



I-75 Programming Study

Item No. 11-1.00
Whitley County, Kentucky

FEBRUARY 2025

TEAM
KENTUCKY
TRANSPORTATION
CABINET



Final Report

I-75 Programming Study

KYTC Item No. 11-1.00



Kentucky Transportation Cabinet Central
Office, Division of Planning Highway District 11,
Manchester

In partnership with:



February 2025

Executive Summary

The Kentucky Transportation Cabinet (KYTC) initiated the *I-75 Programming Study*, KYTC Item No. 11-1.00, to determine the need for and impacts of widening I-75 in a portion of Whitley County to six lanes, including impacts to mainline I-75 and adjoining interchange operations. The study corridor is shown in **Figure ES-1**.

Existing Conditions

I-75 is a major north-south interstate of national importance, spanning over 1,700 miles from Florida to Michigan. Within Kentucky, I-75 provides a connection between the Appalachian Mountains and areas to the north, including Lexington, where many travel for healthcare and employment. The I-75 study area includes I-75 in Whitley County, beginning at the Tennessee state line, milepoint (MP) 0.000, and continuing north to MP 20.000. The study area includes two interchanges: Exit 11 at KY 92 and Exit 15 at US 25W. There is also a northbound Welcome Center near MP 1.5. Whitley County had a population of 36,712¹ in the 2020 census with its two most populous cities, Williamsburg and Corbin, located along I-75. Williamsburg is home to the largest private university in Kentucky, the University of the Cumberlands.

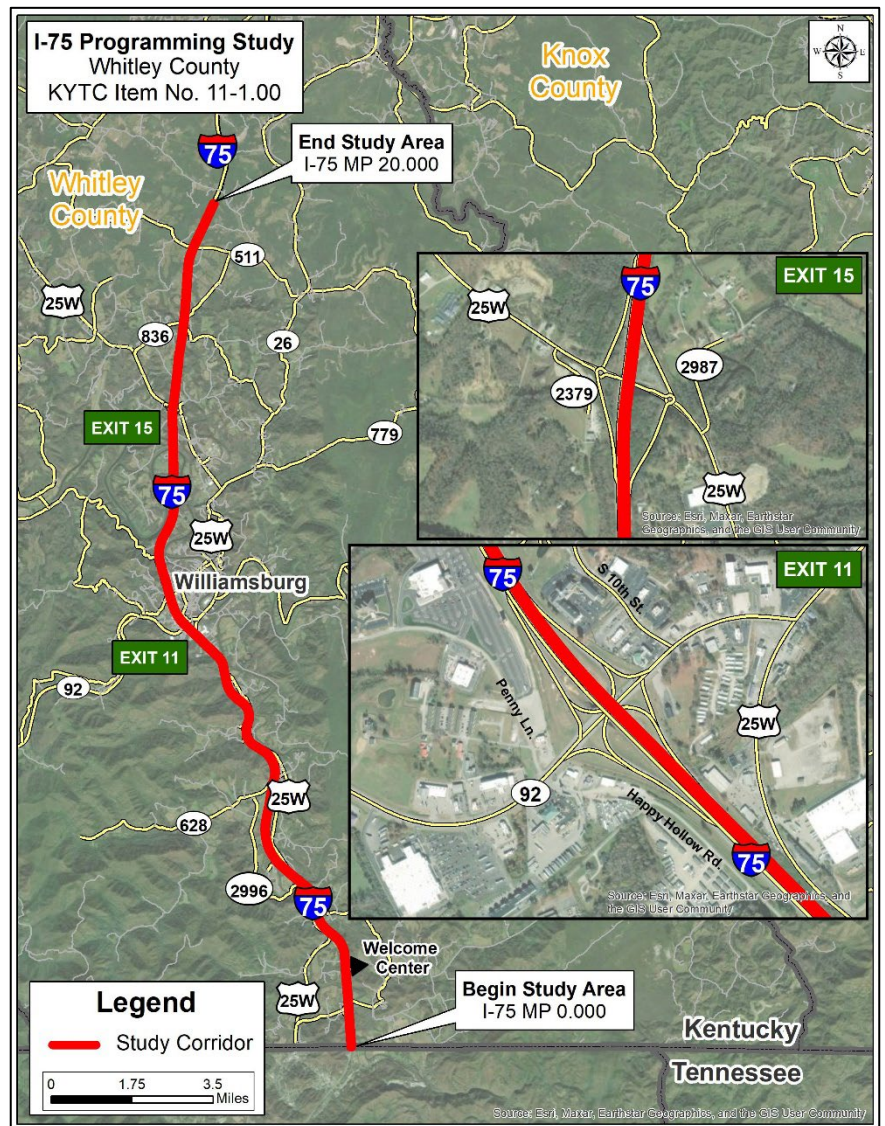


Figure ES-1: I-75 Study Corridor

Most of the region surrounding the I-75 study corridor in Whitley County is rural, with areas of commercialized development in Williamsburg near Exits 11 and 15. Based on data from the Kentucky State Data Center (KSDC), Whitley County's population has slightly grown over the last 20 years, at just over 0.1 percent per year, and continued growth is expected. The US 25W

¹ <https://www.census.gov/quickfacts/fact/dashboard/whitleycountykentucky/PST045223>

interchange (Exit 15) was recently updated with roundabouts at the ramp terminal intersections and was therefore not considered for improvements.

The study portion of I-75 is classified as a rural interstate, with two 12-foot lanes in each direction, a 60-foot depressed median, and 10-foot outside shoulders. North of the study area, the four-lane typical section on I-75 continues to Exit 29 in Laurel County, where I-75 widens to six lanes. South of the Tennessee border, I-75 has a four-lane typical section for 115 miles until south of Exit 141, where northbound I-75 widens to three lanes. Daily traffic on I-75 is heaviest just south of Corbin, at 38,200 vehicles per day (VPD), and drops to 33,000 VPD north of the Kentucky/Tennessee border. This decrease in traffic continues to the south into Tennessee, where I-75 carries 23,900 VPD through Jellico Mountain and the Cumberland Plateau before increasing approaching Knoxville. Truck percentages on I-75 range from 27 percent north of Exit 15 to over 31 percent between the Tennessee state line and Exit 11. Based on results from an existing traffic analysis, the I-75 study corridor currently operates at LOS C or better and has daily volume-to-capacity ratios under 0.5.

Crash data were collected along I-75 and adjacent roadways for the five-year period between 2018 and 2022. Over the course of the five years, a total of 850 crashes were reported on I-75 within the study corridor. Of the 850 crashes, seven resulted in a fatality (0.8 percent), 141 resulted in one or more injuries (16.6 percent), and 702 resulted in property damage only (82.6 percent). The most common crash types were single vehicle (52 percent) and sideswipe (24 percent) collisions, most of which occurred on the more congested routes near Williamsburg and Exit 11.

