kentucky Transportation Cabinet using a project team approach. The purpose of the study was to identify deficiencies in the transportation network in the Corbin study area, and to recommend solutions to address those deficiencies. The study's focus was primarily on maximizing current transportation facilities rather than proposing additions to the existing transportation system. To assist in this effort, data on highway adequacy ratings, crash rates, traffic volumes, and highway capacity was retrieved and analyzed for state-maintained highways within the study area as shown in **Figure ES-1**.

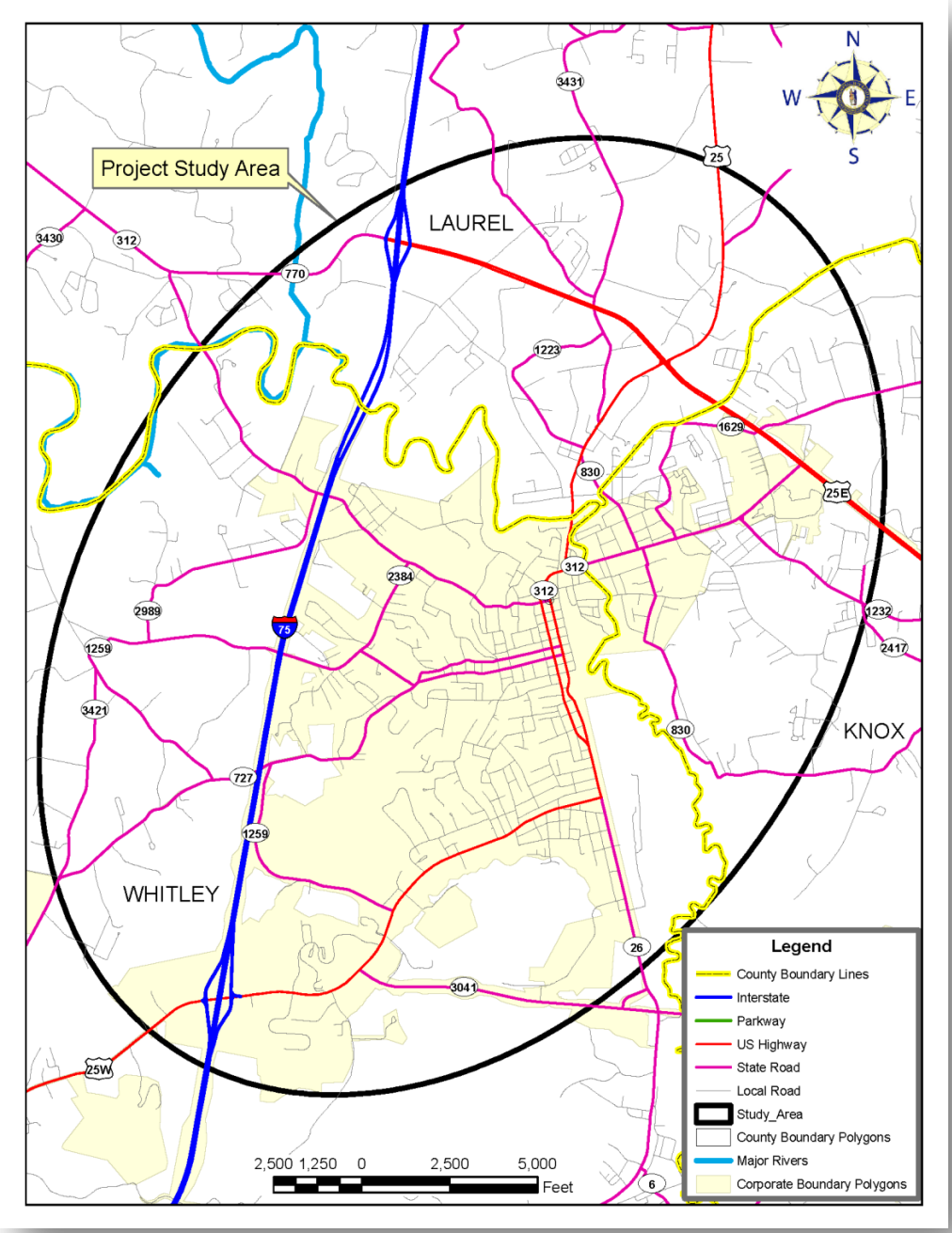


Figure ES-1: Project Study Area

Meetings were also held with local officials and stakeholders from the tri-county area of Knox, Laurel and Whitley Counties to obtain additional information on issues of local concern. Once the areas of concern were identified, long-term, short-term and local recommendations were made and prioritized. Many of these short-term recommendations are low cost projects that would have an immediate, positive impact for the traveling public in Corbin, Kentucky.

Project Recommendations

As a result of this process, a number of transportation-related issues were identified within the study area. The process of turning these concerns into potential projects first required the project team to review the issues and develop possible recommendations that would best address these concerns. These recommendations were then separated into one of three categories: long-term, short-term and local recommendations. These projects were placed into one of these categories based upon the scope of the recommendations and party responsible. These potential projects were then prioritized by the Advisory Committee and ultimately the Project Team with consideration of the Advisory Committee prioritization.

The long-term projects are listed in **Table ES-1**. These are potential state and federal roadway projects of the scale that would likely need to be funded in the State Highway Plan in order to be addressed. A detailed description of each potential project with location map and associated photographs is provided on individual project sheets within the report from page 38 to page 51. Consideration will be given to including some of these potential projects on the Unscheduled Needs List (UNL).

The short-term projects are also potential state and federal roadway projects but are the type that can be executed fairly quickly by the KYTC District Office if needed and if funding is available. Some of these improvements have already been implemented through Highway Safety Improvement Projects (HSIP) by the District as of the writing of this report. These projects are listed in **Table ES-2**. A one page description of each project with photographs and mapping are provided on individual project sheets within the report beginning on page 52 through page 65.

The local projects are potential city and county roadway projects that were identified by the locals at their request to aid local governments. These potential projects would be the sole responsibility of the city of Corbin or North Corbin, and/or Whitley, Laurel or Knox County governments to implement. A private developer may also take on this responsibility at the discretion of city and/or county entities. These projects are listed in the following **Table ES-3**. A one page description of each potential city/county project with photographs and mapping is provided on individual projects sheets within the report from page 66 to page 69.

All potential projects are presented graphically in **Figure ES-2**.

CORBIN SUA-PRIORITIZING PROPOSED PROJECTS KYTC LONG TERM PROJECTS					
Ranking	**Identification No. (ID) (Not Ranking)**	**Project Description**	**Length (Miles)**	**Type**	**Total Cost**
1	4LT	US 25W & KY 26 Intersection & Roadway Improvements between MP 31.223 & 32.525	1.300	Traffic Study with Model/ Reconstruction	$ 8,215,000
2	1LT	US 25W Improvements at I-75 between MP 29.200 and MP 29.610	0.410	Reconstruction	$ 1,300,000
3	2LT	US 25W Improvements from MP 29.683 to 30.600 Including Bacon Creek & Hospital Intersections	0.808	Traffic Study with Model/ Access Management	$ 120,000
4	13LT	US 25 & US 25 E Intersection Improvements	0.100	Traffic Study with Model/ Reconstruction	$18,830,000
5	5LT	KY 727 & KY 3421 & Black Diamond Intersection Improvements	0.250	Reconstruction	$ 625,000
6	3LT	US 25W and Local road (7th Street/Meadow Lane) Intersection Improvements	0.500	Reconstruction	$ 590,000
7	8LT	KY 3431 Improvements MP 0.000 to MP 0.650 including US 25W Intersection	0.650	Reconstruction	$ 2,500,000
8	6LT	KY 727 Improvements from MP 1.439 to MP 4.580	3.141	Reconstruction/ Maintenance	$ 625,000
9	10LT	US 25 Improvements from MP 0.000 to MP 1.210 including KY 2392 Intersection	1.210	Reconstruction	$ 6,231,000
10	11LT	KY 1629 from MP 0.196 to MP 1.162 including N. Commonwealth Ave. Intersection	0.932	Reconstruction	$ 450,000
11	9LT	KY 3431 Improvements from MP 0.650 to MP 1.300	0.650	Access Management/ Reconstruction	$ 725,000
12	7LT	KY 312 Improvements in Whitley County between MP 1.600 & MP 2.542	0.842	Drainage Study/ Reconstruction	$ 3,000,000
13	12LT	KY 312 Improvements in Knox County between MP 1.097 & MP 1.313	0.216	Reconstruction	$ 1,250,000

Table ES-1: KYTC Long-Term Projects

CORBIN SUA-PRIORITIZING PROPOSED PROJECTS KYTC SHORT TERM PROJECTS					
Ranking	**Identification No. (ID) (Not Ranking)**	**Project Description**	**Length (Miles)**	**Type**	**Total Cost**
1	4S	US 25W and KY 26 Intersection Improvements- Signal Timing Review	N/A	Engineering Support	$ 10,000
2	1S	US 25W Improvements from MP 29.792 to 30.6 Including Bacon Creek & Hospital Intersections	0.808	Engineering Support/ Signal Warrant Analysis	$ 60,000
3	5S	US 25W Improvements along Main St. from MP 32.525 to MP 33.278	0.753	Reconstruction/ Maintenance	$ 55,000
4	2S	KY 1259 Improvements in Whitley County from MP 0.000 to MP 1.315	1.315	Maintenance	$ 700,000
5	3S	US 25W and Local road (7th Street/Meadow Lane) Intersection Improvements	0.100	Reconstruction/ Maintenance	$ 565,000
6	6S	US 25W & KY 312 Intersection Improvements	0.100	Engineering Support/ Maintenance	$ 100,000
7	8S	KY 3431 and US 25W Intersection Improvement	0.250	Access Management/ Reconstruction	$ 600,000
8	9S	US 25E at KY 3431 Intersection Improvements	N/A	Reconstruction/ Engineering Support	$ 725,000
9	7S	KY 830/Beatty Ave. & Engineering St. Intersection Improvements	N/A	Engineering Support	$ 10,000
10	12S	US 25E Improvements in Knox County between MP 25.100 to MP 26.197 - Add Turn Lanes	1.097	Access Management	$ 10,000
	10S	US 25E and KY 1629 Intersection Improvements	N/A HSIP Funded PROJECT	Engineering Support	N/A HSIP Funded PROJECT
	11S	KY 1629 and Commonwealth RD Intersection Improvements	N/A HSIP Funded PROJECT	Engineering Support	N/A HSIP Funded PROJECT

HSIP – Highway Safety Improvement Program

Table ES-2: KYTC Short-Term Projects

CORBIN SUA-PRIORITIZING PROPOSED PROJECTS LOCAL PROJECTS					
Ranking	**Identification No. (ID) (Not Ranking)**	**Project Description**	**Length (Miles)**	**Type**	**Total Cost**
1	2L	Corbin Center Drive Improvements	0.4	Reconstruction	$ 450,000
2	1L	Black Diamond Road Improvements		Stripping	$ 5,000.00

Table ES-3: Local Projects

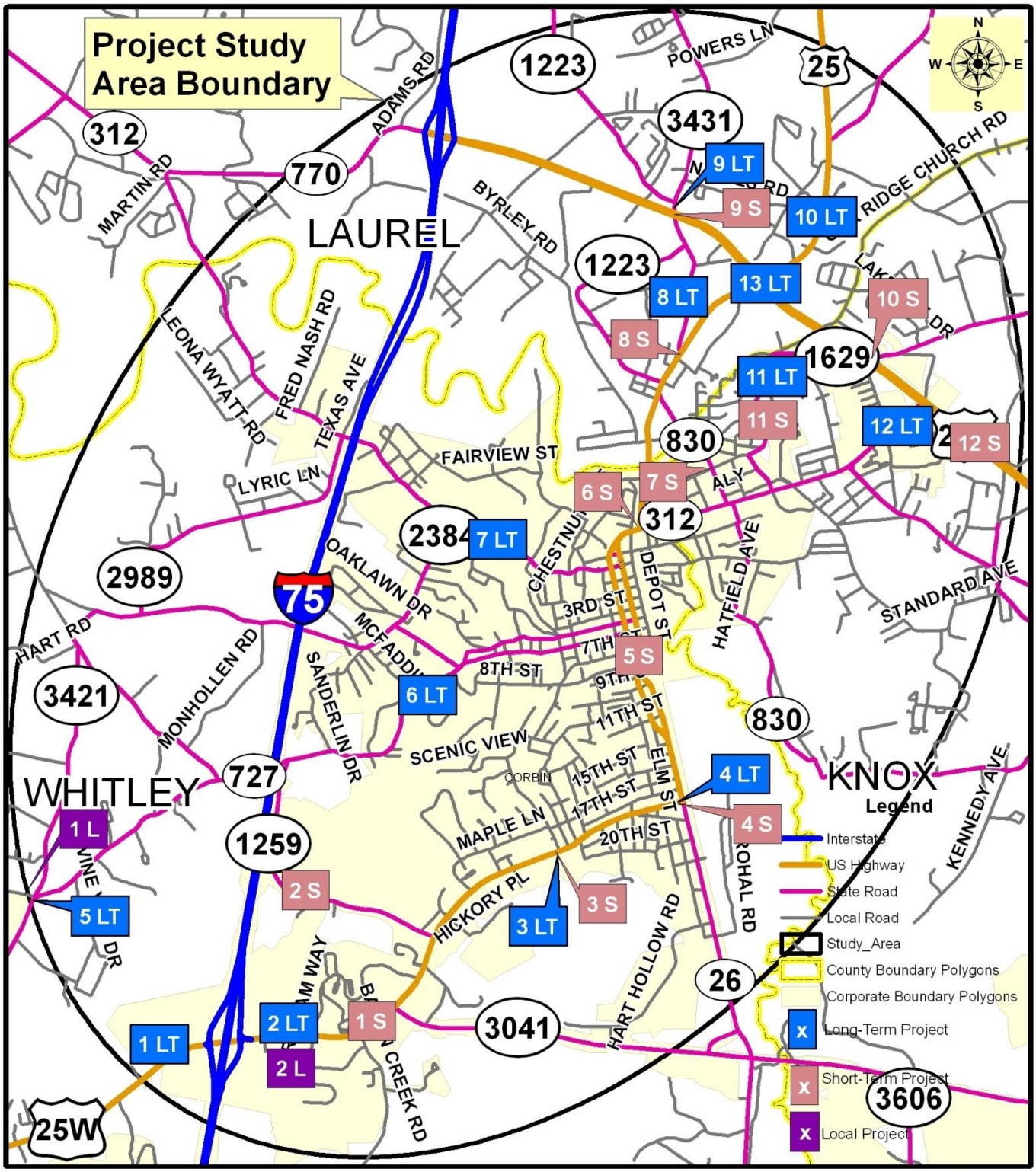


Figure ES-2: Potential Project Location Map

I. Introduction

A. Study Purpose

The purpose of this Small Urban Area (SUA) Transportation Study is to identify deficiencies in the transportation network for urban areas with a population between 5,000 to 50,000 residents, and to recommend improvements to address those deficiencies. The population of the City of Corbin is 7,307 people from Whitley and Knox Counties as identified in the 2010 Census provided by the Kentucky State Data Center. The urbanized area around Corbin extends into Laurel County, however, and is known as North Corbin. Due to a state law prohibiting more than two counties to make up a city, North Corbin is not incorporated into the City Limits but does utilize the city's public services. This three county urbanized area serves a total residential population of 21,132 per the 2010 Census provided by the Kentucky State Data Center.

The primary emphasis of this study is on maximizing current transportation assets through traffic operations and maintenance improvements that can be implemented relatively quickly and inexpensively, rather than proposing additions to the existing transportation system. The existing road system data was analyzed to identify locations within the study area boundary, as shown in **Table I.A-1** and **Appendix A,** where improvements should be considered. Once these locations were identified, projects were broken up into short-term, long-term, and local categories before recommendations were made and prioritized. Many of the recommendations were for low cost projects that would have an immediate, positive impact for the traveling public in and around Corbin, Kentucky. Several recommended improvements have already been implemented as of the writing of this report.

The planning process included the following tasks that will be discussed in greater detail throughout this report:

- Review and evaluate KYTC, Division of Planning's Highway Information System (HIS) and Collision Reports Analysis for Safer Highways (CRASH) data.
- Establish the project team to guide the study effort.
- Consult with the advisory committee made up of local officials to obtain their input.
- Identify potential problem areas.
- Conduct field reviews to study problems.
- Identify possible solutions and estimate project costs.
- Develop recommendations and prioritize projects with input from the local officials and other stakeholders.

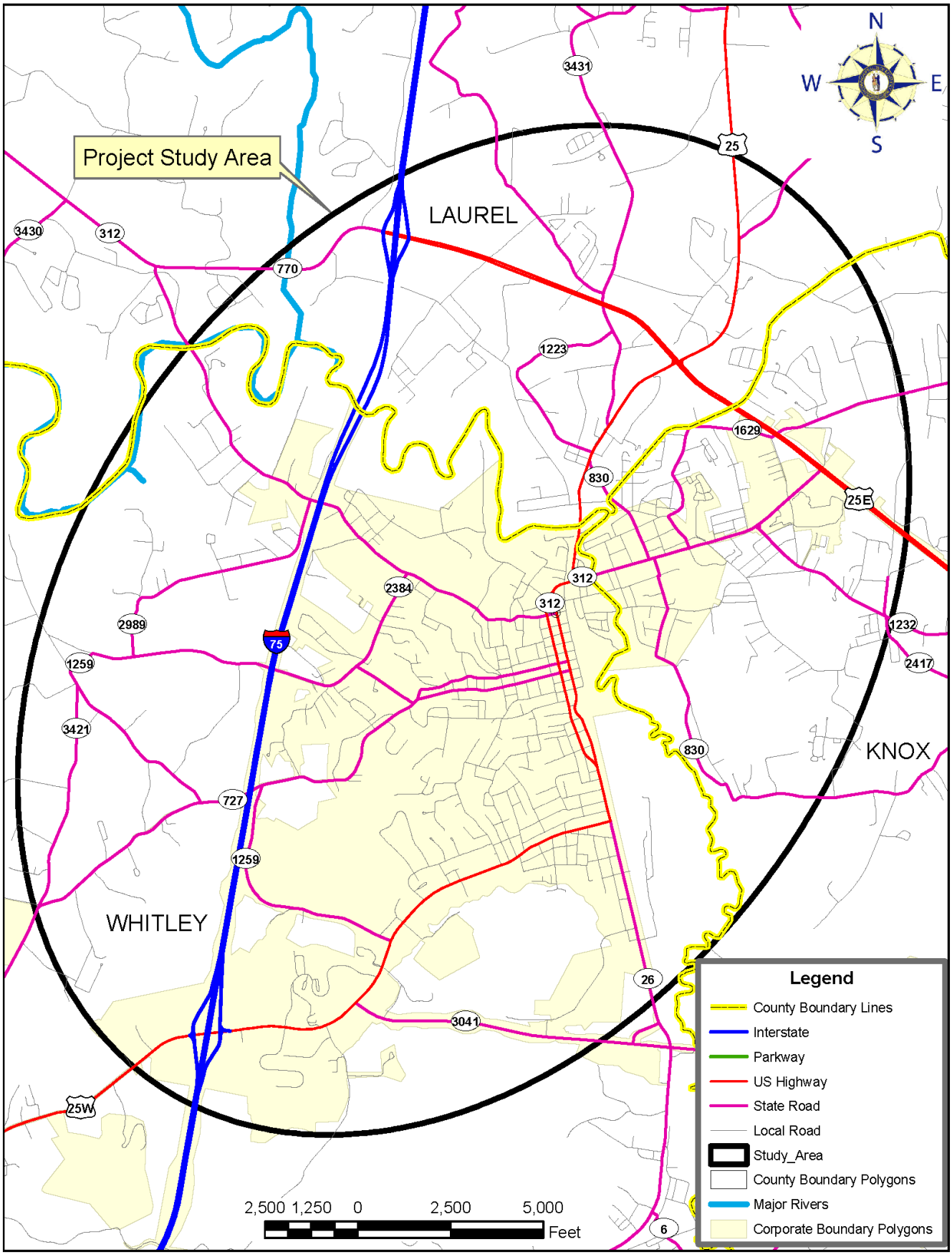


Figure I.A-1: Study Area Limits

B. Update on Programming and Other Projects

There were only two projects within the Corbin Small Urban Area boundary listed in *Kentucky's FY2010-FY2012 Enacted Biennial Highway Plan* as approved by the General Assembly. These projects are listed below numerically in **Table I.B-1**.

Item Number	County	Route	Begin Milepoint	End Milepoint	Length (miles)	Description	Funding			
							Type	Phase*	Year	Amount
11-8512.00	Knox	New Route			--	Construct a new Access Road from US-25 E to the West Knox Annex	SPB	C	2010	$125,000
11-8520.00	Whitley	New Route			--	Construct a new Access Road into the Corbin Regional Center	SPB	C	2010	$300,000
*Note: Phases are abbreviated as D (Design), R (Right-of-Way), U (Utilities), and C (Construction).										

Table I.B-1: Kentucky FY 2010-FY2012 Biennial Highway Plan Projects in Study Area

The *Kentucky's FY2012-FY2018 Enacted Highway Plan (*2012-2018 Highway Plan*)* was recently approved by the General Assembly. This new highway plan listed three projects within the Corbin Small Urban Area boundary that were also identified in the *Highway District 11 Transportation Plan - 2011* (DTP) and by the Project Team through the development of this study. These three projects are listed numerically in **Table I.B-2**. The first item number, 11-0185.00, listed in this table was also given the number one overall ranking in the DTP, while the second item number, 11-0186.00, was also designated in the DTP to have the second highest ranking among future projects within District Eleven. The third item number, 11-0188.00, in the **Table I.B-2** was given the fourth overall ranking among future projects within this District. Further information on each of these projects is available in the DTP.

There were four additional projects within this study area that were ranked in the top 20 DTP projects overall but were not identified in the recently approved 2012-2018 Highway Plan. These are listed by overall ranking from the DTP as follows in **Table I.B-3**.

As previously noted, this study is intended in part to help to identify any potential projects for future consideration in upcoming Highway Plans. At present, there are twelve projects within the Unscheduled Needs List (UNL) that are not identified on the 2012-2018 Highway Plan. Each UNL project is identified in the study area with Project Identification Form (PIF) data. Of those, 2011 assessments have ranked three projects with a "High" priority both regionally and by district. These projects include the following:

Item Number	County	Route	Begin Mile point	End Mile point	Length (miles)	Description	Funding			
							Type	Phase *	Year	Amount
11-0185.00	Laurel	US 25	0.000	2.024	2.024	Major Widening- Address Safety, Capacity, and Access Management on US 25 E from Knox/Laurel County Line to KY-770.	NH	D	2013	$1,300,000
11-0186.00	Whitley	US 25	28.200	30.425	2.225	Major Widening, Addresses Congestion, Freight Movement, and Access Along US 25 W from KY 727 to KY 3041.	STP	D	2013	$1,345,000
11-0188.00	Knox	US 25	24.221	26.197	1.976	Major Widening- Address safety and capacity on US 25 E from Corbin By-pass to Knox/Laurel County Line. Improve safety along corridor by providing improved access management.	NH	D	2012	$1,280,000
*Note: Phases are abbreviated as D (Design), R (Right-of-Way), U (Utilities), and C (Construction).										