The Kentucky Transportation Center's (KTC's) Crash Data Analysis Tool (CDAT) was used to perform an Excess Expected Crashes (EEC) analysis. EEC is a measure of the crash frequency at a given site compared to what is expected based on current conditions (geometrics, traffic, etc.). A positive EEC indicates more crashes are occurring than should be expected. Results from this analysis showed the entire study corridor has positive EECs, with the highest EEC on the segment of I-75 between the state line and Exit 11 (21.12 crashes per year more than expected).

Study Objectives

The study objectives provide the foundation for decision making and the basis for evaluation and comparison of improvement concepts. The objectives of the I-75 Programming Study are as follows:

- Assess the existing pavement and bridge conditions.
- Evaluate crash history and geometric deficiencies.
- Develop traffic forecasts.
- Engage the Tennessee Department of Transportation (TDOT) to better understand the agency's long-range plans for improvements to I-75 south of the Kentucky state line.
- Evaluate improvement concepts for I-75, including both mainline and interchange improvements.
- Develop and evaluate improvement alternatives at KY 92 (Exit 11).

- Estimate impacts and costs for the proposed improvement options.
- Identify and prioritize constructible segments over the 20-mile I-75 corridor.
- Engage local officials and major stakeholders to ensure the proposed improvements align with community needs.

Traffic Forecasts

Historical traffic data, population projections, and study area growth rates from the Kentucky Statewide Traffic Model (KYSTM) were reviewed to develop growth rates for the study corridor. If no capacity upgrades are made to I-75, daily traffic on I-75 is expected to grow one percent per year, resulting in 2045 daily forecasts up to 48,000 VPD, as shown in **Table ES-1**. Annual growth was also analyzed for the Build scenario if I-75 were to be widened to six lanes from MP 0.0 to MP 20.0. In that scenario, daily traffic on I-75 is expected to grow 1.5 percent per year, resulting in daily traffic up to 53,800 VPD.

Table ES-1: 2045 Daily Traffic Forecasts

Route	Section	No-Build: Four-Lane I-75 (1.0% per year)	Build: Six-Lane I-75 (1.5% per year)
I-75	State Line to Exit 11	40,800 VPD	46,400 VPD
	Exit 11 to Exit 15	47,200 VPD	52,900 VPD
	North of Exit 15	48,000 VPD	53,800 VPD

Growth rates were also developed at the I-75 interchange with KY 92 (Exit 11). Based on population projections, historical traffic trends, and results from the KYSTM, daily traffic at the interchange is expected to grow one percent per year. Daily traffic on KY 92 is expected to grow to 13,400 VPD east of I-75 by 2045 and 6,200 VPD to the west. The maximum volume expected by 2045 on the I-75 ramps is 5,800 VPD, well below the capacity for a single lane ramp. Based on these volumes, the need for additional capacity is not anticipated at the interchange.

Improvement Concepts

Improvement concepts were developed based on a combination of a review of existing conditions, input from the project team, local officials / stakeholder input, and field reconnaissance. Concepts included I-75 widening and improvements at Exit 11, the most congested I-75 interchange in Whitley County.

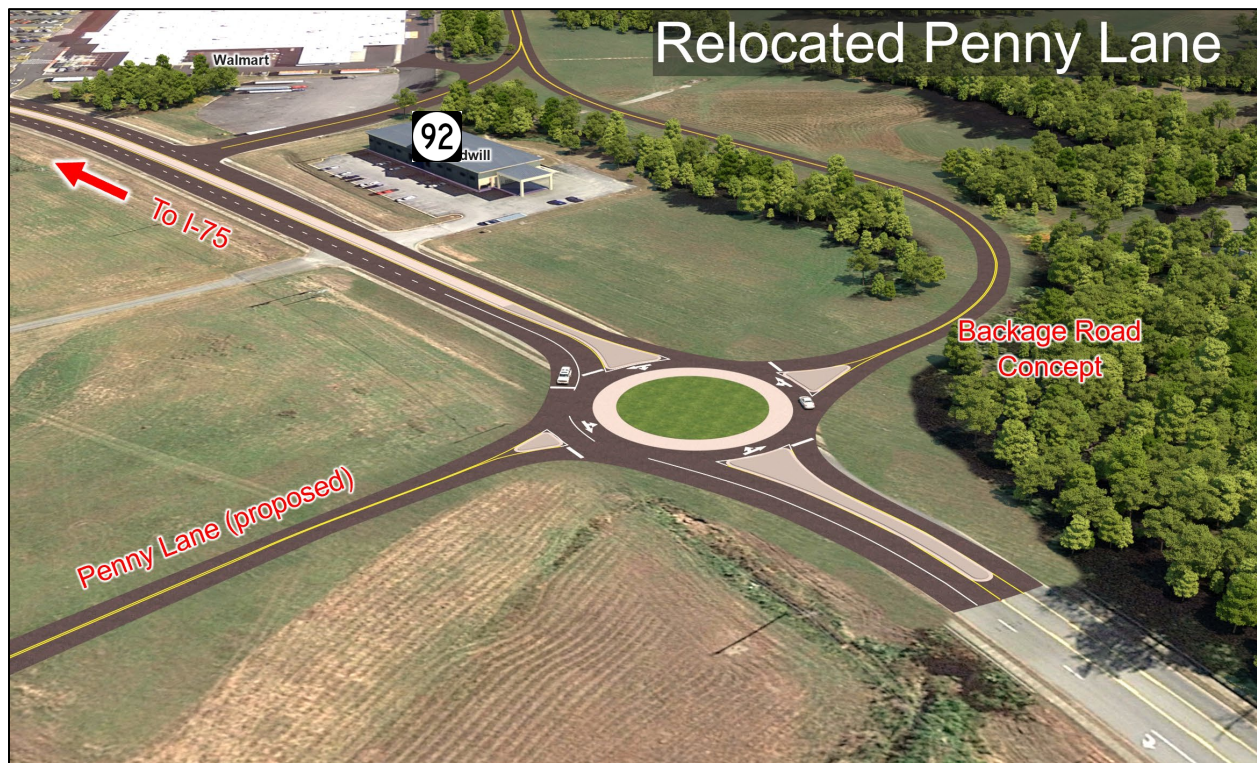
I-75 Widening Concept A: Widen I-75 to six lanes from MP 0.0 (Tennessee state line) to MP 20.0. This concept includes widening I-75 from four to six lanes for the entire study corridor.

I-75 Widening Concept B: Widen I-75 to six lanes from MP 9.6 (south of Exit 11) to MP 20.0. This concept includes widening I-75 for only the priority section. The Tennessee Department of Transportation (TDOT) currently has no plans to widen I-75 south of the Kentucky border. Without plans for widening in Tennessee, the priority widening section does not extend south of MP 9.6.

- **Concept B1:** Widen I-75 to six lanes from MP 15.5 (Exit 15) to MP 20.0.
- **Concept B2:** Widen I-75 to six lanes from MP 9.6 (south of Exit 11) to MP 15.5 (Exit 15).