Table I.B-2: Kentucky FY 2012-FY2018 Highway Plan Projects in Study Area

Overall Rank	County	Route	Begin Mile point	End Mile point	Project Description	Total Cost
5	Whitley	US 25W	32.098	33.482	Improve congestion & freight movement from Thirteenth St. to Eighteenth St. in Corbin	$9,450,000
8	Whitley / Laurel	US 25W	33.578	1.036	Major widening to improve congestion & freight movement from US 25 E to Engineers Street in Corbin	$8,190,000
13	Whitley	US 727	1.439	1.539	Reconstruct intersection at Black Diamond Road & KY 3421	$650,000
20	Knox	KY 1629	1.159	4.151	Minor widening US 25 E to KY 830. Improve safety & provide access management	$7,400,000

Table I.B-3: Highway District 11 Transportation Plan Projects in Corbin Study

addressing safety issues on KY 727 at its intersection with Black Diamond Road and KY 3421; addressing condition, safety, and congestion issues on US 25 W from Thirteenth Street to Eighteenth Street in Corbin; and addressing congestion and access issues on US 25 W from US 25 E to Engineers Street in Corbin, Kentucky. **Figure I.B-1** shows all the UNL projects highlighted with some also recently being added to the FY 2012-FY2018 Enacted Highway Plan, the DTP, and/or within this study as previously defined in **Table 1.B-2 & Table 1.B-3**. It should also be noted that some redundant listings of projects in the UNL and other reference

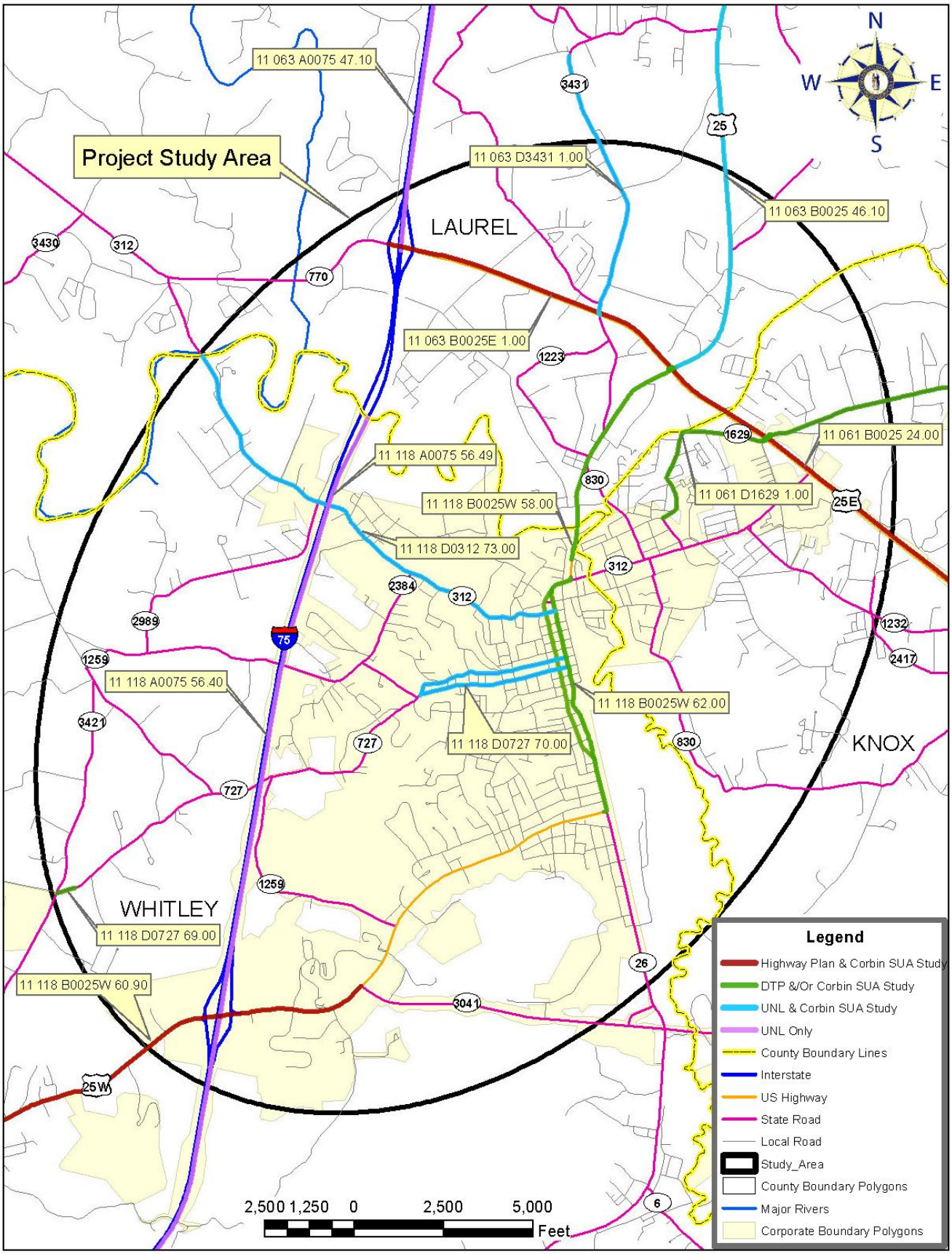


Figure I.B-1- Corbin Study Area with Highway Plan, DTP & UNL Locations

documents were due to the initiation of some projects through the course of this study. Other previously listed UNL projects were not pursued through this study as the need was previously identified in the UNL.

II. Project Location and Existing Conditions

A. Project Location

The project study area includes all of the incorporated limits of the City of Corbin and North Corbin to include portions of Knox, Laurel and Whitley Counties as well as part of the surrounding area encompassed in the limits as previously shown in **Figure I.A-1** and **Appendix A**. Located in the southeastern corner of the state, Corbin is primarily in Whitley County and extends north into Knox and Laurel Counties. Of these three counties, Whitley's southern most borders also serves as a portion of the Kentucky and Tennessee state line. Whitley County is also located in the Cumberland Valley area of the state, with Corbin being its largest city. The Cumberland Falls State Resort Park, Daniel Boone National Forest Park and Laurel River Lake are in close proximity to Corbin.

The heavily traveled Interstate 75 runs north and south through this study area. There are two interchanges to this interstate for access to the north and south side of The City of Corbin.

B. Existing Conditions

Data on the existing conditions in the study area was taken from the Division of Planning's Highway Information System (HIS) database. This information is provided in **Appendix B** of this report and lists some general US and state route information for state-maintained roadways in the Corbin Study Area. There are two separate spreadsheets provided in this Appendix. The first spreadsheet begins on page B-1 of **Appendix B** and includes the existing highway systems information for all the above stated roadways. The second spreadsheet, beginning on page B-4 of **Appendix B**, provides the geometric and traffic related data on such roadways within the defined study area.

US 25 E provides a northern four-lane connection to Interstate 75 for Corbin. Interstate 75 and US 25 E are the only routes in and around Corbin that are part of the National Highway System (NHS), a system of national roads established by the Intermodal Surface Transportation Efficiency Act (ISTEA) that are important to the nation's economy, defense, and mobility. Both Interstate 75 and US 25 E are also a part of the National Truck Network (NN) which also includes KY 3041 and a connecting portion of US 25 W between KY 3041 and Interstate 75. The NN is a network of routes designated for use by trucks with increased dimensions. The US 25 E Roadway is also heavily used by motorist as a route to get to the races in Bristol, Tennessee and the Great Smokey Mountain National Park.

There are many active coal haul routes in the area. Currently, northbound coal traffic is primarily routed around the City of Corbin through US 25 E and US 25. The southbound traffic utilizes the new Corbin by-pass, KY 3041, before proceeding on KY 26 to take the coal traffic around the City of Corbin instead of through the city. A much smaller amount of coal is still being hauled through the city on US 25 W and US 25. **Figure II.B-1** displays approximate annual tonnages of coal hauled on the roadways within the Corbin study area.

Freight transportation by rail also exists in Corbin. The City of Corbin is commercially served by CSX Railroad. The active lines run north-south through the city, and from the center of Corbin, the railroad runs east-west through the eastern part of the incorporated limits. A railroad switchyard is located just east of KY 2079 near an industrial area.

The only river in or near Corbin is Laurel River which feeds Laurel River Lake. This lake is connected to Lake Cumberland near Somerset, Kentucky but this waterway is not navigable for freight transportation.

No dedicated bike lanes are currently located within the Corbin Small Urban Area. A portion of the Bluegrass Tour Bike Route, however, does exist on the western side of this study area. This route runs north-south and includes a portion of KY 312, KY 2989, KY 1259, KY 3421 and KY 727.

i. Average Daily Traffic

Current (2009) average daily traffic (ADT) on state-maintained routes in the study area ranges from 709 vehicles per day (vpd) to 38,900 vpd. Interstate 75 and US 25 E are the two roadways with the significantly highest traffic volumes. Most of the other roadways in the study area have less than 10,000 vpd. **Figure II.B-2** and **Appendix C**, Exhibit 1 shows the individual roadway segment ADTs within the study area in greater detail. Projected ADTs for the year 2035 were also calculated based on statewide functional class average growth rates. The 2035 projected ADTs for the roadways in the study area can be seen in **Figure II.B-3** and Exhibit 2 of **Appendix C**.

ii. Measurements of Roadway Conditions

Volume/Service Flow (VSF) is a measure of congestion. The closer the VSF ratio is to 1.0, the closer the roadway is to its capacity. **Figure II.B-4** and Exhibit 3 in **Appendix C** display segments of roadways in the study area with traffic volumes nearing capacity. These segments are located along a portion of US 25 E, US 25, KY 3431, KY 770, KY 312 and US 25 W. VSF ratios were not available for westbound KY 727 between mile points 3.800 to 4.550 or southbound US 25 W from mile points 33.350 to 32.400.

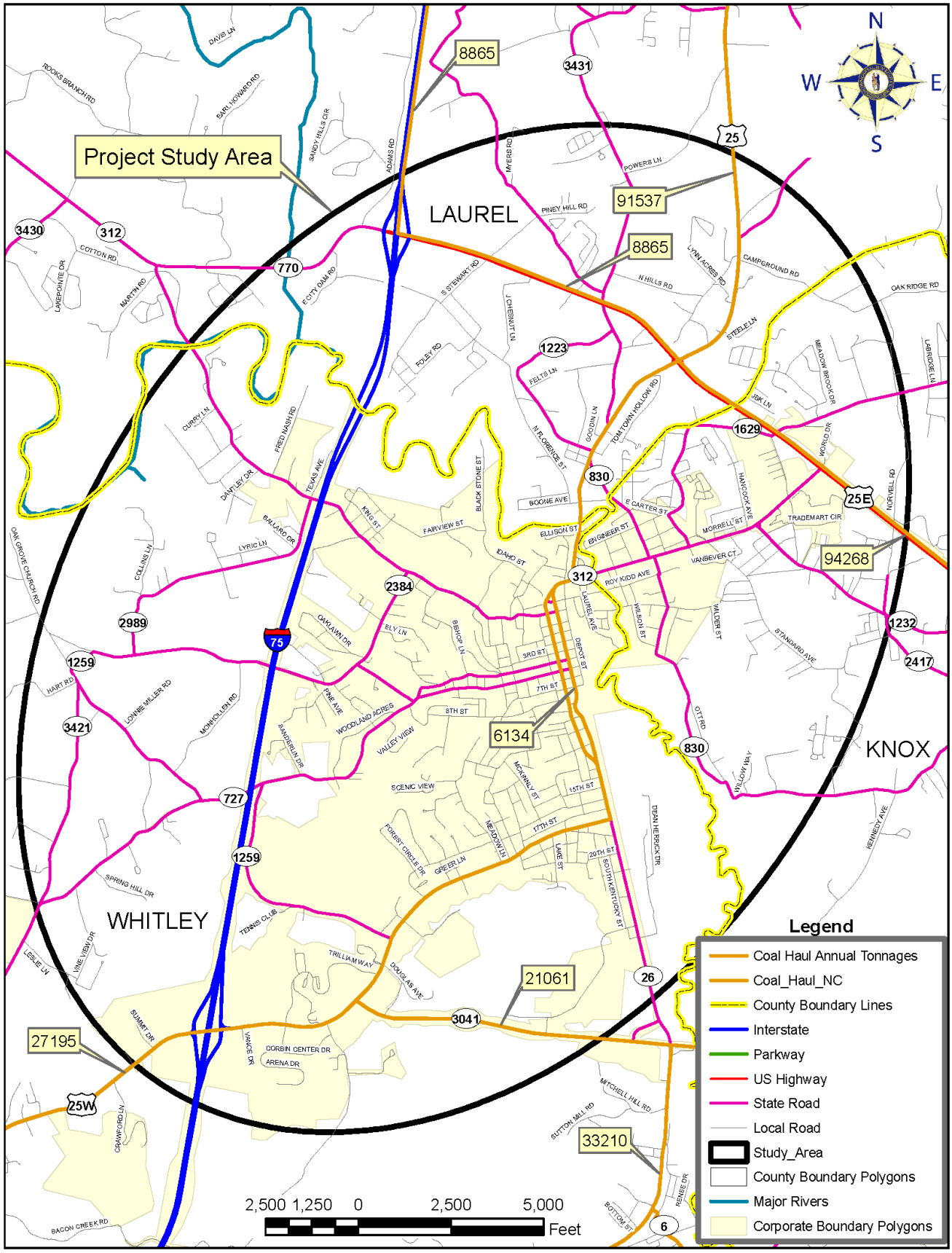


Figure II.B-1 Coal Haul Routes and Annual Tonnages (2010, both directions)

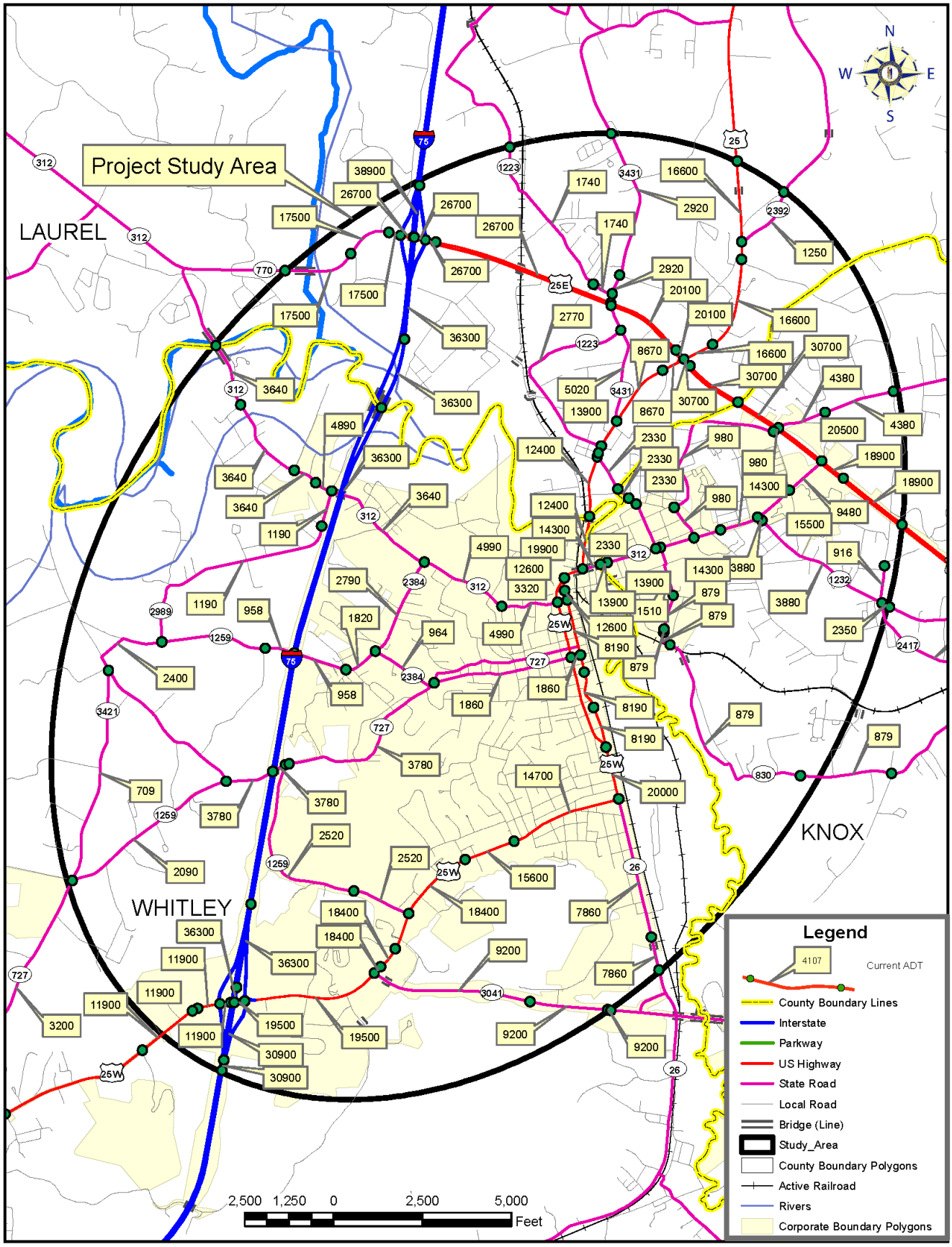


Figure II.B-2 Average Daily Traffic (2009)

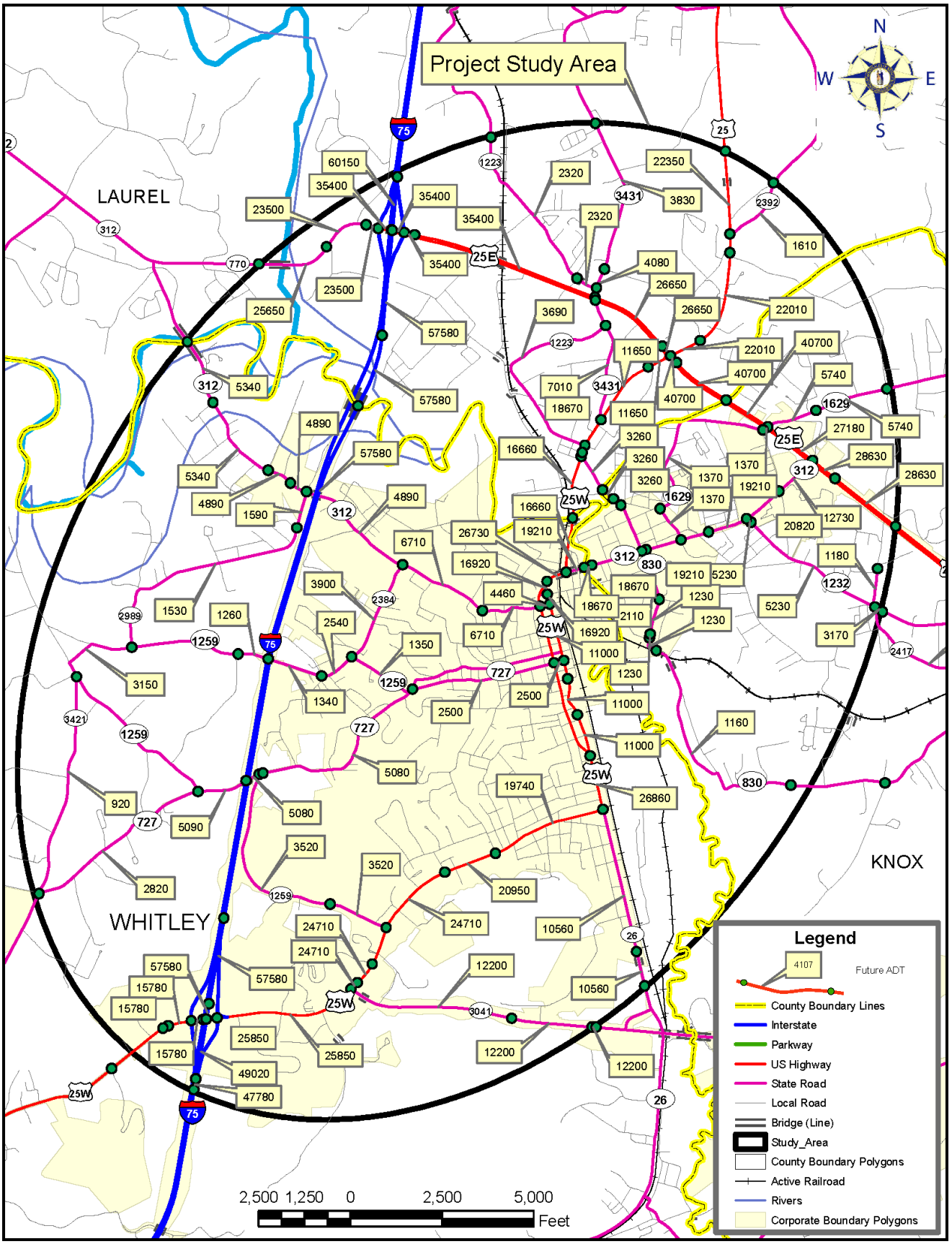


Figure II.B-3 Future Average Daily Traffic (2035)

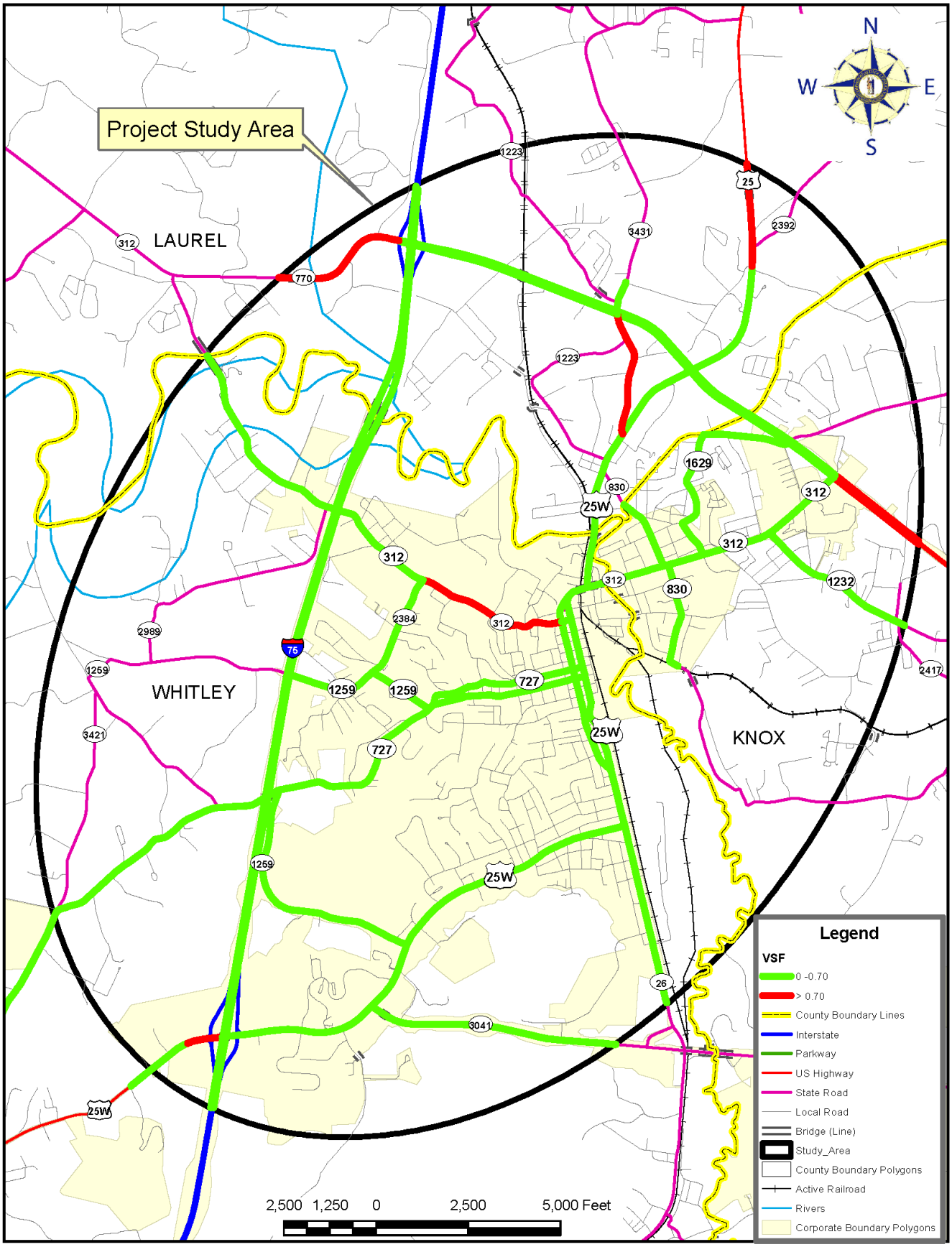


Figure II.B-4 Volume to Service Flow Ratio (2009)

The Level of Service (LOS) is a measurement-of-effectiveness used to determine the quality of service on roadways. LOS takes into account expected traffic conflicts, delay, driver discomfort, and congestion. The LOS system uses letters A through F, with A being the best, and F being the worst measurement of efficiency.