KY 92 Concept 1: Improve KY 92 west of the I-75 Exit 11 interchange. This section of KY 92 provides access to multiple businesses, including hotels, restaurants, gas stations, Walmart, and the Mint Gambling Hall, which can be accessed via Penny Lane. Because of the proximity to the I-75 southbound off ramp (less than 500 feet), the Penny Lane intersection is striped as right-in / right-out. Many drivers, however, do not adhere to the turning restrictions at Penny Lane. This section of KY 92 was also noted by the Williamsburg police as being one of the highest crash locations, especially for vehicles turning left across five lanes of traffic. KYTC has plans under Item Number 11-80264.00 to construct an extension of Penny Lane to the west, providing a new, full access intersection about ½ mile west of I-75.

An option to improve safety is to construct a raised median on KY 92, providing left turns in at major intersections only, as shown in **Figure ES-2**. A backage road could be built to the south along Hurricane Hollow Road to provide a connection for vehicles traveling to and from I-75, with a roundabout at KY 92 and the proposed Penny Lane Extension (KYTC Item No. 11-80264).



**Figure ES-2: KY 92 Concept 1 – Roundabout at Relocated Penny Lane
with Raised Median on KY 92 to the East (Looking South)**

KY 92 East of I-75 – Concepts 2, 3 & 4: Improve KY 92 east of I-75. This section of KY 92 has multiple driveways and intersections within 400 feet of the southbound I-75 ramps, including a signalized intersection at South 10th Street. Further east, KY 92 intersects US 25W at a signalized intersection with multiple business access points at the intersection. This lack of access management creates conflict points for turning vehicles at the intersections.

KY 92 Concept 2: An option to improve safety and traffic flow includes constructing a Green-T intersection at the KY 92 intersection with South 10th Street, as shown in **Figure ES-3**, and a roundabout at the US 25W intersection. The Green T Intersection concept would allow free-flow operations on KY 92 in the eastbound direction by using acceleration / merge lanes for left-turn movements from the South 10th Street. This type of intersection is expected to improve safety and reduce congestion. The roundabout at US 25W would consolidate access to only the major roadway movements and a raised median would be constructed between South 10th Street and US 25W, forcing vehicles to turn right out of driveways.



Figure ES-3: KY 92 Concept 2 – Green T Intersection at S 10th Street (Looking South)

KY 92 Concept 3: A second option east of the I-75 Exit 11 interchange is to construct roundabouts at the KY 92 intersections with 10th Street and US 25W with a raised median along KY 92. **Figure ES-4** presents a rendering of the roundabout at the US 25W intersection.



Figure ES-4: KY 92 Concept 3 – Roundabout at KY 92 / US 25W Intersection (Looking North)

KY 92 Concept 4: Based on discussions with the local officials and a review of available data, there is significant pedestrian activity on KY 92 across the I-75 interchange and a need for dedicated pedestrian facilities. An option to improve pedestrian connectivity between Williamsburg / the University of the Cumberlands east of I-75 and the commercial areas along KY 92 west of I-75 is to construct sidewalks on both sides of KY 92 across the I-75 interchange.

Local Official / Stakeholder Outreach

Following the development of the initial improvement concepts, the project team met with local officials and stakeholders to solicit feedback on the concepts. At the end of the meeting, attendees were asked to fill out a survey. Eight local officials / stakeholders filled out the survey, all eight of which live in the study area and drive through it weekly.

All respondents prioritized the northernmost section of I-75 as the top priority for widening. Additionally, all respondents indicated that improvements are needed along KY 92 at Exit 11. **The most popular improvement option** was to construct a southern backage road with a roundabout at KY 92 and implement access management west of existing Penny Lane (**KY 92 Concept 1**). East of the interchange, the most popular option was to construct a Green T intersection at S 10th Street and a roundabout at US 25W (**KY 92 Concept 2**). The local officials also indicated that providing bicycle and pedestrian accommodations on KY 92 across I-75 is a priority.

When asked if I-75 needs to be widened to six-lanes, seven of the eight local officials answered that widening is needed now, and one answered that widening is needed in 10-15 years.

Conclusions

Based on the findings of the study, it is recommended that I-75 Widening Concept B1 be advanced to Phase 1 Design, followed by Concept B2. At the KY 92 interchange, it is recommended that all four concepts, KY 92 Concepts 1, 2, and 3 be advanced for further consideration in Phase 1 Design. As a short-term project, a sidewalk is recommended across the I-75 Exit 11 interchange with KY 91 (KY 92 Concept 4).

Updated 2024 opinions of probable cost are shown in **Table ES-2**.

Next Steps

The next step following this study for any potential improvements would be Phase 1 Design (Preliminary Engineering and Environmental Analysis). Improvement Concept 2b, widening I-75 from MP 14.4 to MP 19.2 is identified as KYTC Item No. 11-80354 in Kentucky's 2024-2030 *Enacted Highway Plan* with \$2.5 million in Design (2027), \$500,000 for Right-of-Way (2028), \$500,000 for Utilities (2028), and \$105.5 million for Construction (2029).

Improvement Concept 2a, widening I-75 from MP 10.1 to MP 14.4 is identified as KYTC Item No. 11-80355 in Kentucky's 2024-2030 *Enacted Highway Plan* with \$2.5 million in Design (2028), \$500,000 for Right-of-Way (2029), \$500,000 for Utilities (2029), and \$92.5 million for Construction (2030). It should be noted that the current funding may not be sufficient for the milepoints identified by this study.

Table ES-2: 2024 Cost Estimates

Concept	Corridor	Description	2024 Cost Estimates		
			Design	Construction	Total
A	I-75	Widen I-75 to six lanes from MP 0.0 (TN State Line) to MP 20.0	\$46,720,000	\$467,200,000	\$513,920,000
B		Widen I-75 to six lanes from MP 9.6 (South of Exit 11) to MP 20.0	\$22,260,000	\$222,600,000	\$244,860,000
B1		Widen I-75 to six lanes from MP 15.5 (Exit 15) to MP 20.0	\$8,950,000	\$89,500,000	\$98,450,000
B2		Widen I-75 to six lanes from MP 9.6 (South of Exit 11) to MP 15.5 (Exit 15)	\$13,310,000	\$133,100,000	\$146,410,000
1	KY 92	Construct southern backage road with roundabout at KY 92 and implement access management west of Penny Lane	\$637,000	\$6,370,000	\$7,007,000
2		Construct a Green T intersection at S 10 th Street and Roundabout at US 25W	\$435,000	\$2,900,000	\$3,335,000
3		Construct a Roundabout at S 10 th Street and Roundabout at US 25W	\$540,000	\$3,600,000	\$4,140,000
4		Construct sidewalks on both sides of KY 92 across I-75	\$32,000	\$320,000	\$352,000

Further funding will be necessary to advance KY 92 improvements to the design phase as additional phases of this project are not funded in *Kentucky's FY 2024 – FY 2030 Highway Plan*.