An LOS analysis was performed on roadway segments in the study area. LOS C is usually considered the lowest acceptable score for rural areas and small cities, such as Corbin. LOS D, E, and F indicate that capacity issues may need to be addressed. The 2009 LOS values for segments of roadways in the study area are displayed in **Figure II.B-5** and in Exhibits 4 of **Appendix C.** A projected LOS for the year 2035 was also obtained based on projected ADT values that were discussed in the previous section under Average Daily Traffic. **Figure II.B-6** and Exhibit 5 of **Appendix C** provide a graphical representation of the projected LOS in year 2035 within the study area.

In this study area, there were two roadway segments in 2009 with a LOS rating of E. The first segment is a part of US 25 W between KY 3041, by-pass, and the eastern most intersection with Trilliam Way. KY 770 has the second segment with this LOS and it is between East City Dam Road and the Corbin study area boundary at mile point 0.540. It should be noted that the latter segment along KY 770, which also includes the segment with an LOS rating of D, has recently undergone improvements to address these concerns but was not yet identified in the HIS or HPMS databases utilized in developing the LOS ratings. As shown in **Figure II.B-5** and Exhibit 4 in **Appendix C**, no segments were found to have a 2009 year LOS rating of F.

Assuming no further roadway improvements occurred but roadways were maintained in current condition between now and 2035, projected LOS ratings identified two roadways with the worst LOS rating of F. The primary roadway within the Corbin Study Area identified was Interstate 75 from the northern most study area boundary near mile point 29.200 southbound to the Interstate 75 bridge at the southern Corbin exist. The other roadway with the lowest LOS rating was US 25 W, but this route has three separate segments with this rating. See **Figure II.B-6** and Exhibit 4 in **Appendix C** for specific locations and their potential LOS ratings in 2035.

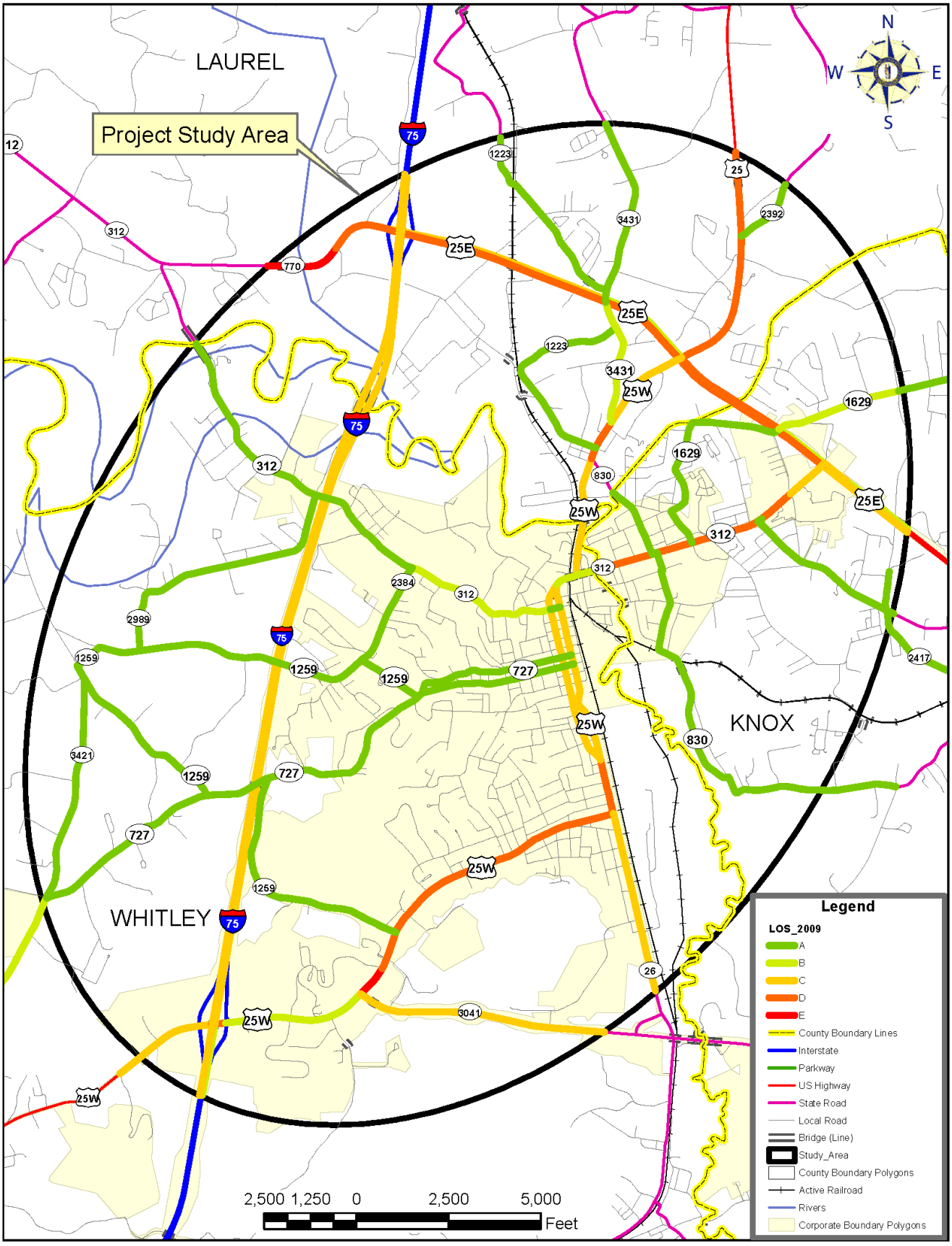


Figure II.B-5 Level of Service in 2009

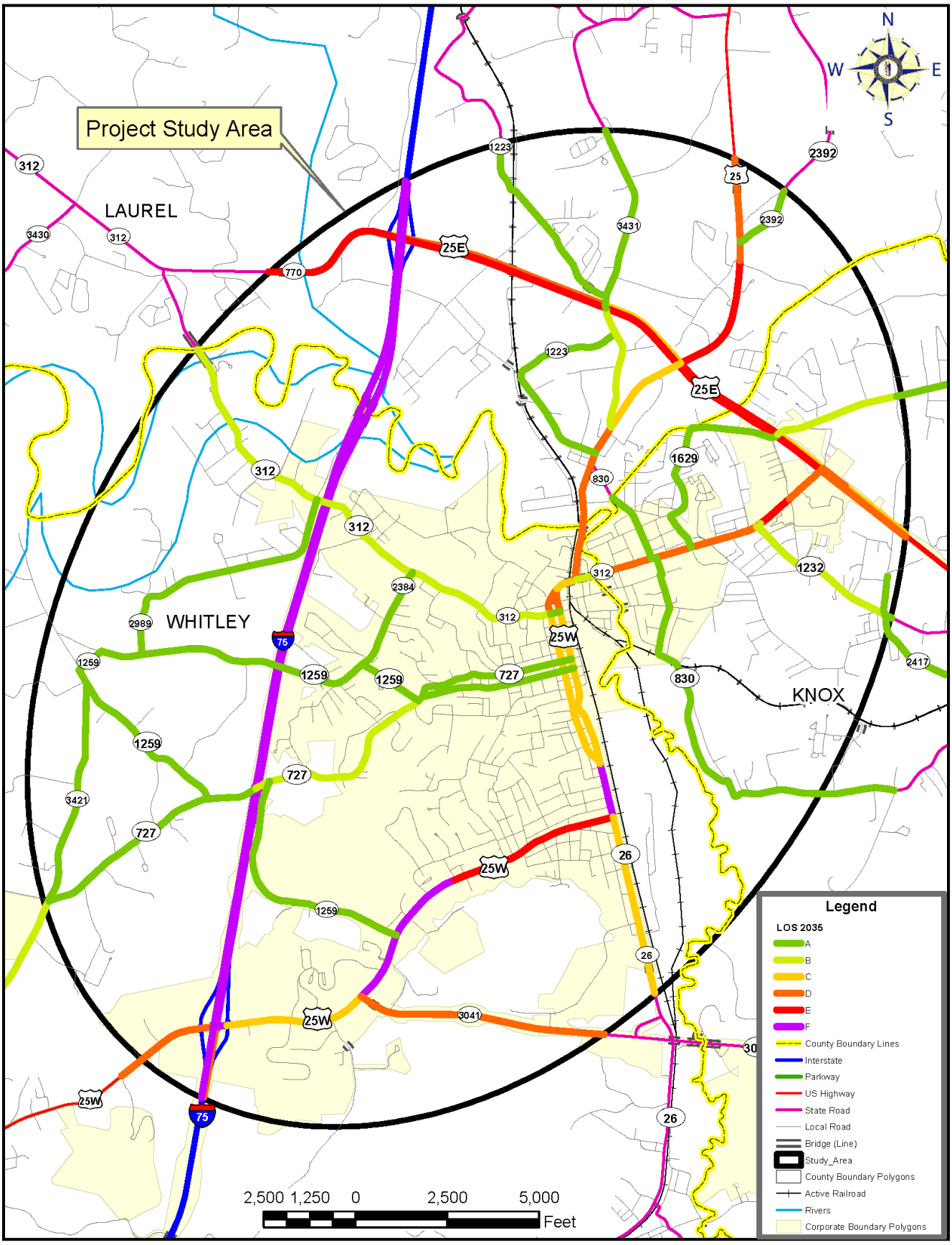


Figure II.B-6 Future Level of Service in 2035

In addition, some concern was raised regarding the use of the HCS+ program to evaluate LOS ratings for a 3-Lane Roadway containing a Two Way Left Turn Lane (TWLTL). As a result, ADTs were adjusted to evaluate traffic flows in each direction with a 60/40 directional split.

Figure II.B-7 and Exhibit 6 in **Appendix C** display segments of roadway with a composite adequacy rating of less than the 20th percentile in red. These segments are located mainly in the downtown Corbin area. The downtown roadways include two segments along US 25 W. The first segment of US 25 W begins at the intersection with KY 26 and goes northward till the roadways splits into one-way streets. The second segment of the US 25 W roadway starts at Tenth Street and proceeds northward to the Laurel and Whitley County line. The portion of KY 727 with a composite adequacy rating of less than the 20th percentile begins at KY 1259 and proceeds eastbound to the intersection with US 25 W. KY 830 was also identified within the city limits between East Carter Street and the CSX railroad crossing to the south. KY 312 is in this vicinity as well, between KY 2384 and the intersection with US 25 W to the east.

Adequacy Ratings are used by KYTC to assess a roadway's condition and to prioritize highway improvements. The ratings are calculated by functional class and based upon three roadway components (safety, service, and condition) with each component comprised of several measures. The rating scores 100 as a perfect, or near perfect, highway. The Composite Adequacy Percentile ranks a particular roadway section compared to other Kentucky roads in the same functional class into a percentile. For example, a road section with a composite adequacy percentile of 75.0 means that 25% of the roads are rated better.

In recent years, the city limits/corporate boundary have expanded to include Interstate 75's southern most Corbin exit onto US 25 W. At this location, a portion of the roadway from mile point 29.400 just east of Summit Drive along US 25 W to the overpass bridge for Interstate 75 was identified to have a low composite adequacy rating of less than the 20th percentile. Interstate 75 was also identified to have this rating between mile points 24.400 to 24.300 at the southern most end of this Interstate at the Corbin study area boundary. The city limits have also extended north east to include a portion of US 25 E. A portion of this roadway was categorized with this low rating from KY 312 eastward to the Corbin study area boundary at mile point 25.100.

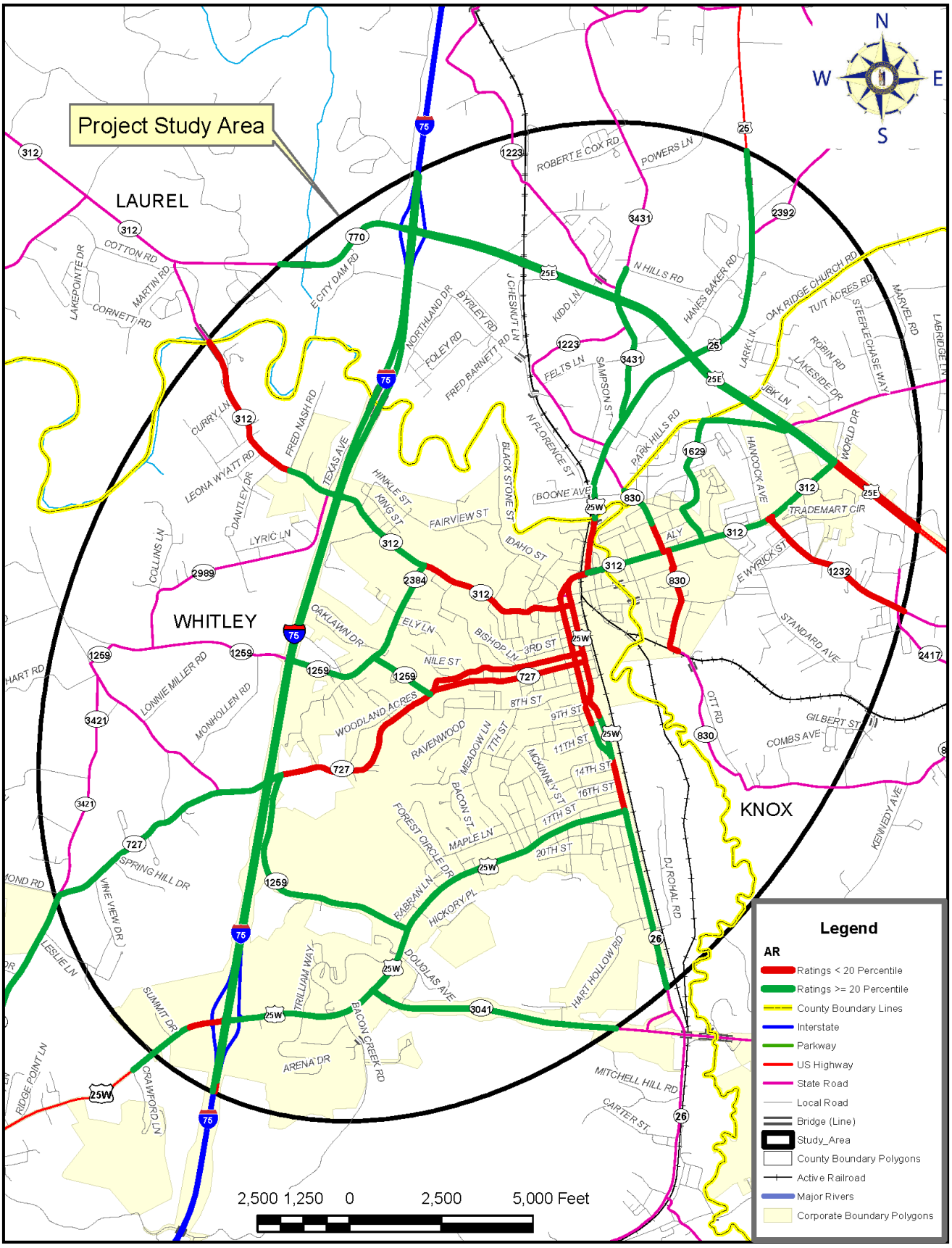


Figure II.B-7 Adequacy Ratings in 2009

There were two road segments identified with this low composite adequacy rating outside of the city limits/corporate boundary. The first segment is along KY 312 starting at the Laurel and Whitley County Line and then continues southeastwardly to Fred Nash Road. KY 1232 is the other roadway and it begins at KY 312 and moves southeastwardly to the Corbin study area boundary just past the intersection with KY 2417 at mile point 0.845.

iii. Crash Analysis

Crash data was obtained from the Kentucky State Police Crash Database to calculate Critical Rate Factors (CRFs) for this study. Data of vehicular crashes that occurred within the study area was analyzed over a three-year period from July 1, 2006 through June 30, 2009. Of the 1554 recorded crashes, 1175 were property damage only (PDO) occurrences, 371 resulted in one or more injuries and 8 resulted in one or more fatalities.

There were twenty-four segments of the state routes within the Corbin study area boundary with a Critical Rate Factor (CRF) of greater than 1.00, as shown graphically in **Figure II.B-8** and Exhibit 7 in **Appendix C**.

The CRF is the ratio of the crash rate on a segment of highway for a given time period as compared to the average crash rate for other similar roads in Kentucky. A CRF greater than 1.00 indicates there is a high probability that crashes at a particular location are not occurring at random.

Table II.B-1 also provides more detailed information regarding the high collision segments within this study area. There were 798 collisions within the high collision segments with a vast majority occurring during daylight hours. Of these crashes, 335 were of the angle collision type. The second most common form of collision was the rear end type to total 233 crashes. A significant majority of these collisions also occurred during dry weather conditions.

In addition to highway segments, high-crash spot locations were identified throughout the study area. These spots were defined as having a length of 0.30 or 0.10 miles, respectively. **Figure II.B-9** shows the 0.30 mile spots with high crash rates graphically, while **Figure II.B-10** provides a graphical representation of these high crash rates for 0.10 mile spots. The Crash data for both the 0.30 mile spots and 0.10 mile spots with high CRFs are listed with more detail in **Table II.B-2** and **Table II.B-3**. Exhibits 8 and 9 in **Appendix C** are maps of all the 0.10 mile and 0.30 mile spot locations, respectively.