In accordance with 23 USC 106, KYTC Highway Design Memo 06-24 notes that any potential project with an estimated cost over \$100 million requires development of a written financial plan to be submitted to and approved by the FHWA.² Future project teams should follow the procedures outlined in KYTC *Design Memorandum No. 6-24* which detail compliance with these requirements, including enhanced coordination, a Financial Plan, and adherence to the project development checklist.

² <http://transportation.ky.gov/Highway-Design/Memos/06-24.pdf>

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1.0 INTRODUCTION

The Kentucky Transportation Cabinet (KYTC) initiated the *I-75 Programming Study*, KYTC Item No. 11-1.00, to determine the need for and impacts of widening I-75 in Whitley County, Kentucky to six lanes, including impacts to mainline I-75 and adjoining interchange operations. Whitley County is part of KYTC District 11, as shown in **Figure 1**.

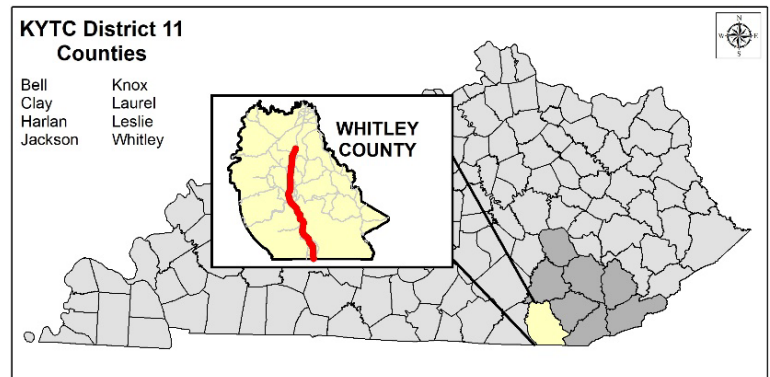


Figure 1: KYTC District 11 Map

1.1 STUDY AREA

The study area, shown in **Figure 2**, includes I-75 in Whitley County, beginning at the Tennessee state line, milepoint (MP) 0.000, and continuing north to MP 20.000. The study area includes two interchanges: Exit 11 at KY 92 and Exit 15 at US 25W. There is also a northbound Welcome Center (rest area) near MP 1.5.

I-75 is a major north-south interstate of national importance, spanning over 1,700 miles from Florida to Michigan. Within Kentucky, I-75 provides a connection between the Appalachian Mountains and areas to the north, including Lexington, where many travel for healthcare and employment. Whitley County is located at the southern extent of Kentucky and sits just north of the Tennessee state line. Whitley County had a 2020 census population of 36,712¹ with its two most populous cities, Williamsburg and Corbin, located along I-75. Williamsburg is home to the largest private university in Kentucky, the University of the Cumberlands, with a Fall 2022 undergraduate enrollment of 5,174². Corbin is located north of the study area, located about halfway between Lexington, Kentucky and Knoxville, Tennessee.

Most of the region surrounding the I-75 study corridor in Whitley County is rural, with areas of commercialized development in Williamsburg near Exits 11 and 15. Based on data from the Kentucky State Data Center (KSDC), Whitley County's population has grown over the last 20 years and continued growth is expected.

¹ <https://www.census.gov/quickfacts/fact/dashboard/whitleycountykentucky/PST045223>

² <https://www.usnews.com/best-colleges/university-of-the-cumberlands-1962>

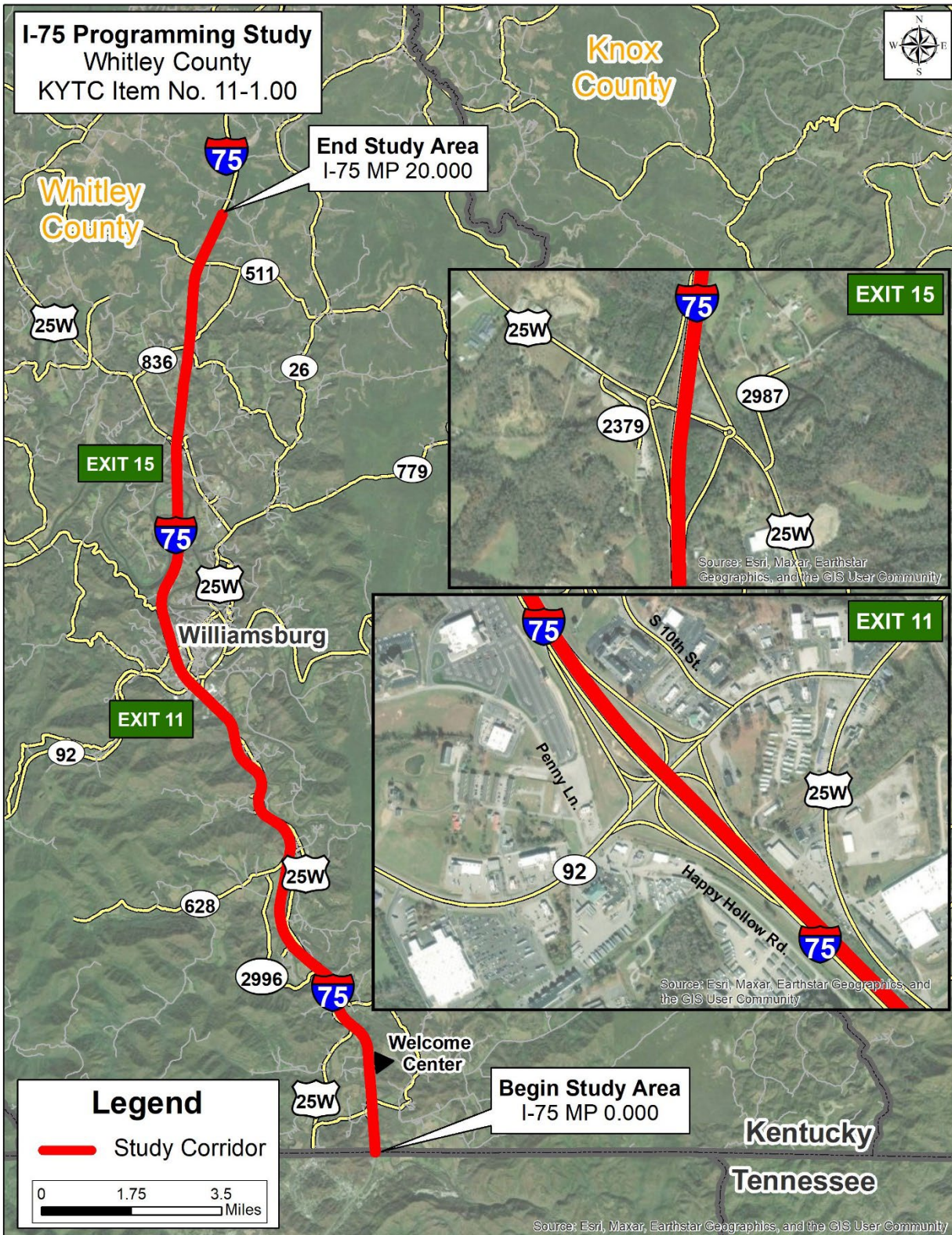


Figure 2: I-75 Programming Study Area

1.2 STUDY OBJECTIVES

The *I-75 Programming Study* examined existing and future transportation conditions along I-75 in Whitley County. The goals of the study included the following:

- Assess the existing pavement and bridge conditions.
- Evaluate crash history and geometric deficiencies.
- Develop traffic forecasts using the Kentucky Statewide Travel Demand Model (KYSTM).
- Engage the Tennessee Department of Transportation (TDOT) to better understand the agency's long-range plans for improvements to I-75 south of the Kentucky state line.
- Evaluate possible improvement concept for I-75, including:
 - Mainline improvements
 - Interchange improvements
- Develop and evaluate improvement alternatives at KY 92 (Exit 11), as shown in **Figure 3**.
- Estimate impacts and costs for the proposed improvement options.
- Identify and prioritize constructible segments over the 20-mile I-75 corridor.
- Engage local officials and major stakeholders to solicit feedback on improvements.

1.3 PLANNED AND COMMITTED PROJECTS

There are five active projects in the study area listed in *Kentucky's 2024-2030 Enacted Highway Plan*.

- KYTC Item No. 11-22107.00 – Address pavement condition on I-75 from MP 11.270 to MP 20.101. (D = \$2.7 million (2027), C = \$27 million (2027)).
- KYTC Item No. 11-80264.00 – Reconfigure existing intersection of KY 92 and Penny Lane to improve safety at intersection. Construct new connector road between KY 92 and Penny Lane. Reconfigure traffic operation along Penny Lane between KY 92 and new connector road. (R = \$1.61 million (2025), U = \$140,000 (2026), C = \$1.4 million (2028)).
- KYTC Item No. 11-80353.00 – Widen I-75 from MP 19.2 in Whitley County to MP 23.5 south of Corbin. (D = \$2.5 million (2025), R = \$500,000 (2025), U = \$500,000 (2026), C = \$88.5 million (2027)).
- KYTC Item No. 11-80354.00 – Widen I-75 from MP 14.4 in Whitley County to MP 19.2. (D = \$2.5 million (2027), R = \$500,000 (2028), U = \$500,000 (2028), C = \$105.5 million (2029)).
- KYTC Item No. 11-80355.00 – Widen I-75 from MP 10.1 in Whitley County to MP 14.4. (R = \$500,000 (2029), U = \$500,000 (2029), C = \$95 million (2028/2029)).

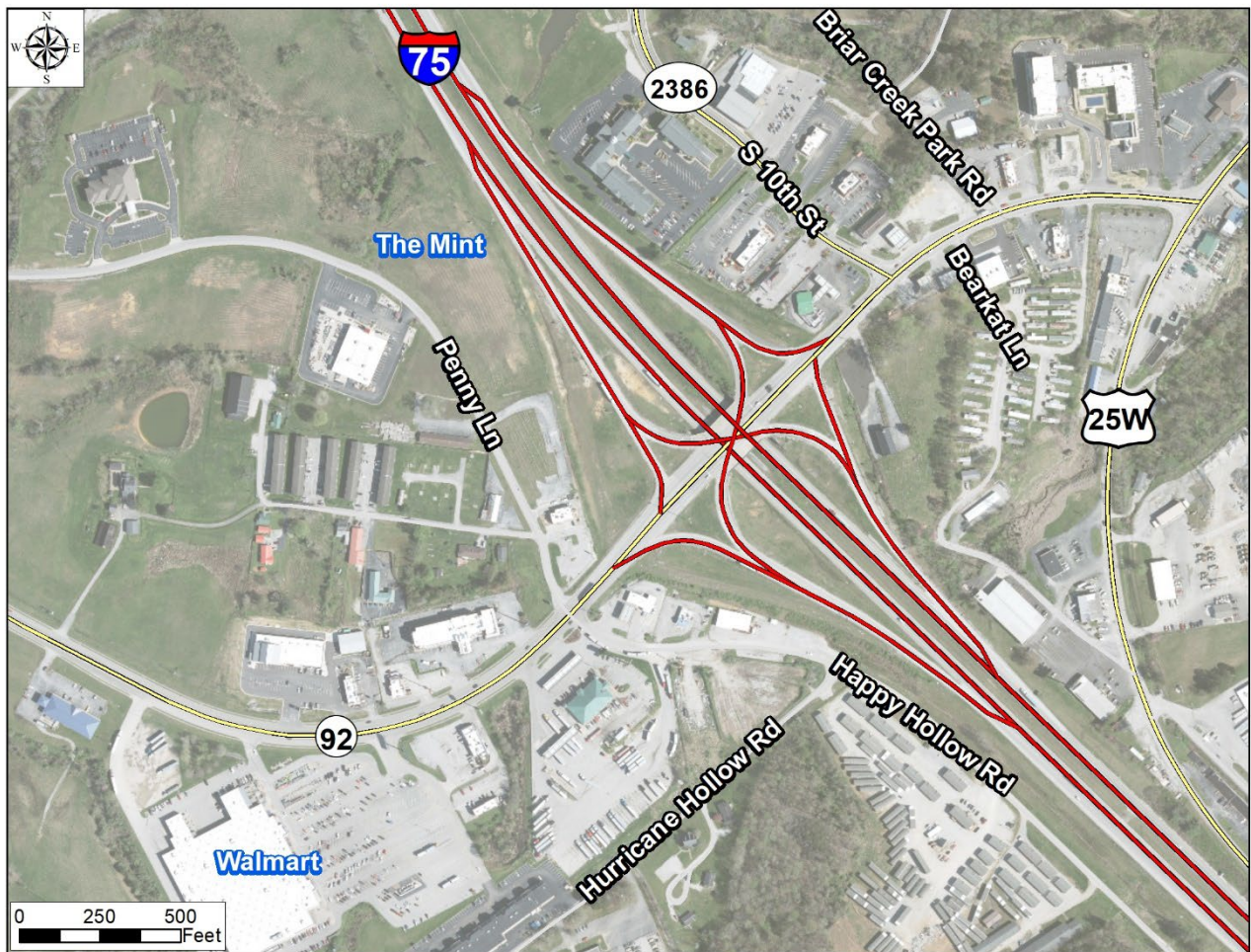


Figure 3: KY 92 Interchange

1.4 AVAILABLE STUDIES

In 1995, KYTC performed the *I-75 Improvement Strategy* to determine the cost of constructing two lanes in the median on sections of I-75. It was estimated that widening I-75 from MP 0.0 to MP 25.0 would cost \$76,225,000 (1995 dollars).

2.0 EXISTING CONDITIONS

Conditions of the existing transportation network were examined and are shown in the following sections. The information compiled includes roadway facilities and geometrics, crash history, and traffic volumes within the study area. Data for this section were collected from KYTC's Highway Information System (HIS) database, KYTC's Traffic Count Reporting System, aerial photography, and field inspection.