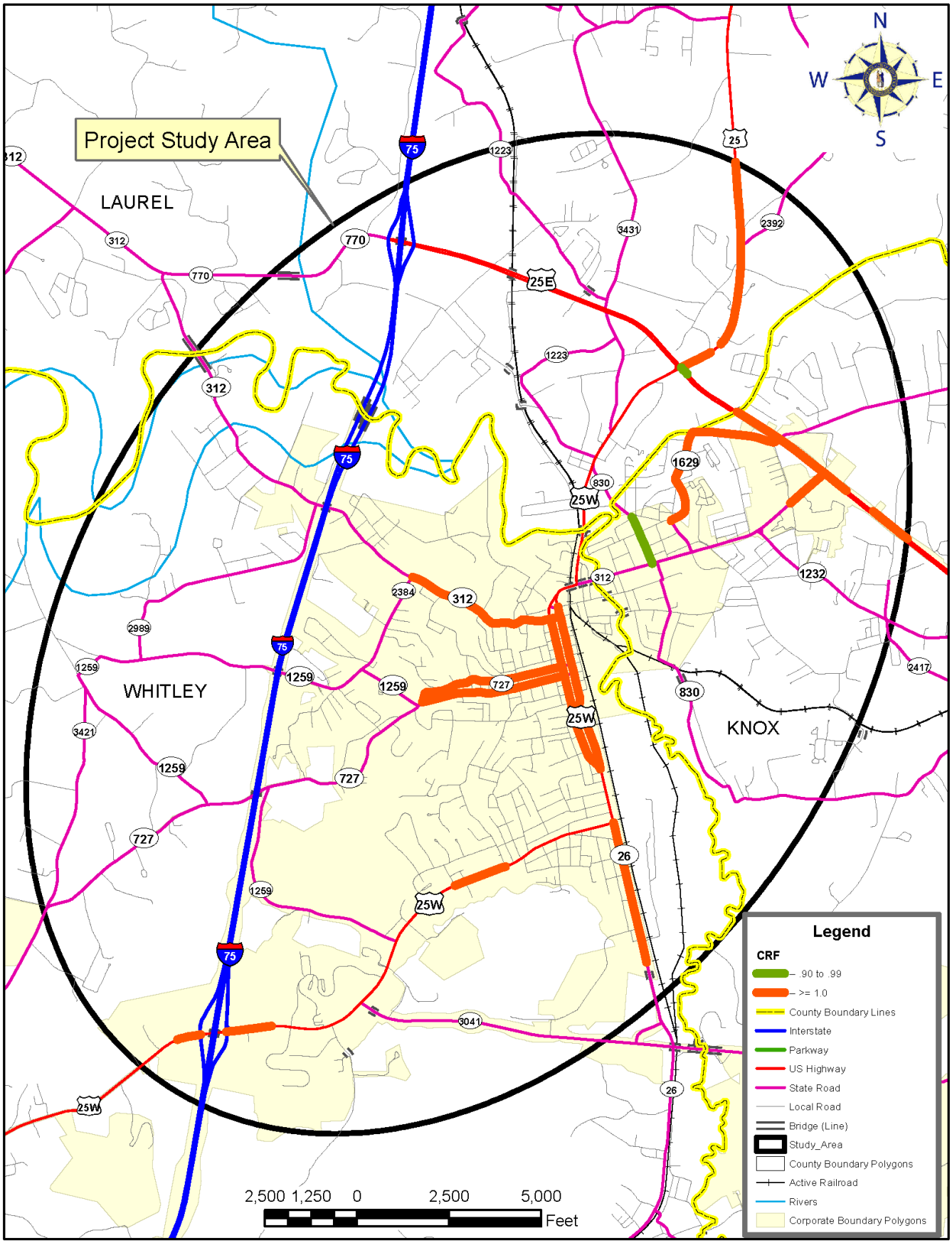


Figure II.B-8 Crash Rates for High Collision Segments

CORBIN S.U.A. - CRASH DATA FOR SEGMENTS																										
								ADT		LOS-w/o Imp.		Crashes				Collision Type										
COUNTY NAME	ROUTE	BEGIN MP	END MP	AVG. PHF	LANE WIDTH	SPEED LIMIT	VSF	2009	2035	2009	2035	PDO*	Fatal	Injury	Total	Angle	Rear	Head-on	Backing	Side	Opposing Left Turn	Sides wipe	Single Vehicle	%in Daylight	%in Dry	CRF
US 25																										
Laurel	0025 - 000	0.000	0.173	0.93	12	45	0.62	16,600	22,010	D	E	34	0	12	46	14	24	2	2	0	1	2	1	78	80	2.491
	0025 - 000	0.240	0.677	0.93	12	55	0.62	16,600	22,010	D	E	33	0	11	44	8	28	0	0	0	0	4	4	93	77	1.149
	0025 - 000	0.677	1.210	0.88	12	55	0.71	16,600	22,350	D	D	24	1	8	33	7	19	0	1	0	1	2	3	76	79	1.005
US 25E																										
Knox	0025E - 000	25.100	25.325	0.89	12	55	0.71	18,900	28,630	B	C	7	0	5	12	6	0	0	2	0	1	2	1	92	83	1.075
	0025E - 000	25.500	25.650	0.89	12	45	0.71	18,900	28,630	C	D	18	0	5	23	10	8	0	3	0	0	2	0	78	83	2.718
	0025E - 000	25.650	25.942	0.93	12	45	0.65	20,500	27,180	B	C	54	0	25	79	43	28	2	1	0	3	2	0	75	76	2.542
	0025E - 000	25.942	26.197	0.93	12	45	0.46	30,700	40,700	D	E	40	0	13	53	21	22	1	1	0	3	4	1	79	79	1.372
Laurel	0025E - 000	0.300	0.344	0.93	12	45	0.68	30,700	40,700	D	E	9	0	1	10	0	9	0	0	0	0	1	0	100	70	0.978
US 25W																										
Whitley	0025W -000	29.429	29.551	0.93	10	45	0.87	11,900	15,780	C	D	17	0	4	21	7	11	0	2	0	0	0	1	76	90	1.867
	0025W -000	29.683	29.917	0.93	12	45	0.53	19,500	25,850	B	C	36	0	8	44	22	7	1	5	0	0	6	3	70	80	1.160
	0025W -000	31.223	31.505	0.92	11	35	0.56	15,600	20,950	D	E	30	1	4	35	17	12	2	2	0	0	1	1	94	86	1.365
CRF**	0025W -000	32.427	32.668	0.92	15	25	0.28	8,190	11,000	C	C	21	0	8	29	7	7	0	0	0	0	13	2	93	83	1.124
CRF**	0025W -000	32.668	32.833	0.92	18	25	0.27	8,190	11,000	C	C	30	0	6	36	9	3	1	2	1	1	10	9	92	83	1.761
CRF**	0025W -000	32.833	33.231	0.92	10	25	0.45	8,190	11,000	C	C	116	0	26	142	63	19	0	8	0	0	45	7	87	79	3.671
CRF**	0025W -000	33.231	33.278	0.92	10	25	0.45	12,600	16,920	C	D	18	0	4	22	18	2	0	1	0	0	1	0	95	64	1.845

Table II.B-1 Crash Analysis for High Collision Segments (Continued-following page)

CORBIN S.U.A. - CRASH DATA FOR SEGMENTS

COUNTY NAME	ROUTE	BEGIN MP	END MP	AVG. PHF	LANE WIDTH	SPEED LIMIT	VSF	ADT		LOS-w/o Imp.		Crashes				Collision Type								%in Daylight	%in Dry	CRF
								2009	2035	2009	2035	PDO*	Fatal	Injury	Total	Angle	Rear	Head-on	Backing	Side	Opposing Left Turn	Sides wipe	Single Vehicle			
KY 26																										
Whitley	0025E - 000	0.855	1.740	0.92	2	45	0.52	7,860	10,560	C	C	12	1	6	19	7	7	0	2	0	0	3	0	100	79	1.036
KY 312																										
Whitley	0312 - 000	1.703	2.181	0.92	11	35	1.02	4,990	6,710	B	B	15	0	3	18	3	4	0	2	0	3	1	5	83	78	1.120
	0312 - 000	2.185	2.493	0.92	10	25	1.02	4,990	6,710	B	B	12	0	1	13	8	2	1	1	0	0	1	0	77	62	1.111
	0312 - 000	2.493	2.542	0.92	10	35	0.47	3,320	4,460	A	A	3	0	1	4	0	4	0	0	0	0	0	0	100	75	1.340
Knox	0312 - 000	1.097	1.313	0.92	11	35	0.55	9,480	12,730	C	D	26	0	11	37	26	6	1	1	0	1	2	0	92	70	2.574
KY 727																										
Whitley	0727 - 000	3.790	4.528	0.92	8	25	0.62	1,860	2,500	A	A	22	0	4	26	14	1	0	1	0	0	3	7	81	81	2.404
KY 830																										
Knox	0830 - 000	0.123	0.376	0.89	9	25	0.36	2,330	3,260	A	A	6	0	0	6	4	1	0	0	0	0	0	1	83	83	0.969
KY 1629																										
Knox	1629 - 000	0.196	1.128	0.89	8	35	0.39	980	1,370	A	A	10	0	0	10	7	1	0	0	0	1	0	1	90	30	1.219
	1629 - 000	1.128	1.159	0.89	8	35	0.39	980	1,370	A	A	3	0	0	3	3	0	0	0	0	0	0	0	100	67	2.088
KY 3431																										
Laurel	3431 - 000	0.000	0.650	0.89	9	35	0.78	5,020	7,010	B	B	19	1	4	24	8	4	4	1	0	0	1	6	83	46	1.180
	3431 - 000	0.650	0.809	0.89	11	35	0.12	2,920	4,080	A	A	8	0	0	8	3	4	0	0	0	0	0	1	75	88	1.495

PDO.*= Property Damage Only; Indicates a larger percentage of collision type; CRF: Critical Rate Factor. > 1.0 means occurrence likely more than random.

Value= Indicates a parameter that is deficient when compared to 2011 design standards and characteristics.

CRF**= Critical Rate Factor adjusted to more accurately separate two one-way streets into cardinal (Main St.) vs. non-cardinal (KY Ave.) direction as both are US-25W.

Table II.B-1 Crash Details for High Collision Segments (End of Table)

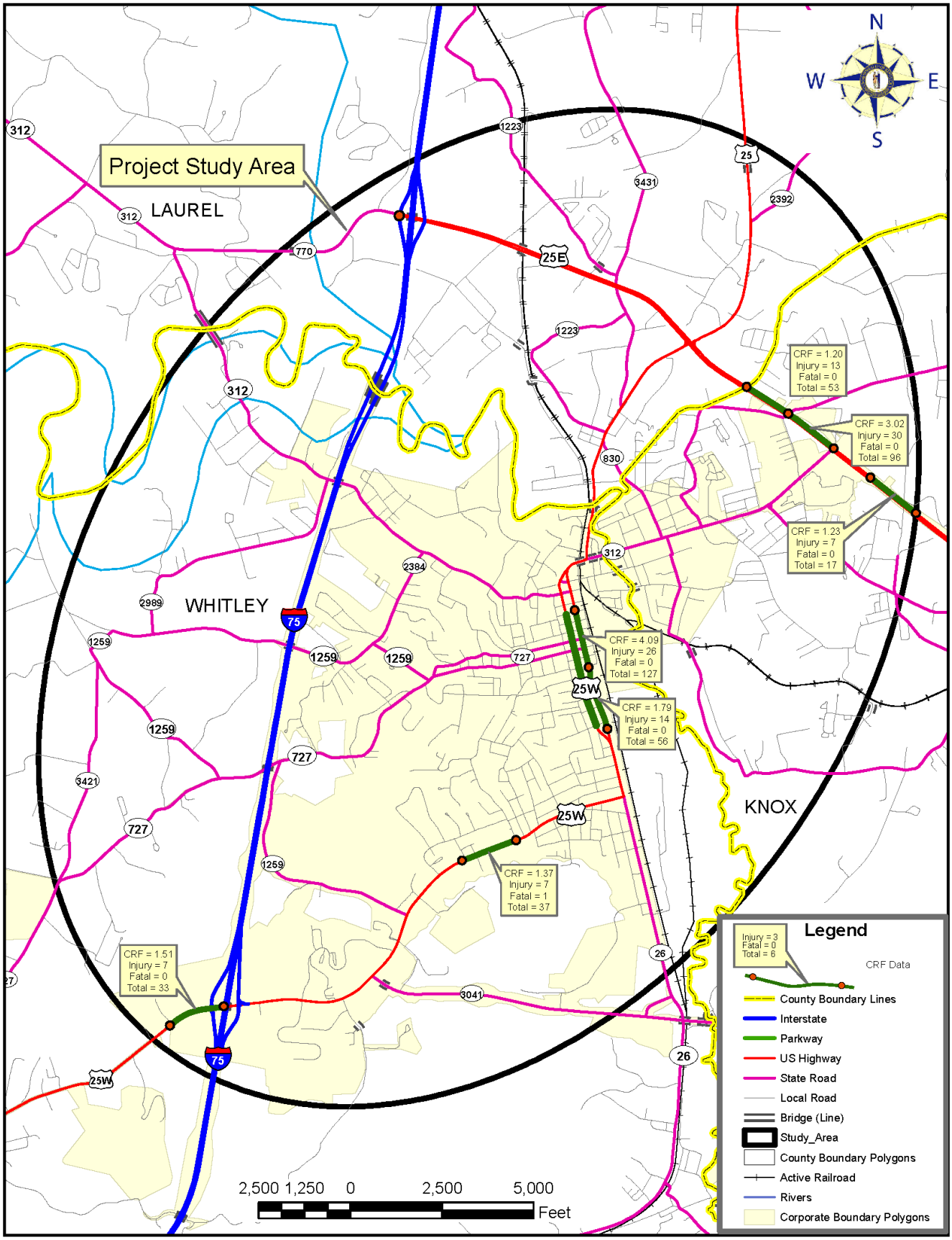


Figure II.B-9 Crash Rates for High Collision 0.30 Mile Spots

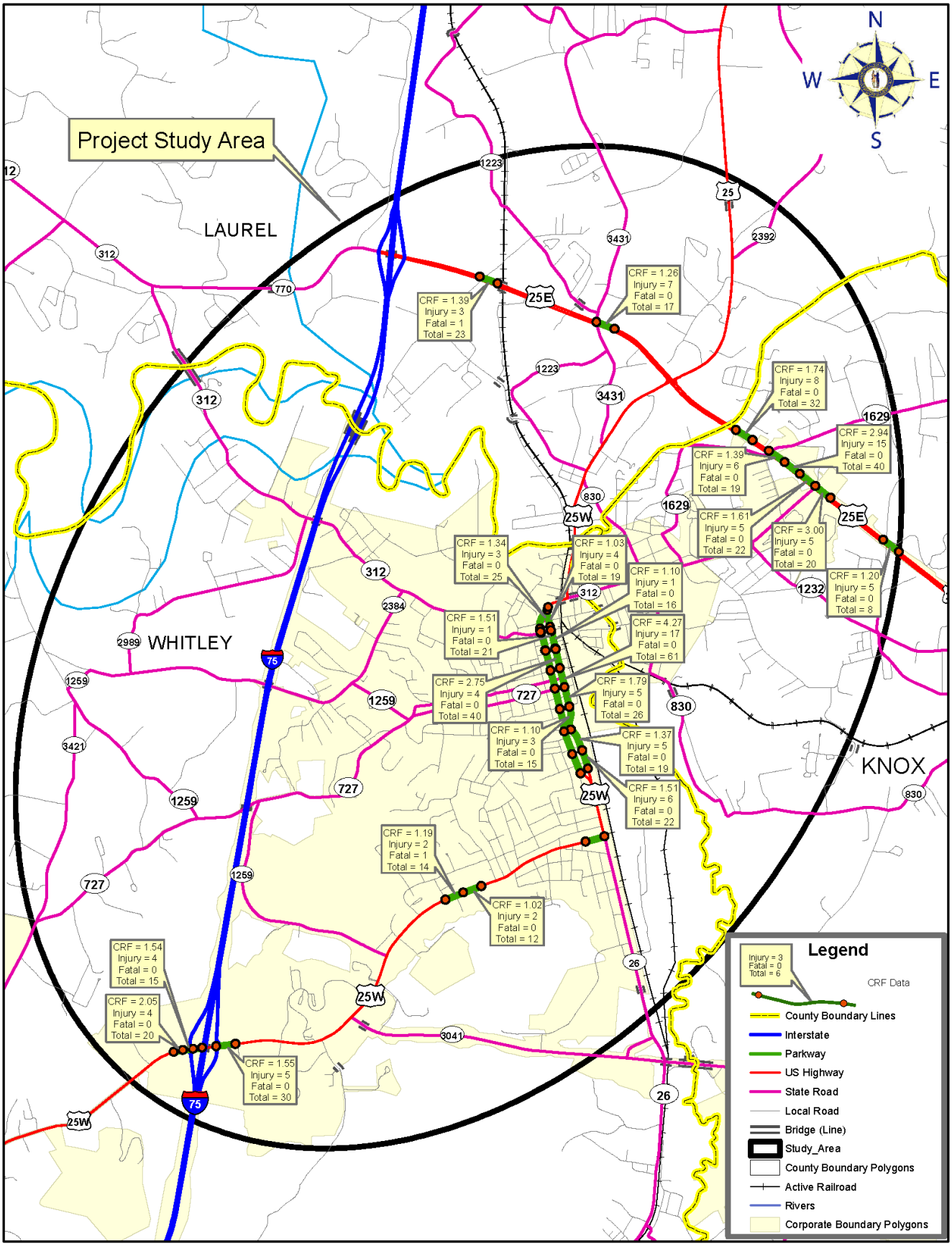


Figure II.B-10 Crash Rates for High Collision 0.10 Mile Spots

CORBIN S.U.A. - CRASH DATA FOR 0.30 MILE SPOTS																				
COUNTY NAME	ROUTE	BEGIN MP	END MP	ADT	Crashes				CRF	Collision Type								% in Daylight	% in Dry	Most Frequent "Mannor of Collision"
				2009	PDO*	Fatal	Injury	Total		Angle	Rear	Head on	Backing	Side	Opposing Left Turn	Sides wipe	Single Vehicle			
US 25																				
Laurel	0025 - 000	0.000	0.300	16,600	42	0	19	61	2.160	18	32	2	2	0	1	2	4	79	77	Rear
	0025 - 000	0.300	0.600	16,600	22	0	9	31	1.098	6	20	0	0	0	0	2	3	94	84	Rear
	0025 - 000	0.700	1.000	16,600	15	1	7	23	1.099	6	14	0	0	0	1	0	2	78	87	Rear
US 25E																				
Knox	0025E - 000	25.100	25.400	18,900	10	0	7	17	1.236	7	1	0	2	0	1	4	2	82	76	Angle
	0025E - 000	25.642	25.942	20,500	66	0	30	96	3.028	54	33	2	1	0	3	3	0	78	75	Angle
	0025E - 000	25.942	26.197	30,700	40	0	13	53	1.202	21	22	1	1	0	3	4	1	75	79	Rear
US 25W																				
Whitley	0025W - 000	29.310	29.610	11,900	26	0	7	33	1.516	8	15	1	2	0	0	5	2	70	79	Rear
	0025W - 000	31.205	31.505	15,600	29	1	7	37	1.377	19	12	2	2	0	0	1	1	92	84	Angle
CRF**	0025W - 000	32.527	32.827	8,190	42	0	14	56	1.792	17	10	1	2	0	1	20	5	98	73	Sideswipe
CRF**	0025W - 000	32.827	33.127	8,190	101	0	26	127	4.095	63	12	0	9	0	0	36	7	87	82	Angle
KY 312																				
Whitley	0312 - 000	1.703	2.003	4,990	13	0	0	13	1.133	3	3	0	2	0	2	1	2	85	77	Angle/Rear
	0312 - 000	2.193	2.493	4,990	12	0	1	13	1.133	8	2	1	1	0	0	1	0	77	62	Angle
Knox	0312 - 000	1.097	1.313	9,480	26	0	11	37	2.021	26	6	1	1	0	1	2	0	86	70	Angle
KY 727																				
Whitley	0727 - 000	4.290	4.580	1,860	20	0	2	22	3.680	14	1	0	0	0	0	2	5	77	77	Angle
KY 830																				
Whitley	0830 - 000	0.000	0.300	2,330	8	0	1	9	1.307	5	2	1	0	0	0	0	1	89	67	Angle
KY 1629																				
Knox	1629 - 000	0.600	0.900	980	6	0	0	6	1.465	4	0	0	0	0	1	0	1	100	17	Angle
	1629 - 000	0.859	1.159	980	6	0	0	6	1.465	6	0	0	0	0	0	0	0	100	50	Angle
	1629 - 000	1.159	1.459	980	4	0	0	4	1.204	2	1	0	1	0	0	0	0	75	75	Angle
KY 3431																				
Laurel	3431 - 000	0.991	1.291	2,920	5	0	2	7	1.123	2	3	0	0	0	0	0	2	86	71	Rear
PDO.*=	Property Damage Only;				Indicates a larger percentage of collision type.															
CRF**=	Critical Rate Factor adjusted to more accurately separate two one-way streets into cardinal (Main St.) vs. non-cardinal (KY Ave.) direction as both are US-25W.																			

Table II.B-2 Crash Details for High Collision 0.30 Mile Spots

CORBIN S.U.A. - CRASH DATA FOR 0.10 MILE SPOTS																					
				ADT	Crashes					Collision Type											
COUNTY NAME	ROUTE	BEGIN MP	END MP	2009	PDO*	Fatal	Injury	Total	CRF	Angle	Rear	Head on	Backing	Side	Opposing Left Turn	Sides wipe	Single Vehicle	% in Daylight	% in Dry	Most Frequent "Mannor of Collision"	
US 25																					
Laurel	0025 - 000	0.000	0.100	16,600	27	0	11	38	3.102	13	20	1	1	0	1	2	0	76	76	Rear	
	0025 - 000	0.100	0.200	16,600	10	0	6	16	1.306	4	8	1	1	0	0	0	2	75	81	Rear	
	0025 - 000	0.500	0.600	16,600	11	0	2	13	1.061	2	10	0	0	0	0	0	1	92	77	Rear	
	0025 - 000	0.800	0.900	16,600	9	0	1	10	1.070	0	8	0	0	0	1	0	1	90	80	Rear	
US 25E																					
Knox	0025E - 000	25.100	25.200	18,900	3	0	5	8	1.201	6	0	0	0	0	1	1	0	88	75	Angle	
	0025E - 000	25.550	25.650	18,900	15	0	5	20	3.002	10	7	0	1	0	0	2	0	70	85	Angle	
	0025E - 000	25.650	25.750	20,500	17	0	5	22	1.620	13	6	1	1	0	0	1	0	73	73	Angle	
	0025E - 000	25.750	25.850	20,500	25	0	15	40	2.945	20	17	0	0	0	2	1	0	80	80	Angle	
	0025E - 000	25.850	25.950	20,500	13	0	6	19	1.399	12	5	1	0	0	1	0	0	74	74	Angle	
	0025E - 000	26.050	26.150	30,700	24	0	8	32	1.749	15	10	0	1	0	2	3	1	75	78	Angle	
Laurel	0025E - 000	0.755	0.855	20,100	10	0	7	17	1.270	8	7	0	0	0	1	1	0	65	88	Angle	
	0025E - 000	1.400	1.500	26,700	19	1	3	23	1.396	6	11	0	0	0	3	3	0	65	78	Rear	
US 25W																					
Whitley	0025W - 000	29.463	29.563	11,900	16	0	4	20	2.058	6	10	0	2	0	0	0	2	75	85	Rear	
	0025W - 000	29.510	29.610	11,900	11	0	4	15	1.544	3	7	1	0	0	0	2	2	73	80	Rear	
	0025W - 000	29.683	29.783	19,500	25	0	5	30	1.555	15	6	1	2	0	0	3	3	87	83	Angle	
	0025W - 000	31.223	31.323	15,600	11	1	2	14	1.194	7	5	1	0	0	0	1	0	93	86	Angle	
	0025W - 000	31.323	31.423	15,600	10	0	2	12	1.024	8	2	1	1	0	0	0	0	92	75	Angle	
	0025W - 000	32.015	32.115	14,700	17	0	0	17	1.512	6	6	0	2	0	0	2	1	88	100	Angle	
CRF**	0025W - 000	32.527	32.627	8,190	16	0	6	22	1.516	7	4	0	0	0	0	9	2	95	73	Sideswipe	
CRF**	0025W - 000	32.627	32.727	8,190	14	0	5	19	1.378	6	3	1	1	0	0	7	1	95	68	Sideswipe	
CRF**	0025W - 000	32.727	32.827	8,190	12	0	3	15	1.103	4	3	0	1	0	1	4	2	93	22	Sideswipe	
CRF**	0025W - 000	32.827	32.927	8,190	21	0	5	26	1.792	16	0	0	2	0	0	6	2	85	85	Angle	
CRF**	0025W - 000	32.927	33.027	8,190	44	0	17	61	4.273	37	8	0	3	0	0	10	3	85	82	Angle	
CRF**	0025W - 000	33.027	33.127	8,190	36	0	4	40	2.757	10	4	0	4	0	0	20	2	90	80	Sideswipe	

Table II.B-3 Crash Details for High Collision 0.10 Mile Spots (Continued-following page)

CORBIN S.U.A. - CRASH DATA FOR 0.10 MILE SPOTS																					
COUNTY NAME	ROUTE	BEGIN MP	END MP	ADT	Crashes				CRF	Collision Type								%in Daylight	%in Dry	Most Frequent "Mannor of Collision"
				2009	PDO*	Fatal	Injury	Total		Angle	Rear	Head on	Backing	Side	Opposing Left Turn	Sides wipe	Single Vehicle			
US 25W (Continued)																				
CRF**	0025W - 000	33.127	33.227	8,190	15	0	1	16	1.103	2	4	0	0	0	0	9	1	94	69	Sideswipe
CRF**	0025W - 000	33.131	33.231	8,190	20	0	1	21	1.516	3	7	0	0	0	0	10	1	95	71	Sideswipe
CRF**	0025W - 000	33.231	33.331	12,600	22	0	3	25	1.347	21	2	0	1	0	0	1	0	96	68	Angle
CRF**	0025W - 000	33.247	33.347	12,600	15	0	4	19	1.036	15	1	0	1	0	0	2	0	95	79	Angle
KY 26																				
Whitley	0026-000	14.219	14.319	7,860	8	0	1	9	1.220	4	2	0	2	0	0	1	0	100	78	Angle
KY 312																				
Whitley	0312 - 000	1.603	1.703	3,640	4	0	1	5	1.087	1	0	0	2	0	0	1	1	100	80	Backing
	0312 - 000	1.703	1.803	4,990	10	0	0	10	1.803	2	3	0	2	0	2	0	1	90	90	Rear
	0312 - 000	2.303	2.403	4,990	5	0	1	6	1.082	4	0	1	0	0	0	1	0	67	67	Rear
Knox	0312 - 000	0.229	0.329	13,900	9	0	2	11	1.017	4	7	0	0	0	0	0	0	91	82	Rear
	0312 - 000	1.097	1.197	9,480	21	0	10	31	3.717	23	4	1	0	0	1	2	0	84	74	Angle
KY 727																				
Whitley	0727 - 000	3.380	3.480	3,780	4	1	0	5	1.064	0	0	0	0	0	0	1	4	60	60	Single Vehicle
	0727 - 000	4.290	4.390	1,860	5	0	0	5	1.573	1	0	0	0	0	0	1	3	60	60	Single Vehicle
	0727 - 000	4.390	4.490	1,860	9	0	1	10	3.146	8	0	0	0	0	0	1	1	80	90	Angle
	0727 - 000	4.480	4.580	1,860	7	0	1	8	2.517	6	1	0	0	0	0	0	1	75	88	Angle
	0830 - 000	1.940	2.040	879	2	0	0	2	1.075	1	0	0	0	0	0	1	0	100	100	Angle/Sides wipe
KY 1629																				
Knox	1629 - 000	0.820	0.920	980	3	0	0	3	1.294	2	0	0	0	0	0	0	1	100	33	Angle
	1629 - 000	1.059	1.159	980	4	0	0	4	1.725	4	0	0	0	0	0	0	0	100	100	Angle
	1629 - 000	1.159	1.259	980	3	0	0	3	1.540	1	1	0	1	0	0	0	0	100	33	Angle/Rear/ Backing
KY 3431																				
Laurel	3431 - 000	0.820	0.455	5,020	7	0	1	8	1.437	1	1	2	0	0	0	1	3	88	13	Single Vehicle
	3431 - 000	1.059	0.700	3,377	12	0	0	12	2.725	4	5	0	1	0	0	0	2	67	83	Rear
	3431 - 000	1.159	1.220	2,920	3	0	1	4	1.219	1	1	0	0	0	0	0	2	100	75	Single Vehicle

PDO.*= Property Damage Only; Indicates a larger percentage of collision type.