2.1 FUNCTIONAL CLASSIFICATION

Functional classification is the process of grouping streets and highways according to the character of travel service they provide. The functional classification of the study corridor and adjacent routes are shown in **Figure 4**. The study portion of I-75 is classified as a rural interstate, providing the highest mobility with limited access. There are no other major north-south roadways in the study area. At Exit 11, KY 92 and US 25 north of intersection with KY 92 are classified as urban minor arterials while US 25 south of the KY 92 intersection is classified as an urban major collector, serving trips of moderate length to smaller geographic areas. At Exit 15, US 25W is classified as a rural major collector, providing connections between major routes.

2.2 ROADWAY GEOMETRY

KYTC's HIS database was used to identify roadway geometry. The current number of lanes and estimated lane and shoulder widths for the study corridor and adjacent roadways are shown in **Figure 5**. I-75 is listed in the HIS database as having two 12-foot lanes in each direction with a 60-foot depressed median and 10-foot outside shoulders.



I-75 North of US 25W



KY 92 West of I-75

At the Exit 11 interchange, KY 92 is a five-lane urban minor arterial with curb and gutter, sidewalks, and a center two-way left-turn lane (TWLTL) west of I-75, as shown in **Figure 6**. To the east of I-75, KY 92 includes two eastbound lanes and a single westbound lane. As shown in Figure 3, the I-75 Exit 11 interchange is a single point urban interchange (SPUI), with a single traffic signal controlling all four I-75 ramps. There are currently traffic signals at the KY 92 intersections with 10th street and US 25W.

The US 25W interchange (Exit 15) was recently updated with roundabouts at each ramp terminal intersection. Therefore, the study is not focused on further improvements at that interchange.