CRF**= Critical Rate Factor adjusted to more accurately separate two one-way streets into cardinal (Main St.) vs. non-cardinal (KY Ave.) direction as both are US-25W.

Table II.B-3 Crash Details for High Collision 0.10 Mile Spots (End of Table)

The majority of collisions in both the 0.30 mile spots and 0.10 mile spots occurred during daylight conditions. There were forty-two out of a total of forty-five 0.10 mile spot locations where the majority of the crashes took place under dry weather conditions. There were also only two 0.30 mile spot locations out of a total of nineteen that occurred under wet weather conditions.

As shown in **Table II.B-2**, several statistical observations were made as follows within the CRF 0.30 mile spot locations:

- The vast majority of high collision locations were also "Angle" type collisions to make up a little over 44% of all crashes.
- The second most frequent manner of collision was the "Rear End" type to make up 29% of all collisions.
- The remaining collisions consisted of nearly 13% being of a "Sideswipe" type, followed by nearly 6% being of a "Single Vehicle" type collision.
- The balance of these collisions were 4% being of a "Backing" type with nearly an even split of around 2% for both the "Opposing Left Turn" and "Head-On" type of collisions.

Of the collisions at the CRF 0.10 mile spot locations shown in **Table II.B-3**, some statistical observations were identified as follows:

- The majority of collisions making up 45% were considered "Angle" crashes
- The second most frequent manner of collision was the "Rear End" type to make up 27% of all collisions.
- The remaining collisions consisted of approximately 14% being "Sideswipe", 6% as "Single Vehicle", 4% as "Backing" and both the "Opposing Left Turn" and "Head-on" were around 2%, respectively.
- Both the 0.600 to 0.700 mile point spot on KY 3431 and the 1.059 to 1.159 mile point spot on KY 1629 include their intersection with that of US 25E.

Upon further review of the crash data and existing conditions, a few observations were noted below.

- There were two segments with the majority of collisions occurring during wet weather conditions. These two segments are located on KY 3431 between mile points 0.000 and 0.650 and on KY 1629 between mile points 0.196 and 1.128. Upon further review of the KY 3431 segment, 24 collisions occurred of which 13 occurred during wet weather conditions. Of these wet weather collisions, all 13 of these individual crash reports were reviewed to determine eight of these crash reports stating "Slick" or "sliding" and "wet roadway" terms being used to describe the conditions within these reports at the time of the collision. Individual crash

reports were also reviewed for the seven wet weather collisions out of the 10 total crashes reported along the KY 1629 segment. Of these seven wet weather crash reports, three reported sight distance issues and two noted "slick" roadway conditions, while the last two were associated with human error. Both routes also have narrow lanes with little to no shoulders.

- There were a total of four segments with high CRFs and fatalities as previously shown in **Table II.B-1** that occurred along US 25, US 25 W, KY 26 and KY 3431. One such fatality along KY 3431 was noted above as being an angle type collision that occurred under wet weather conditions. The three remaining fatalities, however, occurred during daylight, in dry weather and were considered angle type collisions.

- The high crash rates along US 25 and US 25 E may be attributed in part to high traffic volumes and grade changes throughout both routes. US 25 and US 25 E are also a part of the National Truck Network and carry a larger percentage of truck traffic. Both of these corridors have the added concern of an increased percentage of rear ends when compared to other routes within this study area. This may in part be influenced by the significant number of access points and median crossovers with a limited number of designated left turn lanes. Several intersections along US 25 E and more specifically the intersection of US 25 E and US 25 have been reviewed in the past by the KYTC District Office. Low cost safety improvements have been implemented and recommended by the District Office at these locations. Photographs of these routes are provided in **Appendix D** and shown in Section V, "Recommendations" in individual project summary sheets.

- Another high traffic volume corridor with high crash rates is along US 25 W. US 25 W is unique as the typical section of this roadway changes throughout the study area and with those changes come different driving conditions. To begin, US 25 W runs from the southwestern corner of the study area east/west as a two-way street, then picks up a Two-Way Left Turn Lane (TWLTL) near the interchange with Interstate 75 until it intersects with KY 26. US 25 W then moves north/south as a two-way street shortly before separating into two separate one-way street couplets. The couplets are identified as Main Street (Northbound) and South Kentucky Avenue (Southbound) and extend from mile point 32.427 to mile point 33.347. These couplets are separated by an entire block with the majority of intersections at each couplet being signalized. US 25 W then converges again north of these couplets to become an undivided two-way street, which ends at the intersection with US 25 E and US 25. This route was

identified to contain both high segment and spot crash locations as shown in the previous Tables and Figures. With this roadway being separated into couplets, crashes were divided up to better represent the two separate street couplets as the majority of individual crash reports did not clearly indicate which intersection or couplet street the accident was referencing. The coordinates provided for these crashes were not always clear as to the crash locations. Many of the crash coordinates were located outside of an intersection, on another side street or between the two couplet streets even though the collisions were noted as occurring on US 25 W. Given the nature of these crashes along this section of roadway, a few generalities were identified. Along the couplet sections of roadway identified as Main Street and South Kentucky Avenue, there were more crashes than at any other segment of roadway within the study area. Also, there were a much larger percentage of sideswipes and single vehicle accidents of which the majority was directly related to the adjacent parallel parking located along both sides of Main Street and South Kentucky Avenue. As with most roadways reviewed throughout the study area, the bulk of angle collisions along this section of roadway occurred at the intersections. Photographs of US 25 W are provided in **Appendix D** and shown in Section V, "Recommendations" in individual project summary sheets.

Further analysis of crash data was performed at certain locations throughout the study area to develop recommendations for improvements at those locations. In some cases, crash reports from the Kentucky State Police database were examined further to identify crash patterns. A project team was created to help identify those areas and later prioritized these recommendations with the support of local stakeholders. These analyses are discussed in Section V, "Recommendations".

III. Project Team, Advisory Committee & Public Involvement

A. KYTC Project Team

In an effort to capitalize upon local knowledge and experience, a project team was developed that consisted of KYTC Central Office, KYTC District 11 and Cumberland Valley Area Development District (CVADD) representatives. There were a total of two project team meetings, each of which was documented with meeting minutes and are included in **Appendix E**.

An initial interdisciplinary project team meeting was held on December 14, 2009, at Corbin City Hall. Those in attendance at this meeting are listed below in **Table III.A-1**. At this meeting, members were introduced, the study type was

discussed along with the associated scope, purpose and anticipated schedule. The group went over the following items as they pertain to the identified Corbin study area: general existing conditions, projects from the FY 2010-2012 recommended highway plan projects, Unscheduled Needs List (UNL) identified with a Project Identification Form (PIF), public involvement, and tentative schedule for the study. Highway Safety Improvement Projects (HSIP) were also discussed at this time along with the three category types to consider.

Initial Project Team Meeting, December 14, 2009.	
Name	Representing
Christopher Harris	KYTC-D11 Engineering Support
Daniel Hoffman	KYTC-D11 Project Delivery & Preservation
Joel Holcomb	KYTC-D11 Engineering Support
Phillip Howard	KYTC-D11 Project Delivery & Preservation
Adam Knuckles	KYTC-D11 Planning
Joseph E. Mosley	KYTC-D11 Project Development
Quentin Smith	KYTC-D11 Project Delivery & Preservation
Lesli Gill	Cumberland Valley ADD
Jill Asher	KYTC-CO Planning
Sreenu Gutti	KYTC-CO Planning
Tonya Higdon	KYTC-CO Planning

Table III.A-1: Initial Project Team Meeting Attendees

A second project team meeting was held on June 23, 2010, and each of the projects identified through the initial project team meeting, first advisory committee meeting and questionnaire survey were reviewed. **Table III.A-2** lists those members in attendance at this meeting. The three basic project categories of KYTC Long-Term, KYTC Short-Term and Local projects were reviewed again. Each identified project was reviewed in detail and categorized due to project ownership and responsibility. A presentation of this information at the second Advisory Committee meeting was discussed.

Second Project Team Meeting, June 23, 2010	
Name	Representing
Amy Collins	KYTC-D11 Administrative
David Fields	KYTC-D11 Design
Dean Croft	KYTC-D11 Environmental Coordinator
Daniel Hoffman	KYTC-D11 Project Delivery & Preservation
Joel Holcomb	KYTC-D11 Engineering Support
Jonathan Dobson	KYTC-D11 Public Information Officer
Joseph E. Mosley	KYTC-D11 Project Development
Taylor Davis	KYTC-D11 Design
Phillip Howard	KYTC-D11 Project Delivery & Preservation
Quentin Smith	KYTC-D11 Project Delivery & Preservation
Wes Hyttle	KYTC-D11 Design
Lesli Gill	Cumberland Valley ADD
Steve Ross	KYTC-CO Planning
Tonya Higdon	KYTC-CO Planning

Table III.A-2: Second Project Team Meeting Attendees

B. Advisory Committee

The Advisory Committee for this project consisted primarily of elected officials and local stakeholders. They met on two separate occasions to help identify and prioritize projects within this study area. Both meetings were held at Corbin City Hall and were documented with meeting minutes that are included in **Appendix F**.

The initial meeting with the Corbin local officials and stakeholders was conducted on February 9, 2010. Those in attendance at this first meeting are shown in **Table III.B-1**. The meeting began with committee member introductions and discussion on SUA studies. The scope and purpose of this study as well as categorization into long-term, short-term and local projects were also explained to the group. The committee reviewed current data on both state and federal roadway systems within the study area. Committee members were also made aware of a KYTC web based questionnaire and given the link to share with the public in hopes of gaining their input.

Initial Advisory Committee Meeting, February 9, 2010.	
Name	Representing
Willard McBurney	City of Corbin, Mayor
Bill Cannon	City of Corbin, City Manager
Dennis Loma	City of Corbin
David Myers	Whitley County Magistrate District 2
Jeffrey Book	Laurel County Magistrate Fiscal Court
Ron Baker	Laurel County Magistrate District 2
Kelly L. Harrison	Whitley County E.M.S.
Sheila Norman	Whitley County E.M.S.
Jimmy Bridges	Ambulance Incorporated of Laurel County
Terry McNees	Pepsi-Cola Company
David Fields	KYTC-D11 Engineering Design
Dean Croft	KYTC-D11 Environmental Coordinator
Joseph E. Mosley	KYTC-D11 Project Development
Quentin Smith	KYTC-D11 Project Delivery & Preservation
Wesley Hyttle	KYTC-D11 Engineering Design
Lesli Gill	Cumberland Valley A.D.D.
Jill Asher	KYTC-CO Planning
Tonya Higdon	KYTC-CO Planning

Table III.B-1: Initial Advisory Committee Meeting Attendees

The attendees were divided into three separate groups, each with a facilitator from the KYTC. The groups received large, detailed mapping of the study area to identify and describe those areas in need of transportation improvements. A preliminary list of concerns was developed by the groups during this meeting that identified potential roadway issues.

The second Advisory Committee meeting was held on January 25, 2011 at Corbin City Hall. Those in attendance at this meeting are listed in **Table III.B-2**. The primary purpose of this meeting was to prioritize recommended improvements identified into long-term, short-term and local project by the project team. Further information was provided by the committee regarding the data and cost estimate for each improvement. Long-term and short-term projects on state-maintained roads were ranked. The committee prioritized local projects as well. Those in attendance were reminded that local projects are the responsibility of the City of Corbin and/or the County in which the project resides (Whitley, Knox or Laurel Counties).

Second Advisory Committee Meeting, January 25, 2011	
Name	Representing
Willard McBurney	City of Corbin, Mayor
Bill Cannon	City of Corbin, City Manager
Ed Tye	City of Corbin
Darrell Tremaine	Corbin Independent School District
Bruce Carpenter	Corbin Economic Development Authority
David Westerfield	Laurel County Fiscal Court
Kelly Sutton	Laurel County Fiscal Court
Pat White, Jr.	Whitley County Fiscal Court
Kelly L. Harrison	Whitley County E.M.S.
Brandon Peters	KYTC-D11 Planning
Chris Harris	KYTC-D11 Traffic
Daniel Hoffman	KYTC-D11 Project Delivery & Preservation
David Fields	KYTC-D11 Engineering Design
Dean Croft	KYTC-D11 Environmental Coordinator
Joel Holcomb	KYTC-D11 Engineering Support
Jonathan Dobson	KYTC-D11 Public Information Officer
Joseph E. Mosley	KYTC-D11 Project Development
Maureen Baird	KYTC-D11 Project Delivery & Preservation
Quentin Smith	KYTC-D11 Project Delivery & Preservation
Lesli Gill	Cumberland Valley A.D.D.
Steve Ross	KYTC-CO Planning
Jill Asher	KYTC-CO Planning
Shane Tucker	KYTC-CO Planning
Tonya Higdon	KYTC-CO Planning

Table III.B-2: Second Advisory Committee Meeting Attendees

C. Public Involvement

Public Involvement for this project consisted of not only Advisory Committee meetings, but a web-based questionnaire was created to be completed voluntarily by residents. This questionnaire was developed with a web-based link and automatically submitted to KYTC upon completion. Stakeholders were given this link and the local newspaper shared this link with the public.

Appendix G contains a detailed copy of the questionnaire that was open to the public from February 9, 2010 through March 15, 2010. This survey contained a series of questions to help identify some areas in and around the City of Corbin that were perceived as problems by local residents. There were a total of twenty-three completed surveys submitted by area residents. These individual responses are included in **Appendix H**.

IV. Environmental Overview

A. Environmental Footprint

At the beginning of this project a brief environmental footprint review was performed. This was completed in an effort to immediately identify places and/or areas of significant interest in order to minimize future impacts upon the environment. These included but were not limited to historical sites, areas of cultural value, flood plains, wetlands, sinkholes, and landfills. The information collected within the Corbin SUA study is displayed graphically in **Appendix I.**

B. Environmental Justice

The *Environmental Justice Report* included in **Appendix J** was prepared by the Cumberland Valley Area Development District (CVADD) to review demographics of the community within the Corbin Small Urban Area (SUA). There were seventeen block groups within this study area and all within six census tracks to make up a portion of three separate counties. These are listed below:

- Knox County:
  Census Tract: 9904 – Block Group 1, 3, 4, 5, 6
- Laurel County:
  Census Tract: 9710 – Block Group 3, 4, 5
  Census Tract: 9711 – Block Group 4
- Whitley County:
  Census Tract: 9801 – Block Group 1, 2, 3
  Census Tract: 9802 – Block Group 1, 2
  Census Tract: 9803 – Block Group 1, 3, 4

CVADD collected and reviewed data obtained by the U.S. Census Bureau for income, age, race; had discussions with local officials and made field observations. Upon completion of the review, a few small concentrations of populations over 65 years of age within the study area were identified. These concentrations would not be considered adversely affected by improvements within the identified study area.

Minority population analysis also revealed there were several block groups identified with either significant or minor concentrations. *The Environmental Justice Report* displays mapping of the more significant minority concentrations. Section 6.0 of this report discusses this subject in a narrative analysis and concluded that the concentrations identified would not be adversely affected by improvements.

Another area reviewed was that of poverty level populations. This study area showed an elevated level of population below that of the state and national levels. However, all three of these economically depressed counties exhibit poverty levels not uncommon for this area.

V. Recommendations

A number of transportation issues within the study area were identified through the study process. The project team carefully considered all the available project information received through data analysis, project team meetings, advisory committee meetings, and public comments received from the web based questionnaires. The project team then identified alternatives to prioritize or to eliminate from further consideration. Areas contemplated in the decision making process included, constructability, cost, safety impacts, impacts to the environment, public input and capacity.

The project identification process required separation into three categories that included: long-term, short-term and local projects. These projects were placed into one of these categories based upon project scope and party responsibility. These categories are defined as follows:

- **KYTC Long-Term** – These are potential state and federal roadway projects of the scale that would likely need to be funded in the Six Year State Highway Plan in order to be addressed. These projects are listed in the following **Table V-1,** and a one page description of each project with associated photographs and mapping is provided beginning on page 38.

- **KYTC Short-Term** – These are potential state and federal roadway projects of this type that can be executed fairly quickly by the KYTC District Office if needed and if funding is available. These projects are listed in the following **Table V-2,** and a one page description of each project with photographs and mapping is provided beginning on page 52.

- **Local** – city and county roadway projects that would be the sole responsibility of the city of Corbin, and/or Whitley, Laurel or Knox County to implement. A private developer may also take on this responsibility at the discretion of city and/or county entities. These projects are listed in the following **Table V-3,** and a one page description of each city/county project with photographs and mapping is provided beginning on page 66.