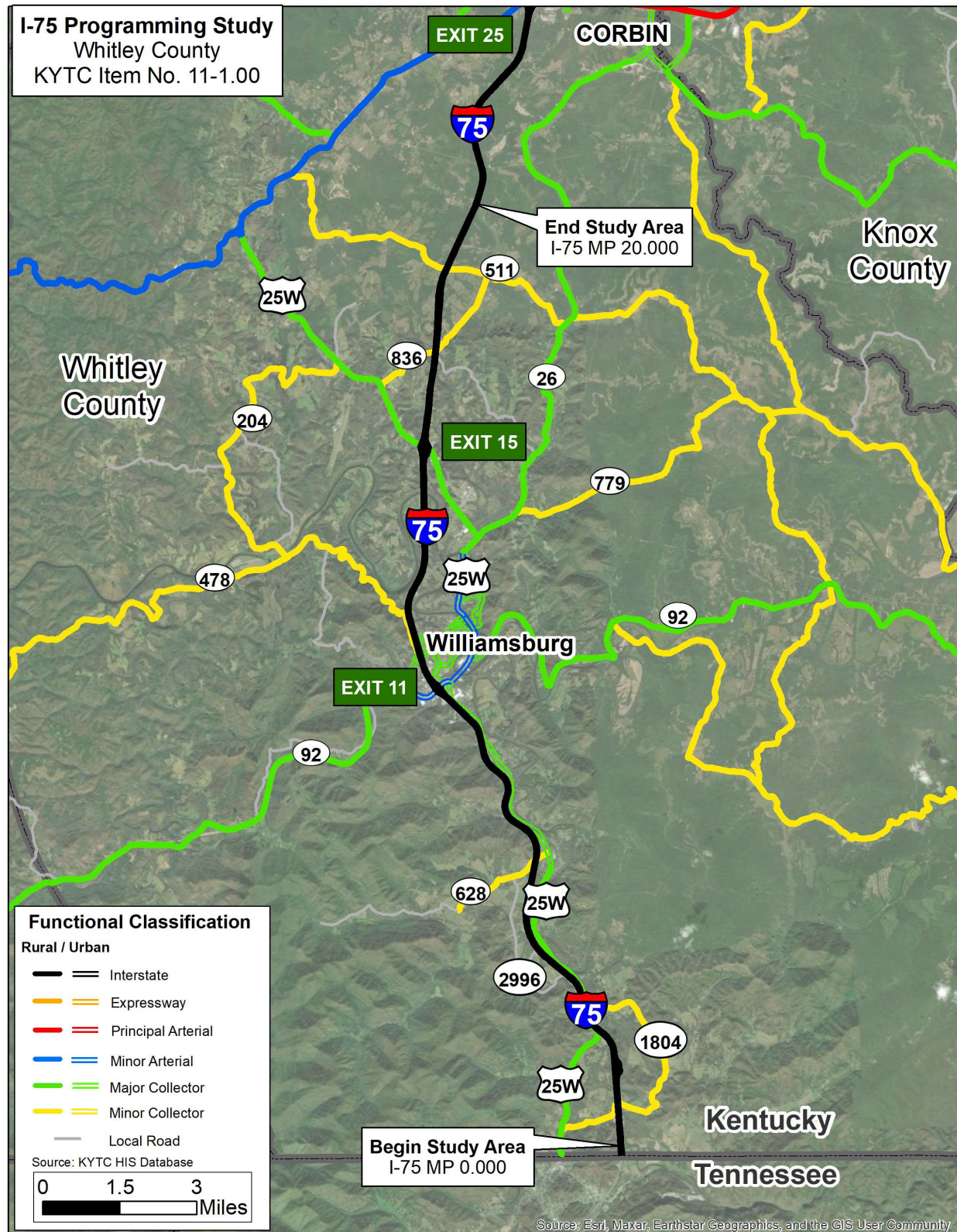


Figure 4: Functional Classification

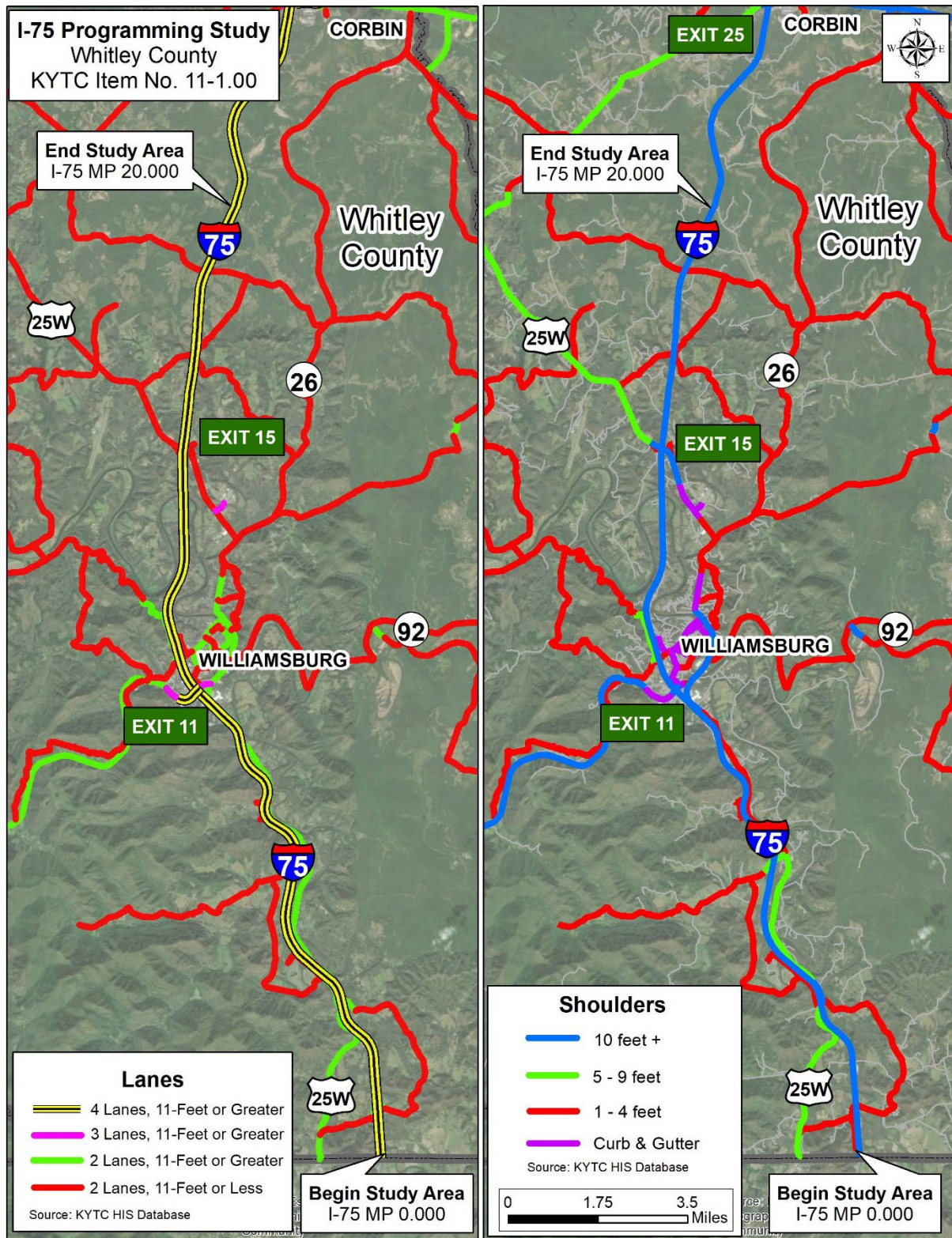


Figure 5: Number of Lanes and Lane/Shoulder Widths

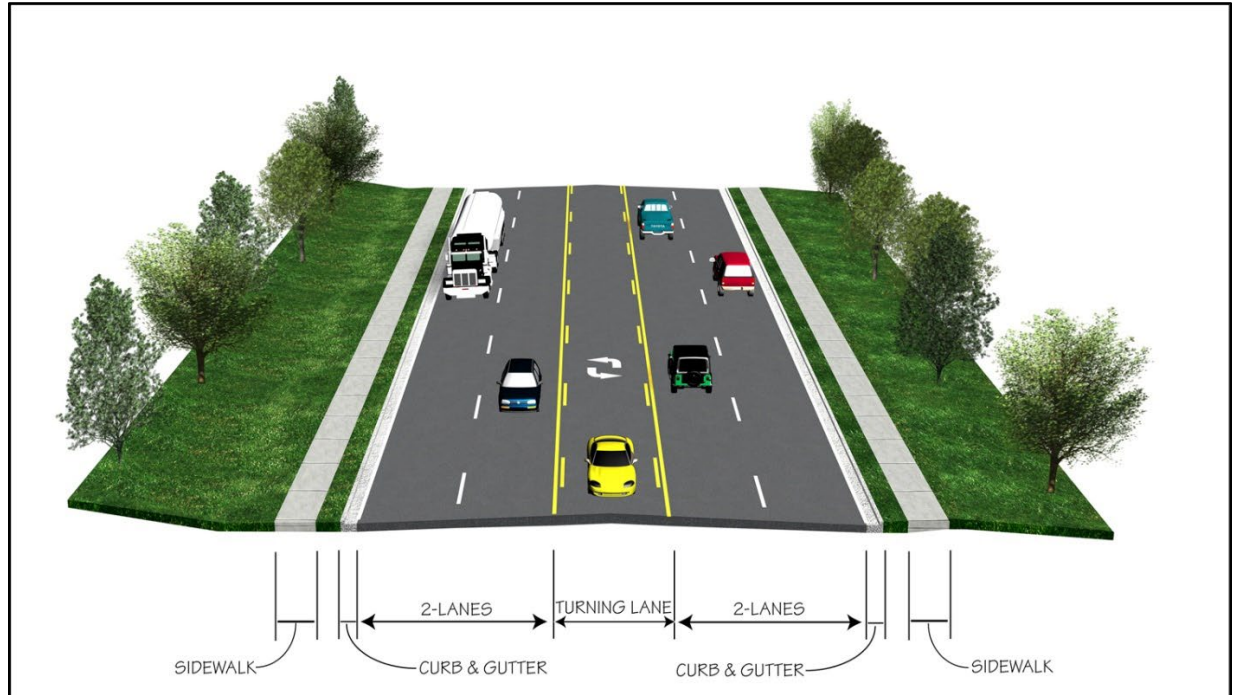


Figure 6: KY 92 Typical Section (West of I-75)

2.3 PAVEMENT CONDITION

The age and condition of the existing pavement along the study portion of I-75 was evaluated based on available data. **Figure 7** provides an overall summary of the pavement conditions. Based on information provided by the KYTC Pavement Branch, the southern portion of the study area was rehabilitated in 2021 with a 1.5-inch mill and overlay. The northern portion saw a full-depth pavement reconstruction in 2010.

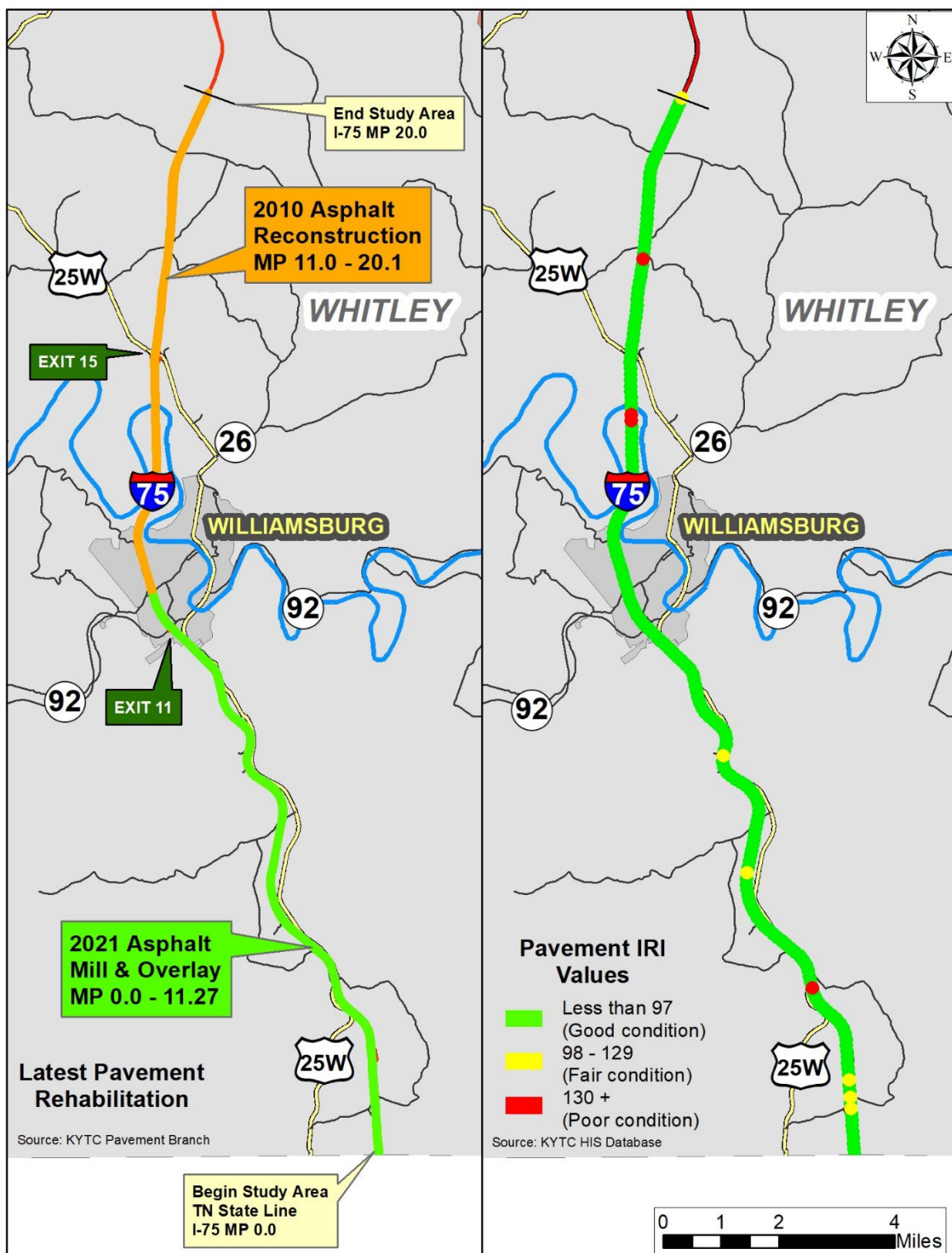


Figure 7: Pavement Information

Per the KYTC Transportation Asset Management Plan (TAMP), International Roughness Index (IRI) is a measure of ride quality as experienced by the traveling public. It is calculated from longitudinal pavement profiles captured using automated data collection equipment, and lower values represent better quality. For roadways carrying more than 12,000 vehicles per day (VPD), pavement is considered to be in “Good” condition if the IRI is less than 97, “Fair” condition if it is between 98 and 129, and “Poor” condition if it is 130 or greater.³

As highlighted on Figure 7, the majority of the I-75 pavement is considered to be in “Good” condition. In fact, as shown on **Figure 8**, 96 percent of the pavement between MP 0.0 and MP 20.0 is in “Good” condition.

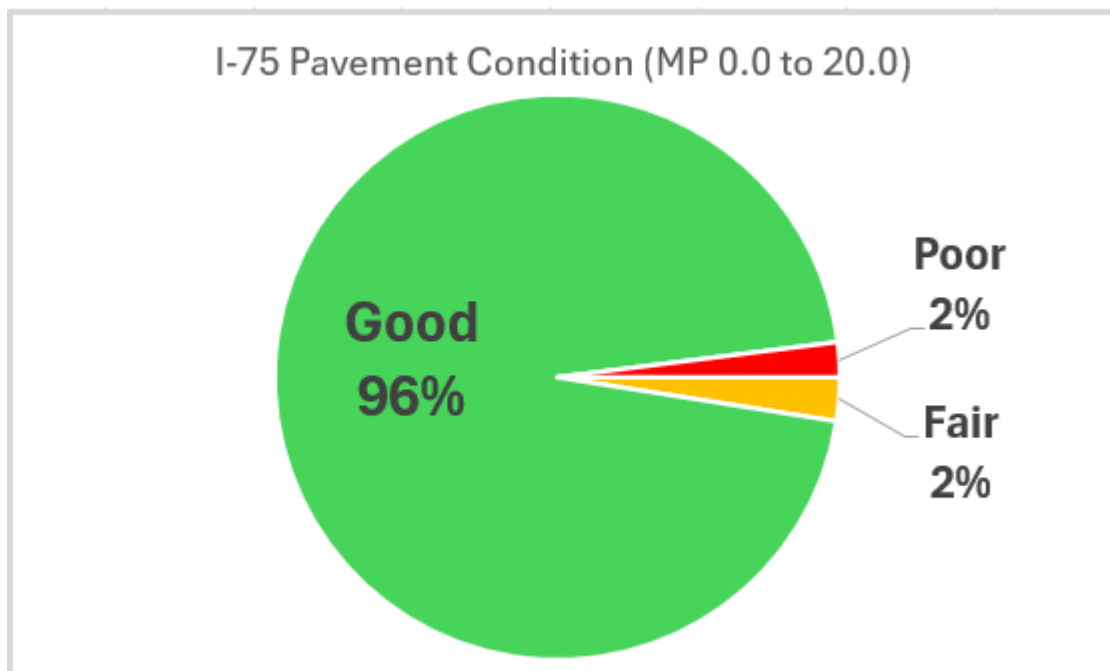


Figure 8: Pavement Conditions

³ http://prod16-transportation.ky.gov/Maintenance/Documents/KYTC_2022%20TAMP%20BIL%20Submittal.pdf

2.4 EXISTING STRUCTURES

There are 24 bridges along the study portion of I-75, many of which are overpasses. **Table 1** summarizes the bridges carrying I-75 traffic. The condition of all bridges was evaluated using the Bridge Health Index (BHI), a scoring system that ranges from 0 to 100, where a score of 100 indicates a bridge in optimal condition with its full remaining service life. The index is calculated based on the condition of the bridge's structural elements and the service provided by the bridge. BHI is commonly used to identify which structures are the most



I-75 Bridges over the Cumberland River

deteriorated and in need of repair work. Amongst these bridges, all are rated as having "fair" health and the minimum health index value is 84.18, as shown in **Figure 9**. The Cumberland River bridges, shown to the right, were built in 1965 and have a median width of 60-feet. Both bridges had recent deck repairs completed, including overlays, and a health index value of 93 or greater. However, discussions with KYTC District 11 Maintenance and site visits reveal deterioration in superstructure elements. Therefore, superstructure replacement (at minimum) should be considered with all potential I-75