Those projects recommended by the Advisory Committee and Project Team are also identified within the **Table V-1 through Table V-3,** shown in detail in the following project summary sheets. These projects were prioritized by the Advisory Committee but ultimately ranked by the Project Team with consideration of the Advisory Committee prioritization. All potential projects are presented graphically within the study area in **Appendix K.**

CORBIN SUA-PRIORITIZING PROPOSED PROJECTS KYTC LONG TERM PROJECTS					
Ranking	**Identification No. (ID) (Not Ranking)**	**Project Description**	**Length (Miles)**	**Type**	**Total Cost**
1	4LT	US 25W & KY 26 Intersection & Roadway Improvements between MP 31.223 & 32.525	1.300	Traffic Study with Model/ Reconstruction	$ 8,215,000
2	1LT	US 25W Improvements at I-75 between MP 29.200 and MP 29.610	0.410	Reconstruction	$ 1,300,000
3	2LT	US 25W Improvements from MP 29.683 to 30.600 Including Bacon Creek & Hospital Intersections	0.808	Traffic Study with Model/ Access Management	$ 120,000
4	13LT	US 25 & US 25 E Intersection Improvements	0.100	Traffic Study with Model/ Reconstruction	$18,830,000
5	5LT	KY 727 & KY 3421 & Black Diamond Intersection Improvements	0.250	Reconstruction	$ 625,000
6	3LT	US 25W and Local road (7th Street/Meadow Lane) Intersection Improvements	0.500	Reconstruction	$ 590,000
7	8LT	KY 3431 Improvements MP 0.000 to MP 0.650 including US 25W Intersection	0.650	Reconstruction	$ 2,500,000
8	6LT	KY 727 Improvements from MP 1.439 to MP 4.580	3.141	Reconstruction/ Maintenance	$ 625,000
9	10LT	US 25 Improvements from MP 0.000 to MP 1.210 including KY 2392 Intersection	1.210	Reconstruction	$ 6,231,000
10	11LT	KY 1629 from MP 0.196 to MP 1.162 including N. Commonwealth Ave. Intersection	0.932	Reconstruction	$ 450,000
11	9LT	KY 3431 Improvements from MP 0.650 to MP 1.300	0.650	Access Management/ Reconstruction	$ 725,000
12	7LT	KY 312 Improvements in Whitley County between MP 1.600 & MP 2.542	0.842	Drainage Study/ Reconstruction	$ 3,000,000
13	12LT	KY 312 Improvements in Knox County between MP 1.097 & MP 1.313	0.216	Reconstruction	$ 1,250,000

Table V-1: KYTC Long-Term Projects

CORBIN SUA-PRIORITIZING PROPOSED PROJECTS KYTC SHORT TERM PROJECTS					
Ranking	**Identification No. (ID) (Not Ranking)**	**Project Description**	**Length (Miles)**	**Type**	**Total Cost**
1	4S	US 25W and KY 26 Intersection Improvements- Signal Timing Review	N/A	Engineering Support	$ 10,000
2	1S	US 25W Improvements from MP 29.792 to 30.6 Including Bacon Creek & Hospital Intersections	0.808	Engineering Support/ Signal Warrant Analysis	$ 60,000
3	5S	US 25W Improvements along Main St. from MP 32.525 to MP 33.278	0.753	Reconstruction/ Maintenance	$ 55,000
4	2S	KY 1259 Improvements in Whitley County from MP 0.000 to MP 1.315	1.315	Maintenance	$ 700,000
5	3S	US 25W and Local road (7th Street/Meadow Lane) Intersection Improvements	0.100	Reconstruction/ Maintenance	$ 565,000
6	6S	US 25W & KY 312 Intersection Improvements	0.100	Engineering Support/ Maintenance	$ 100,000
7	8S	KY 3431 and US 25W Intersection Improvement	0.250	Access Management/ Reconstruction	$ 600,000
8	9S	US 25E at KY 3431 Intersection Improvements	N/A	Reconstruction/ Engineering Support	$ 725,000
9	7S	KY 830/Beatty Ave. & Engineering St. Intersection Improvements	N/A	Engineering Support	$ 10,000
10	12S	US 25E Improvements in Knox County between MP 25.100 to MP 26.197 - Add Turn Lanes	1.097	Access Management	$ 10,000
	10S	US 25E and KY 1629 Intersection Improvements	N/A HSIP Funded PROJECT	Engineering Support	N/A HSIP Funded PROJECT
	11S	KY 1629 and Commonwealth RD Intersection Improvements	N/A HSIP Funded PROJECT	Engineering Support	N/A HSIP Funded PROJECT

HSIP = Highway Safety Improvement Program

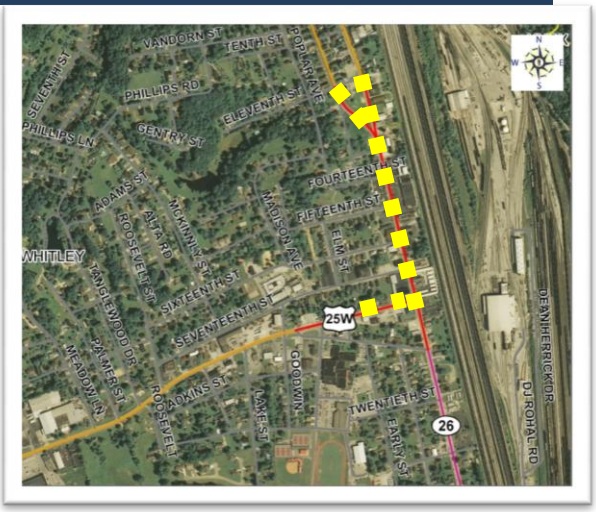
Table V-2: KYTC Short-Term Projects

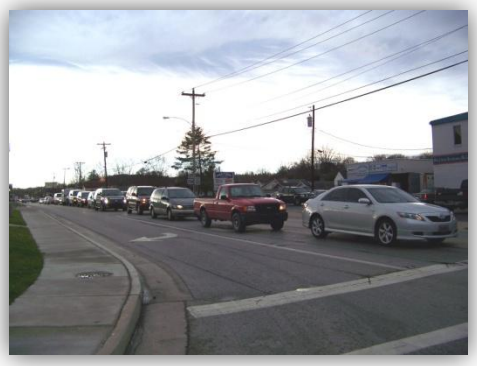
CORBIN SUA-PRIORITIZING PROPOSED PROJECTS LOCAL PROJECTS					
Ranking	**Identification No. (ID) (Not Ranking)**	**Project Description**	**Length (Miles)**	**Type**	**Total Cost**
1	2L	Corbin Center Drive Improvements	0.4	Reconstruction	$ 450,000
2	1L	Black Diamond Road Improvements		Stripping	$ 5,000.00

Table V-3: Local Projects

A. KYTC Long-Term Projects

KYTC Long-Term





US 25W backup-northbound left turn lane at KY 26 Int.

US 25W at Int. with US 25W & KY 26, looking north

US 25W north of Int. with US 25W & KY26, looking north

US 25W & KY 26 Intersection & Roadway Improvements between MP 31.223 & 32.525

Background: Three schools and considerable commercial development are significant traffic generators in this area. US 25W is the main north-south corridor connecting southwest Corbin to downtown. A portion of US 25W is also known as Main Street and is a vital part of downtown Corbin. The north leg of this intersection is the start of a 0.30 mile bottle neck along US 25W before it diverges into one way streets just north of 14th Street.
US 25W is a part of the Coal Haul Highway System.

Existing Conditions and Issues:

- ADT > 20,000 on US 25W & ~8,000 on KY 26
- Critical Rate Factor (CRF) > 1 on US 26 & US 25W (from MP 31.223-32.525)
- Adequacy Rating < 15th percentile on US 25W
- Level of Service (LOS) = D (2009) on US 25W (from MP 31.223-32.427)

Proposed Project: A long-term traffic study with forecast and model are recommended at this location to help identify the best alignment to provide congestion relief and account for environmental concerns including historical factors. If feasible, one option would be to provide one-way couplets on US 25W/Main Street between 11th Street and 14th Street as a continuation of the one-way street system. Another option considered here (The cost estimate is based on this option.) would be to widen US 25W (North leg) to add two through lanes in each direction and a TWLTL in the middle. Also, a second left turn lane from US 25W (West leg) onto US 25W (North leg) (also included in the cost estimate) would help relieve congestion backups on US 25W at the KY 26 Intersection. These improvements would require purchasing right of way and relocating utilities.

Project Type: Traffic Study/Reconstruction

Project: 4LT; Ranking: #1

Planning Cost Estimate:

Design:	*$750,000*
ROW:	*$2,500,000*
Utility:	*$965,000*
Construction:	*$4,000,000*
Total:	***$8,215,000***

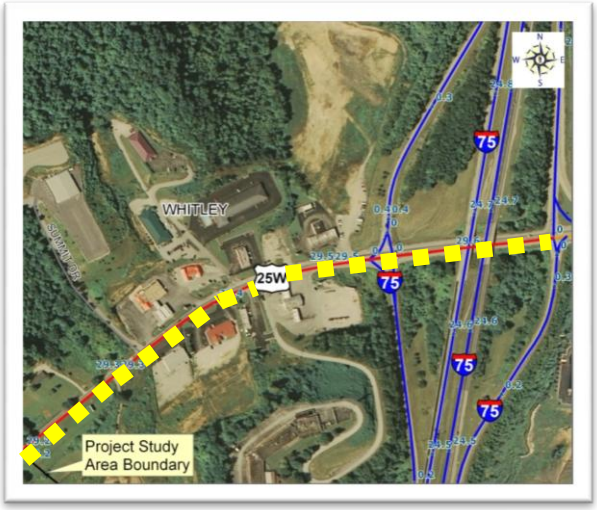
Notes:

_____

_____

_____

KYTC Long-Term



US 25W at mile point 29.5, looking west.

US 25W just west of Interstate 75, looking northwest

US 25W at mile point 29.5, looking east upon Interstate 75

US 25W Improvements at Interstate 75 between mile points 29.200-29.610

Background: Several commercial developments exist along this portion of US 25W. There are also several other traffic generators in the area. A local hospital, a New Regional Arena/ Convention Center and other commercial developments are all located on the east side of Interstate 75 along US 25W. Congestion at times contributes to traffic backs up on the interstate ramps. A new school on KY 727 also contributes to the increased traffic at this location. US 25W is utilized as the main east/west access to and from the southern portion of downtown Corbin. A similar concern was recently addressed at the Interstate 75 and KY 770 interchange in Corbin. This route is a part of the Coal Haul Highway Network.

Existing Conditions and Issues:

- ADT ~ 15,000 on US 25W
- Critical Rate Factor (CRF) >1 (from MP 29.310-29.610)
- Adequacy Rating < 4th percentile (from MP 29.429-29.610)
- Volume/Service Flow Ratio > 0.87 (from MP 29.429-29.610)
- Lane Width < 11 feet (from MP 29.200-29.551)

Proposed Project: Provide access management, turn lanes and a signalized intersection at the access road located near mile point 29.400. Construct an additional eastbound through lane under the Interstate 75 bridge and US 25W would be widened to four lanes from Interstate 75 west before tapering back to two lanes outside the project study area near mile point 29.200. This project was incorporated into the *FY 2012-FY2018 Highway Plan* under Project Number 11-186.00. This project is described as follows: Major Widening, address congestion, freight movement, and access along 25W from KY 727 to KY 3041.

Project Type: Reconstruction

Project: 1LT; Ranking #2

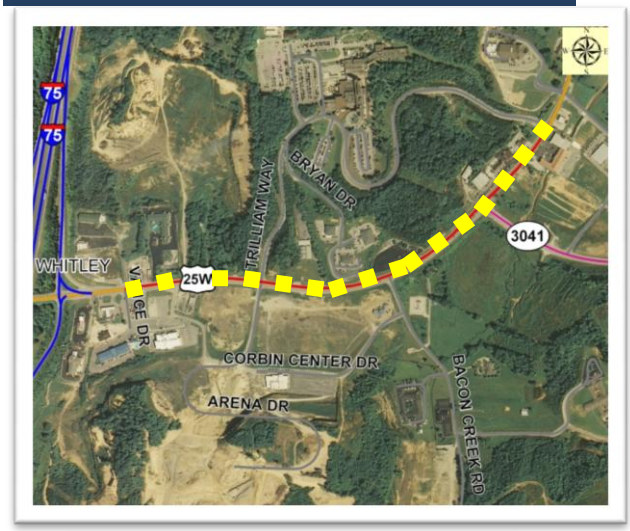
Planning Cost Estimate:

Design:	*$150,000*
ROW:	*$200,000*
Utility:	*$150,000*
Construction:	*$800,000*
Total:	***$1,300,000****

Notes:

**This preliminary cost estimate was developed at the beginning of this study & does not reflect the Highway Plan Project # 11-186.00 cost estimate.*

KYTC Long-Term



Looking West-Corbin Center Dr. & US25W at MP 30.0-30.2

US 25W at Theatre Entrance with multiple access points

Arena Dr. at US25W Int., looking north on Hospital Ent.

US 25W from MP 29.683 to 30.600 including Bacon Creek & Hospital Intersections

Background: The Hospital entrance (Trilliam Way-West) is located at the first main intersection east of Interstate 75 on the north side of US 25W. The entrance to the new Regional Arena/Convention Center is located at this same intersection on the south side of US 25W. Police direct traffic during events to help split flow at this intersection and Bacon Creek Road. A parallel access road known as Corbin Center Drive was privately developed on the south side of US 25W behind commercial businesses. Access management has become a concern with these added traffic generators as well as the possible need for signalized intersections at Trilliam Way-West and/or Bacon Creek Rd. Traffic backs up on the Interstate 75 ramps during Regional Arena/Convention Center events. Signal warrant analysis is currently being performed at the Trilliam Way-West & Arena Road intersection. Another signal analysis may be performed at the Bacon Creek Road intersection as part of the short-term phase of improvements at this location.

US 25W and KY 3041 (Bypass) are a part of the Coal Haul Highway Network.

Existing Conditions and Issues:

- ADT~ 20,000 on US 25W (between Interstate 75 & KY 3041)
- Segments and spots with Critical Rate Factor (CRF) > 1
- Level of Service (LOS)= E (2009) US 25W (from MP 30.425-30.595)

Proposed Project: A long-term traffic forecast is needed to determine the best approach in addressing access management concerns. This data could also be input into a model to confirm the recommended approach. Directional islands would be one option considered for construction along this portion of US 25W and would require motorist to make right-in and right-out turns only at all entrances along US 25W with the exception of signalized intersections. This project is incorporated into the FY 2012-FY 2018 Highway Plan Project number 11-186.00. The description of this project is as follows: Major Widening, address congestion, freight movement, and access along 25W from KY 727 to KY 3041.

Project Type: Traffic Study/Access Management

Project: 2LT; Ranking #3

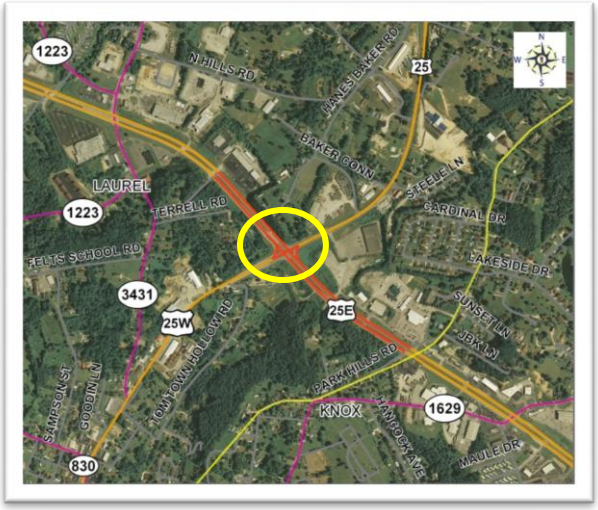
Planning Cost Estimate:

Design:	*$10,000*
ROW:	*$0,000*
Utility:	*$10,000*
Construction:	*$100,000*
Total:	***$120,000****

Notes:

*This preliminary cost estimate was developed at the beginning of this study & does not reflect the Highway Plan Project # 11-186.00 Cost Estimate.

KYTC Long-Term



US 25 & US 25E Intersection at south leg, looking north

US 25 & US 25E Intersection at south leg, looking east

from US 25 & US 25 E Intersection, looking north

US25 & US 25E Intersection Improvements

Background: There is a high incident of segment and spot collisions in and around the intersection of US 25 & US 25E. Over 50% of these collisions are rear end with 25% being angle collisions. The majority of these collisions are occurring on the north leg of the intersection at US 25. High traffic volumes and grade changes have contributed to the higher rate of accidents. Both US 25 & US 25 E Roadways are Urban Principal Arterials. US 25 & US 25E are a part of the Coal Haul Highway System, while US 25 E is also a part of the National Truck Network (NN).

Existing Conditions and Issues:

- ADT > 30,000 on US 25E (2009) & 40,700 by 2035 with 17,000 on US 25 (2009) & 22,000 by 2035
- Segment and Spot (CRF) > 1 (2.870) on US 25 (North leg) & 0.978 on US 25 E
- Level of Service (LOS) = D on US 25 & US 25 E at this intersection

Proposed Project: The district has evaluated the intersection to study possible upgrades. The district recommends a grade separated interchange to adequately relieve congestion and improve safety. This project is also connected to *FY2012-FY2018 Highway Plan* US 25E Corridor project item number 11-185.00 with the following description: Major Widening to address safety, capacity, and access management on US 25E from Knox/Laurel County Line to KY 770.

Project Type: Reconstruction

Project: 13LT; Ranking #4

Planning Cost Estimate:

Design:	*$ 1,200,000*
ROW:	*$ 4,260,000*
Utility:	*$ 450,000*
Construction:	*$12,920,000*
Total:	***$18,830,000****

Notes:

*This preliminary cost estimate for intersection improvements does not reflect the Highway Plan Project # 11-185.00 cost estimate for corridor improvements.

KYTC Long-Term

KY 727 (east leg) looking west on KY 3421 & Black Diamond Rd Int.

KY 727(west leg) at int. of KY 3421 & Black Diamond Rd

KY 3421(north leg) at int. of KY 727 & Black Diamond Rd

KY 727 & KY 3421 & Black Diamond Road Intersection Improvements

Background: The Corbin Primary School was recently built at this location with two separate access points. The main entrance for the school is located south west of this intersection off of KY 727 at the address 3551 West Fifth Street Road. The School's back entrance is located off of Black Diamond Road. This intersection is now considered one of the busiest by the district due to the added traffic generated by the school. Another concern is the skewed angle at which these roadways intersect.

Existing Conditions and Issues:

- Lane width < 11 feet
- New school traffic creates new safety concerns
- Skewed Intersection

Proposed Project: The tie-in point of KY 3421, at this intersection should be relocated further east along KY 727 to provide KY 3421 a perpendicular tie-in to KY 727, if the data justifies. This relocation should help to minimize intersection confusion and allow for a more desired turn radius.

Project Type: Reconstruction

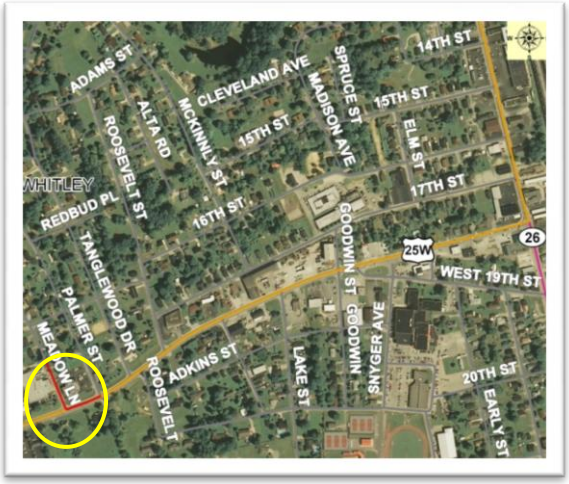
Project: 5LT; Ranking #5

Planning Cost Estimate:

Design:	*$75,000*
ROW:	*$75,000*
Utility:	*$75,000*
Construction:	*$400,000*
Total:	***$625,000***

Notes:

KYTC Long-Term



US 25W & KY 26 Int., looking west on US 25W backup

US 25W & 7th St. /Meadow Lane int. from east leg

US 25W & 7th St. int., looking on 7th St. (Short turn radius)

US 25W and Local Road (Seventh St./Meadow Lane) Intersection Improvements

Background: Pepsi Cola Plant traffic utilizes this intersection and includes large semi-trucks delivering sugar. These driver's have a difficult time turning onto Seventh Street and re-entering US 25W. Residents also use Seventh Street as a cut through to get around the intersection of US 25W and KY 26. There are several commercial developments along this portion of US 25W. Congestion along US 25W from the nearby intersection with KY 26 and US 25W has been known to back up to Seventh Street. Another project located further east at the US 25W and KY 26 intersection is proposed and should positively impact this intersection as well. US 25W is utilized as the main east/west access to and from the southern portion of downtown Corbin. This road is also a part of the Coal Haul Highway System.

Existing Conditions and Issues:

- ADT = 15,600 on US 25W at MP 31.500 (Unknown on 7th St.)
- Critical Rate Factor (CRF) > 1 on US25W (from MP 31.223-31.505)
- Level of Service (LOS) =D (2009)on US25W(from MP 30.595-32.427)
- Lane Width<10ft (7th St.) & 11ft on US25W(from MP 30.595-32.115)

Proposed Project: Improvements to US 25W & KY 26 intersection should address concerns at this intersection. If the data justifies, a designated left turn lane may be added from US 25W (west leg) onto Seventh Street.

Project Type: Reconstruction

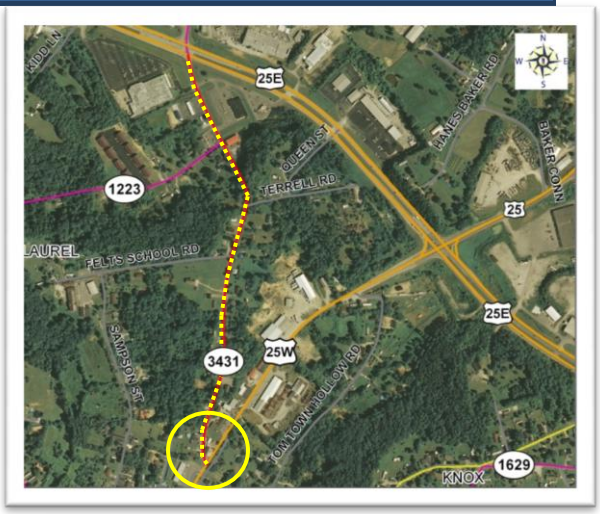
Project: 3LT; Ranking #6

Planning Cost Estimate:

Design:	*$30,000*
ROW:	*$250,000*
Utility:	*$60,000*
Construction:	*$250,000*
Total:	***$590,000***

Notes:

KYTC Long-Term



KY 3431 looking north near US 25W intersection

KY 3431 approaching US 25W "Y" Int., looking south

KY 3431 between MP 0.100 and 0.300, looking south

KY 3431 Improvements from MP 0.000 to 0.650 including US 25W Intersection

Background: This is the location of a high Critical Rate Factor (CRF) segment beginning at the intersection with US 25W and extending north along KY 3431 to just before the intersection with US 25E. Site distance appears to be a significant factor due to the existing building, parking and "Y" intersection connection. US 25W is a part of the Coal Haul Highway System.

Existing Conditions and Issues:

- ADT ~ 14,000 on US 25W & 5,000 on KY 3431
- Lane width < 11ft (9 ft on KY 3431)
- Adequacy Rating < 30th percentile
- Segment & Spot Critical Rate Factor (CRF) > 1
- Volume to Service Flow Ratio > 0.70
- Level of Service (LOS) = D (2009) US 25W from MP 0.365 to 0.545)

Proposed Project: Realign road to allow for a more perpendicular connection to US 25W and widen roadway to 10-11 feet and add 2 foot shoulder. Add a left turn lane from KY 3431 onto east leg of US 25W, if the data justifies. This project will involve Right-of-Way and Utility Impacts.

Project Type: Reconstruction

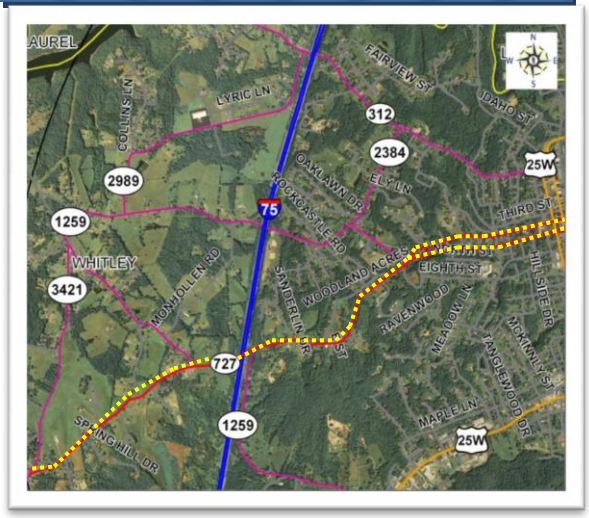
Project: 8LT; Ranking #7

Planning Cost Estimate:

Design:	*$200,000*
ROW:	*$800,000*
Utility:	*$500,000*
Construction:	*$1,000,000*
Total:	***$2,500,000***

Notes:

KYTC Long-Term



KY 727 between MP 4.100 and 4.300, looking east

KY 727 near Woodland from MP 3.300 to 3.500, looking east

KY 727 between MP 4.300 and 4.500, looking east

KY 727 Improvements from mile point 1.439 to 4.580

Background: Increased traffic generated by the new school has contributed to the concerns along this primarily urban minor arterial street. There appear to be site distance issues along the route that include a stone wall and numerous curves. There is also little to no shoulder throughout much of the corridor. An Advisory Committee member requested consideration of guardrail from McFadden Dr. to Woodland Acres. Another member asked for a review of the following intersections with KY 727 to be considered for 4-way stops: Fourth Street, Fifth Street and Poplar Street.

Existing Conditions and Issues:

- Lane width < 11ft (with 8ft lanes in some locations)
- Critical Rate Factor (CRF) > 1 (from MP 3.790 to 4.580)
- Adequacy Rating < 12th percentile (from MP 2.774 to 4.580)
- New School at KY 727 & KY 3421-Added Traffic Generator

Proposed Project: Widen to accommodate a 2 ft shoulder along route, straighten curves and/or increase sight distance by cutting back earthen embankments & vegetation removal. Address drainage issues throughout route and add paint to curb along section from mile point 3.750 to 4.580 to reduce street parking and widen roadway in high CRF area. Stone wall and guardrail concerns are currently being addressed with HSIP funds.

Project Type: Reconstruction & Maintenance

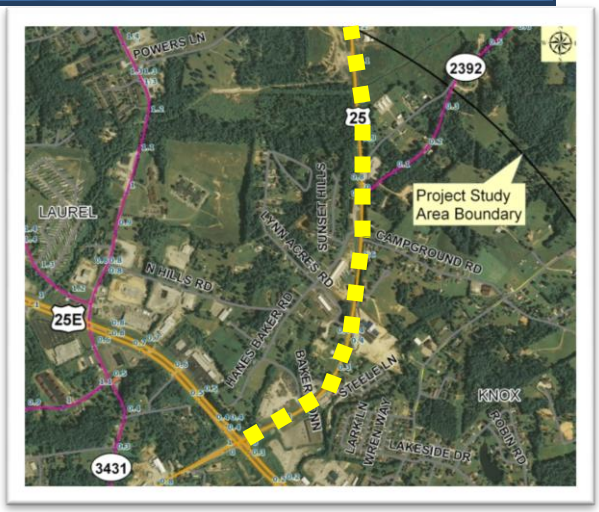
Project: 6LT; Ranking #8

Planning Cost Estimate:

Design:	*$25,000*
ROW:	*$50,000*
Utility:	*$50,000*
Construction:	*$500,000*
Total:	***$625,000***

Notes:

KYTC Long-Term



US 25 at KY-2392 Intersection, looking North

Near US 25 & KY-2392 Int. at MP 0.800, looking South

US 25 at MP 0.220 approaching US 25E, looking South

US25 Improvements from MP 0.000 to MP 1.210 including KY2392 Intersection

Background: There is a high incidence of collisions along this portion of US 25. US 25 is a Rural Major Collector at this location and it runs parallel with Interstate 75 from London until it ends at the intersection with US 25E. This area of concern was noted due to rear ending of vehicles in the passing zone turning left onto KY 2392. US 25 is also a part of the Coal Haul Highway System.

Existing Conditions and Issues:

- ADT = 16,600 (2009) & 22,000-23,000 (2035)
- Volume/Service Flow > 0.70 (between MP 0.677 to MP 1.210)
- Segment and Spot Critical Rate Factor (CRF) > 1
- Level of Service (LOS) = D (2009)
- Truck Percentage = 9.5% to 10.4 %

Proposed Project: Converting a passing lane into two lanes with a TWLTL on US 25 Southbound and adding truck climbing lanes on US 25 Northbound.

Project Type: Reconstruction

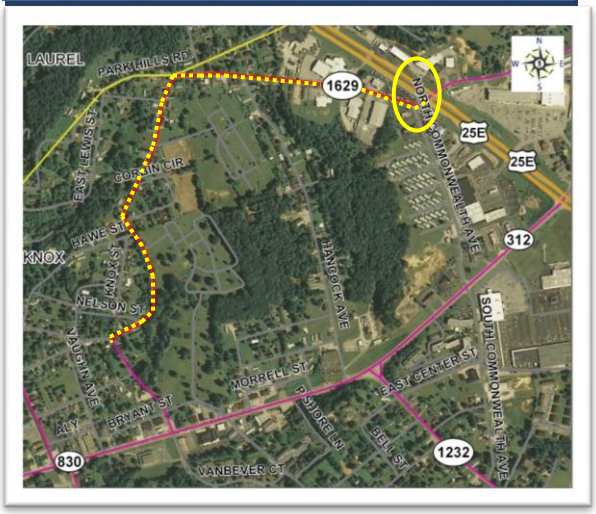
Project: 10LT; Ranking #9

Planning Cost Estimate:

Design:	*$731,000*
ROW:	*$1,000,000*
Utility:	*$500,000*
Construction:	*$4,000,000*
Total:	***$6,231,000***

Notes:
Some recommended marking improvements were made at KY-2392 Intersection prior to the completion of this study.

KYTC Long-Term



KY 1629 at N. Commonwealth Ave. Int., looking north

KY1629 near Int. with Engineers Street, looking west

KY 1629 near N. Commonwealth Ave. Int., looking west

KY 1629 from MP 0.196 to 1.162 including N. Commonwealth Avenue Intersection

Background: This is the location of high crash segments and spots at both the intersection with Commonwealth Avenue as well as along the extended portion of KY 1629 just south of this intersection. Due to the close proximity of this intersection with another project intersection at US 25E & KY 1629, improvements to this other project should positively impact this intersection. North Commonwealth Avenue serves as access to the back entrance of the Kroger Shopping Center as well as a mobile home subdivision. There are two separate access points to Arby's that compound the issue at this location. One entrance is on KY 1629 and the other Arby's entrance is located on N. Commonwealth Rd.
US 25E is a part of the National Truck Network (NN) and Coal Haul Highway System.

Existing Conditions and Issues:

- Lane width < 11 ft (8 ft lanes on KY 1629)
- Segment and spot with Critical Rate Factor (CRF) > 1

Proposed Project: If the data justifies, a left turn lane onto North Commonwealth Avenue would be provided in an attempt to help reduce backup conditions onto the adjacent US 25E intersection by allowing through traffic to continue without interruption through this secondary intersection towards the commercial/industrial developments on KY 1629. This section of KY 1629 should also have 2 ft shoulders added to improve sight distance.

Project Type: Reconstruction

Project: 11LT; Ranking #10

Planning Cost Estimate:

Design:	*$25,000*
ROW:	*$50,000*
Utility:	*$25,000*
Construction:	*$350,000*
Total:	***$450,000***

Notes:

KYTC Long-Term

KY 3431 near KY 1223 & US 25E Int., looking south

KY 3431- looking north on MP 1.000 to 1.200

US 25E/KY 3431 Signalized Int. looking North on KY 3431

KY 3431 Improvements from mile points 0.650 to 1.300

Background: This segment of KY 3431 has a high incidence of collisions from the intersection with US 25E north through the intersection with KY 1223. When entering the intersection of KY 3431 and US 25E from either the north or south leg of KY 3431, sight distance is limited by the vertical curve approach. The adjacent northern intersection of KY 3431 and KY 1223 appears to be affecting traffic as backups from either intersection can affect the other. Access management is also a factor in this area with both a private fueling station entrance and KY 1223 intersection being a few hundred feet or less north of the US 25E and KY 3431 intersection. There is only one north bound lane on KY 3431 from the north leg of the US 25E intersection. Multiple private entrances also exist along this section of roadway with limited visibility.

Existing Conditions and Issues:

- ADT = 30,700 on US 25E & ~3,000 on KY 3431
- Adequacy Rating < 27th percentile (KY 3431)
- Segments and spots with CRF > 1 (KY 3431-spot CRFs between MP 0.600-0.700 and MP 1.000-1.200) 45% Angle & 20% Rear End.

Proposed Project: If the data justifies, a left turn lane on KY 3431 (south leg) onto KY 1223 (west leg) may be provided. This should help reduce backups onto the US 25E intersection as the through traffic will no longer be held up by those turning left onto KY 1223 or turning into gas station entrance. Right in/right out access should be considered at the gas station entrance on KY 3431.

Project Type: Access Management/Reconstruction

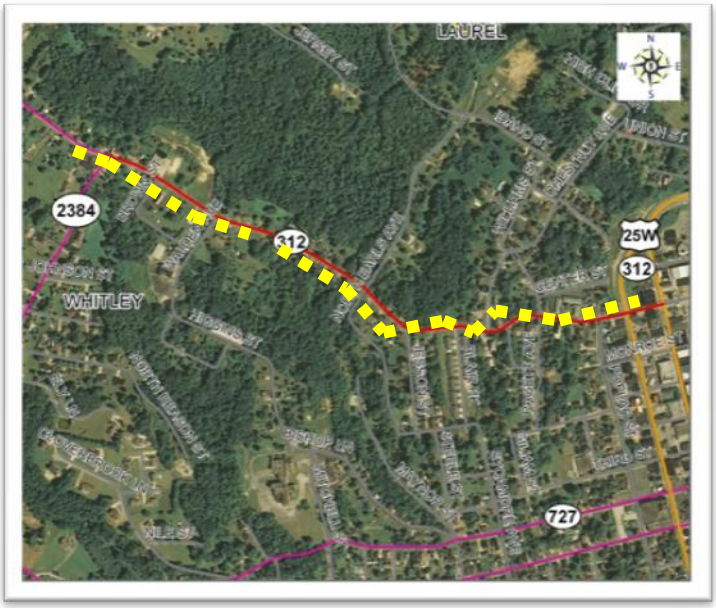
Project: 9LT; Ranking #11

Planning Cost Estimate:

Design:	*$75,000*
ROW:	*$75,000*
Utility:	*$75,000*
Construction:	*$500,000*
Total:	***$725,000***

Notes:

KYTC Long-Term



KY 312 at Highlands Ave, looking east from MP 1.600-1.800

KY 312 at MP 1.700- 1.800, looking east

KY 312 Improvements in Whitley County between mile points 1.600 and 2.542

Background: This urbanized state route is a more direct route to downtown Corbin from western Laurel County and was the original route to Corbin before US 25E. The route has a significant number of access points (private drives) that are obstructed by horizontal and vertical curves limiting the stopping sight distance. This route is known for a high incidence of crashes. The City of Corbin has expressed interest in improving this section of roadway.

Existing Conditions and Issues:

- ADT ~ 5,000
- Critical Rate Factor (CRF) > 1.0
- Adequacy Rating between 4th and 12th percentile
- Volume/Service Flow > 0.70 (from MP 1.703-2.493)
- Lane Width < 11 ft (from MP 2.185-2.542)
- Historic properties & curb and gutter (from MP 2.200-2.500)
- 16-inch & 12-inch water mains are under the roadway
- Steep Grades of 8-10% exist around the Gordon Hill Area.

Proposed Project: A drainage study with hydraulic analysis is recommended for this location and if feasible, one option would be to provide curb and gutter between KY 2384 & Jesson Street to address runoff concerns. If the data justifies, a left turn lane should be added from KY 312 (East Leg) onto KY 2384 to address new school traffic. This section of KY 312 should also be widened to 11 foot lanes with 2 foot shoulders to improve the site distance.

Project Type: Reconstruction

Project: 7LT; Ranking #12

Planning Cost Estimate:

Design:	*$250,000*
ROW:	*$500,000*
Utility:	*$250,000*
Construction:	*$2,000,000*
Total:	***$3,000,000***

Notes:

KYTC Long-Term

Looking south from US 25E on KY 312 at McDonalds Int.

Looking south on KY 312 near N. Commonwealth Ave. Int.

KY 312 Improvements in Knox County between mile points 1.097 and 1.313

Background: KY 312 is a direct route to downtown Corbin from US 25E as well as a direct route to multiple shopping centers and commercial developments along US 25E and KY 312 from downtown. This segment of roadway includes the high CRF intersection with US 25E. The signals at this intersection already have reflective back plates and double red indications. HSIP funds are being requested to make improvements to the intersection with US 25E. North Commonwealth Avenue serves as access to the back entrance of the Kroger Shopping Center.

US 25E is a part of the National Truck Network (NN) and the Coal Haul Highway System.

Existing Conditions and Issues:

- ADT ~ 10,000
- Segment & Spot Critical Rate Factor (CRF) > 1.0
- Lane Width = 11 ft
- Skewed intersection at KY 312 & N. Commonwealth Avenue

Proposed Project: If the data justifies, a right turn lane (RTL) on US 25E (west) onto KY 312 (south) would be extended as well as adding a RTL on KY 312 (south) onto North Commonwealth Avenue. If the data validates, a RTL from KY 312 (north) onto the Trade-mart shopping center would be provided along with an extension of the left turn lane (Offsetting to be considered) from KY 312 (north) onto North Commonwealth Avenue.

Project Type: Reconstruction

Project: 12LT; Ranking #13

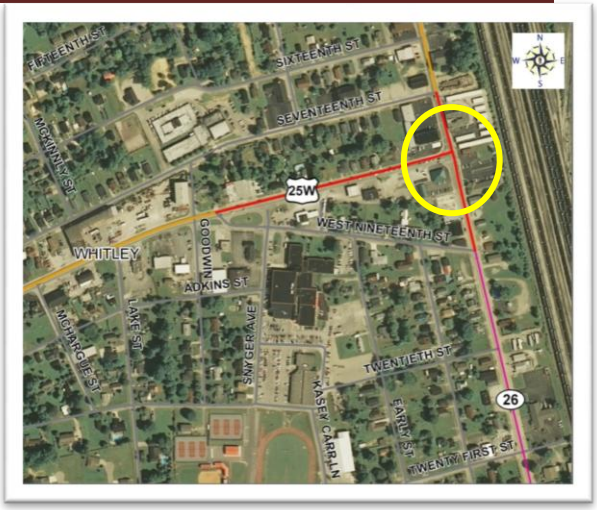
Planning Cost Estimate:

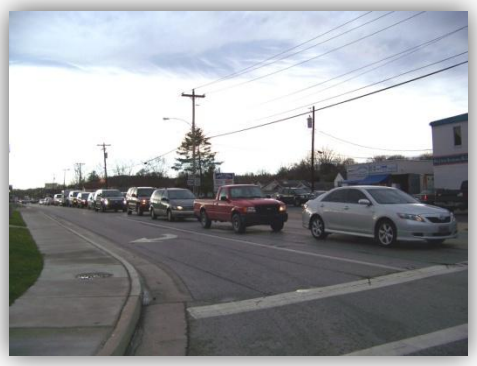
Design:	*$75,000*
ROW:	*$250,000*
Utility:	*$75,000*
Construction:	*$850,000*
Total:	***$1,250,000***

Notes:

B. KYTC Short-Term Projects

KYTC Short-Term





US 25W left turn lane backup to US 25W (N) at KY 26 Int.

US 25W (North) at US 25W &KY 26 Int., looking north

US 25W north of US 25W & KY26 Int., looking north

US 25W & KY 26 Intersection Improvements

Background: Three schools and considerable commercial development are significant traffic generators in this area. US 25W is the main east/west route on the southern side of Corbin into downtown as well as the main north/south corridor in downtown Corbin. The northbound portion of US 25W in downtown Corbin is also known as Main Street and is a vital part of downtown. The southbound side of US 25W is also significant and known as Kentucky Avenue. The north leg of the US 25W & KY 26 intersection is the start of a 0.30 mile bottle neck along US 25W before it diverges into one way streets, as previously discussed, just north of 14th Street. US 25W is a part of the Coal Haul Highway System.

Existing Conditions and Issues:

- ADT > 20,000 on US 25W(North leg), ~15,000 on US 25W & ~ 8,000 KY 26
- Adequacy Rating < 15th percentile on US 25W
- Level of Service (LOS) = D (2009) on US 25W

Proposed Project: Improvement to this intersection would initially warrant a signal timing review in an attempt to provide some congestion relief on US 25W from left turn lane backups.

Project Type: Engineering Support

Project: 4S; Ranking #1

Planning Cost Estimate:

Design:	*$ N/A*
ROW:	*$ N/A*
Utility:	*$ N/A*
Construction:	*$ N/A*
Total:	***< $10,000***

Notes:

KYTC Short-Term

Looking west-Corbin Center Dr.& US 25W, MP 30.0-30.2

Arena Access at US 25W with multiple access points

Arena Dr. at US 25W Int., looking north on Hospital Ent.

US 25W from MP 29.792 to 30.600 to include Bacon Creek & Hospital Intersections

Background: The Hospital entrance (Trilliam Way-West) is located at the first main intersection east of Interstate 75 on the north side of US 25W. The entrance to the new Regional Arena/Convention Center is located at this same intersection on the south side of US 25W. Police direct traffic during events to help split flow at this intersection and Bacon Creek Road. A parallel access road known as Corbin Center Drive was privately developed on the south side of US 25W behind commercial businesses. Access management has become a concern with these added traffic generators. Traffic backs up on the Interstate 75 ramps during Regional Arena/Convention Center events.

During the development of this study, a traffic signal warrant analysis was performed at the Trilliam Way-West and a traffic signal was provided. Another signal warrant analysis may be performed at the Bacon Creek Road intersection as part of the short-term phase of improvements at this location.

US 25W and KY 3041 (Bypass) are a part of the Coal Haul Highway Network.

Existing Conditions and Issues:

- ADT~ 20,000 on US 25W (between Interstate 75 & KY 3041)
- Segments and spots with Critical Rate Factor (CRF) > 1
- Level of Service (LOS) = E (2009) US 25W from MP 30.425 to 30.595)

Proposed Project: A traffic signal warrant analysis is recommended for intersection of US 25W and Bacon Creek Road. If feasible, a traffic signal will be provided at Bacon Creek Road. Access management is recommended but will be addressed at part of the long-term project. The majority of this project was incorporated into the *FY 2012-FY 21018 Highway Plan* Project Item number 11-186.00. The description of this project is as follows: Major Widening, address congestion, freight movement and access along 25W from KY 727 to KY 3041.

Project Type: Signal Warrant Analysis/Engineering Support

Project: 1S; Ranking #2

Planning Cost Estimate:

Design:	*$10,000*
ROW:	*$ 0,000*
Utility:	*$ 0,000*
Construction:	*$50,000*
Total:	***$60,000****

Notes:

**This preliminary cost estimate at the beginning of this study does not reflect the Highway Plan project # 11-186.00 cost estimate*

KYTC Short-Term

Looking North-US 25W (North)/Main St. at Fifth St. (both one-way)

Looking South-US 25W (South)/KY Ave. at Seventh St. (both one-way) & Middle School

Looking North-US 25W (North)/Main St. at Seventh St. Int.

US 25W Improvements along Main Street between mile points 32.525 and 33.278

Background: Several retail and commercial establishments, local government offices and a school are located along this portion of US 25 W. This roadway has been split into two separate one-way streets with parallel parking on both sides of the two lane roadway. Northbound, one-way US 25W is also known as Main Street, while the Southbound, one-way US 25W is also called Kentucky Avenue. Most accidents along this segment of roadway were angle type collisions that occurred from running a red light. The second highest collision type was sideswipes with the majority of these reported collisions being directly connected with parallel parked vehicles. This corridor is also used to gain access to the northeast side of Corbin from the southwest side as this roadway and the city are partially bound on the south eastern side by the CSX Railroad. This route is also a part of the Coal Haul Highway Network.

Existing Conditions and Issues:

- ADT ~ 8,100 to 19,900 on one-way (Northbound) US 25W/Main St & 8,200 to 17,000 on one-way (Southbound) US 25W/Kentucky Ave.
- Critical Rate Factor (CRF) >1 All & >3 (from MP 32.668 to 33.278)
- Adequacy Rating < 14th percentile (from MP 32.668 to 33.278)
- Lane Width < 11 feet (from MP 32.833 to 33.278)
- Speed Limit = 25 mph

Proposed Project: Add curb extensions at all intersection walkways, paint curbs at no-parking locations and add rumble strips, if feasible, before the intersections to help alert motorists to upcoming signals and to slow down. Signal timing may be reviewed for impact from additional intersection clearance time. Consideration should be given to reducing parallel parking along both one-way street sections, specifically near intersections and key access points.

Project Type: Reconstruction/Maintenance

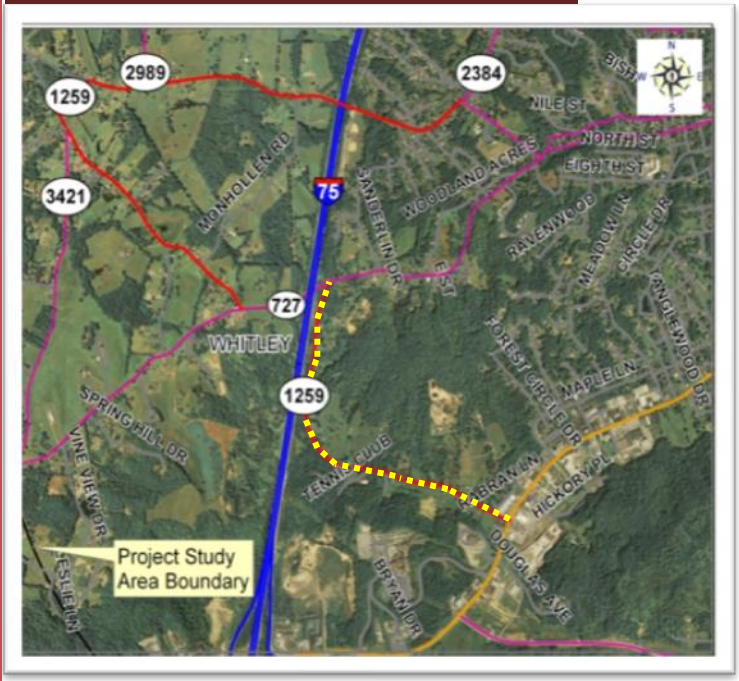
Project: 5S; Ranking #3

Planning Cost Estimate:

Design:	*$ 5,000*
ROW:	*$ 0,000*
Utility:	*$ 0,000*
Construction:	*$ 50,000*
Total:	***$ 55,000***

Notes:

KYTC Short-Term



Looking West on KY 727 near KY 1259 Intersection

Looking West from KY 727 onto KY 1259 on left with I-75 Bridges in the background on the right.

KY 1259 Improvements in Whitley County from mile point 0.000 to 1.315

Background: This portion of KY 1259 in Whitley County is classified as an Urban Collector Street. Narrow lanes exist throughout this route. The I-75 Bridge is also a limitation to sight distance along with vegetation and utilities for those on the east side of the Interstate entering KY 727 from KY 1259. Drainage issues, site distance limitations, utility pole location, and desire for guardrail were concerns noted by an Advisory Committee member.

Existing Conditions and Issues:

- ADT ~ 2,500 (by 2009) & 3,500 (by 2035)
- Lane width < 11 ft (9 ft lanes from MP 0.000 to 1.315)
- Limited Data & CRF < 0.600.

Proposed Project: Consideration should be given to adding a shoulder and ditch line to the route. Further team discussion concluded that the ditch line previously existed and was filled in by property owners. Right of way will be required to relocate utilities should shoulders be widened. The KY 727 and KY 1259 intersection concerns may best be addressed by providing a perpendicular tie-in to KY 727. The cost estimate is based on providing a new ditch line along this portion of roadway.

Project Type: Maintenance

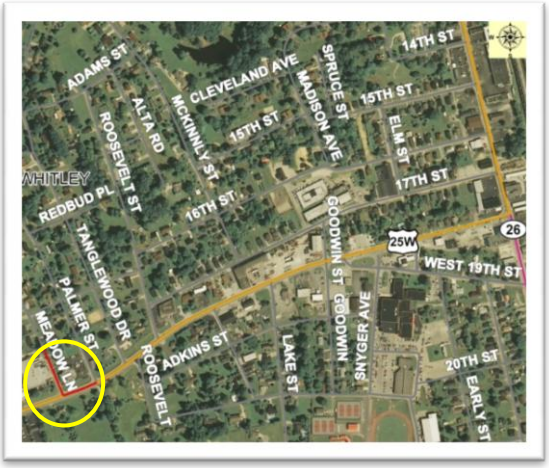
Project: 2S; Ranking #4

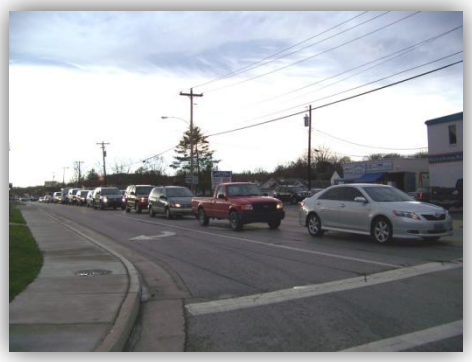
Planning Cost Estimate:

Design:	*$ 100,000*
ROW:	*$ 300,000*
Utility:	*$ 100,000*
Construction:	*$ 200,000*
Total:	***$ 700,000***

Notes:
KYTC Personnel Considered to Implement Project

KYTC Short-Term





US 25W & KY 26 Int., looking west on US 25W backup

US 25W & Seventh St./Meadow Lane int., looking west

US 25W & Seventh St. int., looking north (Short turn radius)

US 25W and Local Road (Seventh St./Meadow Lane) Intersection Improvements

Background: Pepsi Cola Plant traffic utilizes this intersection to include large semi-trucks delivering sugar. These driver's have a difficult time turning onto Seventh Street/Meadow Lane and re-entering US 25W. The turning radius is inadequate for large trucks. Residents also use Seventh Street as a cut through to get around the intersection of US 25W and KY 26. There are several commercial developments along this portion of US 25W. Congestion along US 25W from the nearby intersection with KY 26 has been known to back up to this location. Another project located further east at the US 25W and KY 26 intersection is proposed and should positively impact this intersection. US 25W is utilized as the main east/west access to and from the southern portion of downtown Corbin.

This road is also a part of the Coal Haul Highway Network.

Existing Conditions and Issues:

- ADT = 15,600 on US 25W at MP 31.500 (Unknown on Seventh St.)
- Critical Rate Factor (CRF) > 1(US 25W from MP 31.223 to 31.505)
- Level of Service (LOS) = D (2009) (US 25W from MP 30.595 to 32.427)
- Lane Width < 10ft (Seventh St.) & 11ft (US 25W from MP 30.595 to 32.115)

Proposed Project: Improve new turning radius onto Seventh Street from US 25W.

Project Type: Reconstruction/Maintenance

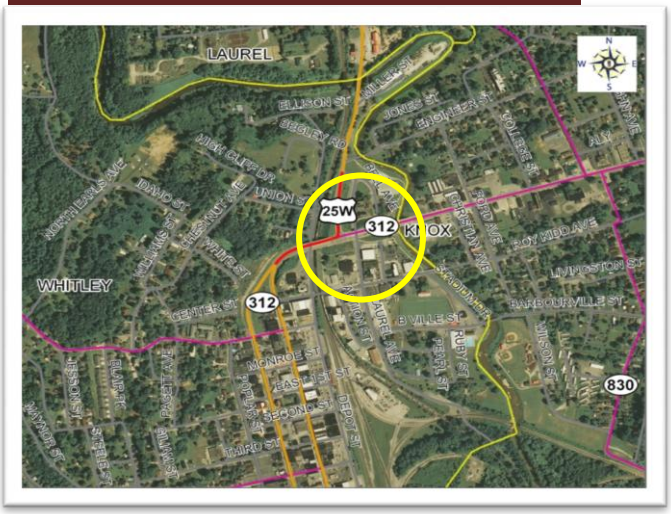
Project: 3S; Ranking #5

Planning Cost Estimate:

Design:	*$ 50,000*
ROW:	*$ 200,000*
Utility:	*$ 75,000*
Construction:	*$ 250,000*
Total:	***$ 565,000***

Notes:

KYTC Short-Term



Looking West on US 25W & KY 312 Int. from KY 312

Looking North on US 25W & KY 312 Intersection

KY 312 approaching US 25W Int., looking west

US 25W & KY 312 Intersection Improvements

Background: KY 312 is the only direct route to downtown Corbin from Knox County, which is on the east side of the study area. The intersection of KY 321 and US 25W includes a bridge over the railroad as part of the west leg of the intersection. The east leg of this intersection has a bridge that serves as an overpass for a local road, Laurel Avenue. Each leg of this intersection leads to concentrated commercial developments. An Advisory Committee member requested review of this intersection by KYTC due to considerable congestion.

Existing Conditions and Issues:

- ADT = 20,000
- Adequacy Rating <14th percentile on KY 312
- Lane Width = 11 ft on US 25W (North leg)

Proposed Project: If the data justifies, a left turn lane may be extended on the west leg. The associated cost estimate includes the analysis and restriping to extend the left turn lane. This estimate does not consider a physical widening of the roadway to account for the lane extension.

Project Type: Maintenance/Engineering Support

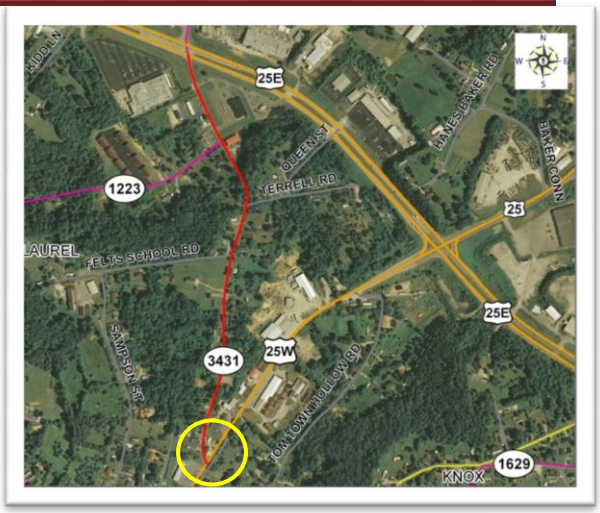
Project: 6S; Ranking #6

Planning Cost Estimate:

Design:	*$ 0,000*
ROW:	*$ 0,000*
Utility:	*$ 0,000*
Construction:	*$ 100,000*
Total:	***$ 100,000***

Notes:

KYTC Short-Term



KY 3431 looking north near US 25W intersection

KY 3431 approaching US 25W "Y" Int. looking south

Looking west onto KY 3431 & US 25W Intersection

KY 3431 & US 25W Intersection Improvements

Background: This is the location of a high Critical Rate Factor beginning at the intersection with US 25W and extending north along KY 3431 to just before intersection with US 25E. Sight distance appears to be a significant factor due to an existing building, associated parking of business patrons and the "Y" intersection connection. US 25W is a part of the Coal Haul Highway System.

Existing Conditions and Issues:

- ADT ~ 14,000 on US 25W & 5,000 on KY 3431
- Lane width < 11' (KY 3431)
- Adequacy Rating < 30th percentile
- Segments and spots with CRF > 1
- Volume to Service Flow Ratio > 0.70
- Level of Service (LOS) =D (2009) on US 25W from MP 0.365-0.545)

Proposed Project: If the data validates the effectiveness of access management in this area through modeling, some adjacent entrances on US 25W could be limited to right in and right out only and a left turn lane added from US 25W onto KY 3431. This should help improve sight distance and provide some congestion relief at this location.

Project Type: Access Management/Reconstruction

Project: 8S; Ranking #7

Planning Cost Estimate:

Design:	*$ 150,000*
ROW:	*$ 100,000*
Utility:	*$ 50,000*
Construction:	*$ 300,000*
Total:	***$600,000***

Notes:

KYTC Short-Term

Looking North-KY 3431 approaching US 25E Intersection

KY 3431 looking south from US 25E Intersection

Looking North-US 25E & KY 3431 Signalized Intersection

US 25E at KY 3431 Intersection Improvements

Background: This segment has a high incidence of collisions including the intersection with KY 3431 along the north portion of KY 3431 to include the intersection with KY 1223. When entering this section of roadway from either the north or south leg of KY 3431, sight distance is limited by the vertical curve approach. The adjacent northern intersection with KY 1223 appears to be affecting traffic as backups from either intersection can affect the other. US 25E is a part of the National Truck Network (NTN) and Coal Haul Highway System.

Existing Conditions and Issues:

- ADT = 30,700 on US 25E & ~3,000 on KY 3431
- Lane width < 11ft (KY 3431)
- Adequacy Rating < 27th percentile (KY 3431)
- Segments and spots with CRF > 1 (KY 3431-spot CRFs from MP 0.600 to 0.700) 45% Angle and 20% Read End Collisions
- Volume to Service Flow Ratio > 0.70 (KY 3431)

Proposed Project: The intersection of KY 3431 and US 25E can have sight distance improved by leveling out the KY 3431 approach to the US 25E intersection from both the north and south legs. If the data justifies, an extended right turn lane on the north leg of KY 3431 onto the west leg of US 25E would reduce traffic backups that block the adjacent KY 1223 intersection with KY 3431. A left turn lane from the south leg of the intersection on KY 3431 would also help improve the timing of the signal phase. HSIP funds were being considered for this project. This project is also connected to *FY2012-FY2018 Highway Plan* US 25E Corridor project item number 11-185.00 with the following description: Major Widening to address safety, capacity, and access management on US 25E from Knox/Laurel County Line to KY 770.

Project Type: Reconstruction/Engineering Support

Project: 9S; Ranking #8

Planning Cost Estimate:

Design:	*$75,000*
ROW:	*$75,000*
Utility:	*$75,000*
Construction:	*$500,000*
Total:	***$725,000****

Notes:

*This preliminary cost estimate for the intersection & does not reflect that of the Highway Plan Project # 11-185.00 cost estimate for corridor improvements.

KYTC Short-Term

Looking North from KY 830/Beatty Ave. at Engineering St. Int.

KY 830 between KY 312 & Engineering St. Int., Looking North

Looking East onto Engineering St. & KY 830/Beatty Ave. Int.

KY 830/Beatty Ave & Engineering Street Intersection Improvements

Background: KY 830 is also known as Beatty Avenue and is primarily a residential street with sidewalks along both sides. The entire roadway has nine foot lanes with utilities located along the edge of the roadway. The intersection of KY 830 and Engineering St. has a history of angle collisions due to those on Engineering Street entering the intersection in front of the through traffic (does not stop) on KY 830/Beatty Avenue. Some reports noted not seeing the through traffic on KY 830/Beatty Avenue or that this traffic was speeding. This corridor is also used by the residents to gain access to US 25W to the north side of Corbin and KY 312/US 25W to downtown and the south side of Corbin.

Existing Conditions and Issues:

- ADT = 2,330 (2009) & 3,260 (by 2035)
- Critical Rate Factor (CRF) Spot >1 (KY 830 from MP 0.123 to 0.223)
- Adequacy Rating < 2nd percentile (KY 830 from MP 0.123 to 0.940)
- Lane Width = 9 feet (KY 830 from MP 0.000 to 2.638)
- Speed Limit = 25 mph (KY 830 from MP 0.072 to 0.830)

Proposed Project: A traffic movement count is recommended at this location and if feasible, a four-way stop would be provided.

Project Type: Engineering Support

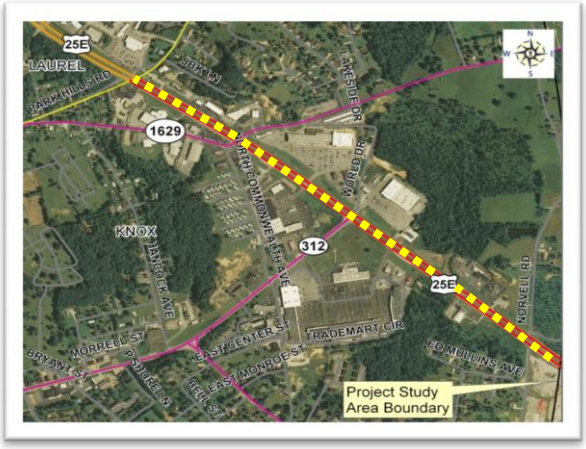
Project: 7S; Ranking # 9

Planning Cost Estimate:

Design:	*$*
ROW:	*$*
Utility:	*$*
Construction:	*$*
Total:	***$ <10,000***

Notes:

KYTC Short-Term



US 25E between MP 25.400 & 25.600, looking northwest

US 25 E & KY 312 Int., looking northwest

US 25E between MP 25.100 & 25.400, looking southeast

US 25E Improvements in Knox County between mile points 25.100 and 26.197

Background: This is the location of high segment and spot crashes throughout US 25E. High traffic volumes and median crossovers have contributed to a higher crash rate. Those vehicles making left turns are slowing down in the driving lanes before turning. Site distance can be an issue where vertical curves are near intersections or signals. US 25E is a part of the National Truck Network (NN) and Coal Haul Highway System. HSIP funds have been requested for some segments.

Existing Conditions and Issues:

- ADT from 19,000 to > 30,000
- Adequacy Rating < 7th percentile (from MP 25.100 to 25.650)
- Critical Rate Factor (CRF) > 1.0 (nearly 50% Rear End Collisions)
- Volume to Service Flow Ratio > 0.70
- Level of Service (LOS) = D (2009) (from MP 25.942 to 26.197)

Proposed Project: This access management project has been expanded and identified in the *FY 2012-FY 2018 Highway Plan* under project item number 11-188.00 to begin design phase. The project description is as follows: Major widening to address safety, capacity, and access management on US 25E from Corbin bypass to Knox/Laurel County Line.

Project Type: Access Management

Project: 12S; Ranking #10

Planning Cost Estimate:

Design:	*$ 10,000*
ROW:	*$ N/A*
Utility:	*$ N/A*
Construction:	*$ N/A*
Total:	***$ 10,000****

Notes:

*This preliminary cost estimate for access management review does not reflect the current highway plan project Item # 11-188.00.

KYTC Short-Term

Looking South onto KY 1629 & US 25E Intersection

Looking South on KY 1629 from US 25E Intersection

Looking North-KY1629 at Int.US 25E &N. Commonwealth

US 25E at KY 1629 Intersection Improvements

Background: This signalized intersection is in a high collision area that is also negatively impacted by the southern adjacent intersection of KY 1629 and North Commonwealth Avenue. Left turn traffic from KY 1629 onto North Commonwealth Avenue (back entrance into the Kroger Shopping Center) can backup into the larger KY 1629 and US 25E intersection. The proposed improvements to the other intersection project (KY 1629 & North Commonwealth Avenue) should positively impact this intersection.

US 25E is a part of the National Truck Network (NN) and Coal Haul Highway System.

Existing Conditions and Issues:

- ADT = 30,700 on US 25E
- Lane width < 11ft on KY 1629
- Segments and spots with Critical Rate Factor (CRF) > 1
- Level of Service (LOS) = D (2009) on US 25E

Proposed Project: HSIP funds have been requested for this project. The review was performed on 9/22/09. The addition of a right turn lane on the west leg of US 25 E onto KY 1629 south and a right turn lane on north leg of KY 1629 at intersection with US 25E should help to relieve backing up of traffic on both US 25E and KY 1629 at this intersection.

Project Type: Engineering Support

Project: 10S; Not Ranked – HSIP funded during study

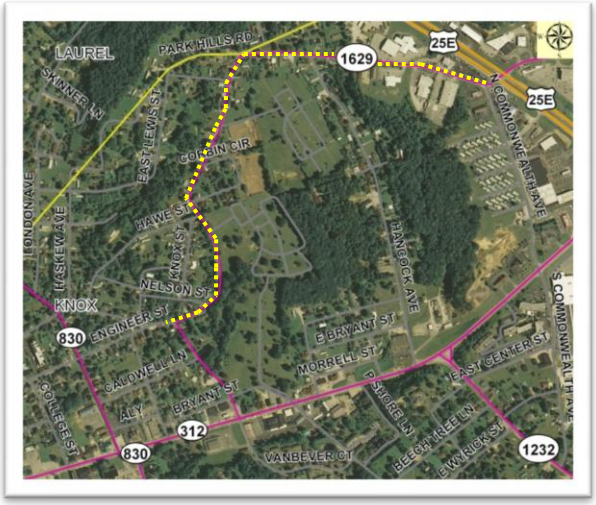
Planning Cost Estimate:

Design:	*$ N/A*
ROW:	*$ N/A*
Utility:	*$ N/A*
Construction:	*$ N/A*
Total:	***$ N/A***

Notes:

Project a Go. Currently Identified as a Highway Safety Improvement Program (HSIP) Project.

KYTC Short-Term



KY 1629 at N. Commonwealth Road Int., looking north

KY1629 near dog leg at Engineer St., looking west

KY 1629 near N. Commonwealth Road Int., looking west

KY 1629 from MP 0.196 to 1.128 including N. Commonwealth Road Intersection

Background: This is the location of high crash segments and spots at both the intersection with North Commonwealth Road as well as along the extended portion of KY 1629 just south of this intersection. Due to the close proximity of this intersection with that of the US 25E intersection, the addition of a right turn lane on the west leg of US 25 E onto KY 1629 should positively impact this intersection. The two separate access points to Arby's, one on KY 1629 and the other on North Commonwealth Road, help compound this issue with added traffic at this location. US 25E is a part of the National Truck Network (NN) and Coal Haul Highway.

Existing Conditions and Issues:

- ADT ~ 1,000 (by 2009) to 1,400 (by 2035)
- Lane width < 11ft (8 ft for KY 1629)
- Segment and spot with CRF > 1

Proposed Project: HSIP funds have been requested for this project. The addition of signage that states "Do Not Block Intersection" as well as larger stop sign and stop bar at south leg of the North Commonwealth Road intersection are proposed as part of the HSIP project to address the crash rates at this location. This intersection impact is directly tied to another intersection project on US 25E and KY 1629. **Further roadway safety audit may be warranted at the adjacent intersection of KY 1629 and Park Hills Road for HSIP funds.**

Project Type: Engineering Support

Project: 11S; Not Ranked-HSIP Funded during study

Planning Cost Estimate:

Design:	*$ N/A*
ROW:	*$ N/A*
Utility:	*$ N/A*
Construction:	*$ N/A*
Total:	***$ N/A***

Notes:

Project a GO. Currently Identified as a Highway Safety Improvement Program Project.

C. Local Projects

Local

Looking West-Corbin Center Dr & US 25W-MP 30.0-30.2

US 25W at Theatre Entrance with multiple access points

Arena Dr. at US 25W Int., looking north on Hospital Ent.

Corbin Center Drive Improvements

Background: The hospital entrance (Trilliam Way-West) is located at the first main intersection east of Interstate 75 on the north side of US 25W. The entrance to the new Regional Arena/Convention Center is located at this same intersection on the south side of US25W. Police direct traffic during events to help split flow at this intersection and Bacon Creek Road. A parallel access road known as Corbin Center Drive was privately developed on the south side of US 25W behind commercial businesses. Access management has become a concern with these added traffic generators as well as the possible need for signalized intersections at Trilliam Way-West and/or Bacon Creek Rd. Traffic backs up on the Interstate 75 ramps during Regional Arena/Convention Center events.

If signalization is found to be warranted along US 25W at intersection with Arena Drive and/or Bacon Creek Road, and removal of multiple private access points along US 25W are feasible, motorists should have access to utilize Corbin Center Drive through these intersections to help reduce crash rates in this area. US 25W and KY 3041 (Bypass) are both a part of the Coal Haul Highway Network.

Existing Conditions and Issues:

- ADT~ 20,000 on US 25W (between interstate & KY 3041)
- Critical Rate Factor (CRF) > 1 on US 25W
- Level of Service (LOS) = E (2009) US 25W from MP 30.425 to 30.595)

Proposed Project: Vance Drive, Theatre Entrance, and Arena Drive and Bacon Creek Road should all be considered access points off of US 25W to Corbin Center Drive. This access road is recommended to be extended to Vance Drive in order to provide more direct access to and from all businesses including the Regional Arena/Convention Center.

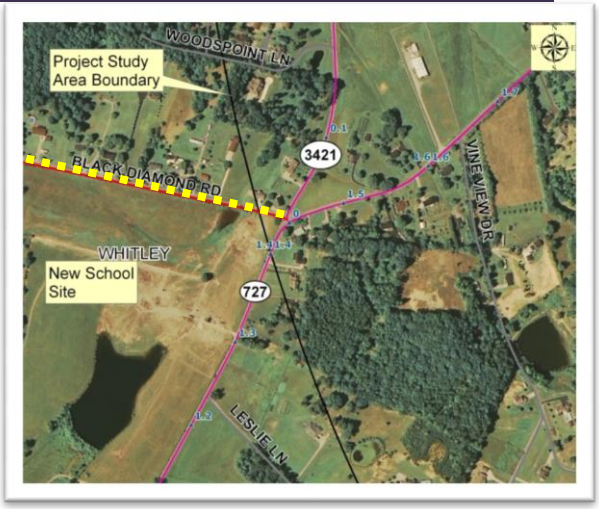
Project Type: Reconstruction

Planning Cost Estimate:

Design:	*$50,000*
ROW:	*$75,000*
Utility:	*$75,000*
Construction:	*$250,000*
Total:	***$450,000***

Notes:

Local



KY 727 looking west at int. with KY 3421 & School

KY 727 from west leg at int. with KY 3421 & School

KY 3421 from north leg at int. with KY 727 & School

Black Diamond Road Improvements

Background: The Corbin Primary School was recently built at this location with two separate access points. The main entrance for the school is located south west of this intersection off of KY 727 at the address 3551 West Fifth Street Road. The School's back entrance is located off of Black Diamond Road. This intersection is now considered one of the busiest by the district due to the added traffic generated by the school. Another concern is the skewed angle in which these roadways intersect.

Local officials inquired to receive direction in following proper bidding procedure to hire a contractor to mark the newly paved Black Diamond Road to allow for turn lane designation in and out of school entrance.

Existing Conditions and Issues:

- Lane width < 11 feet (KY 727), To confirm on Black Diamond Rd
- New school creates additional congestion

Proposed Project: District staff may advise local agency on required procedure for selecting a contractor. The cost estimate from the district is only for restriping Black Diamond Road to show the left turn lane into school entrance. This estimate assumes all other required dimensioning of county roadway is compliant to provide for this left turn lane.

Project Type: Maintenance

PROJECT: 1L; Ranking #2

Planning Cost Estimate:

Design:	$	
ROW:	$	
Utility:	$	
Construction:	$	5,000
Total:	**$**	**5,000**

Notes: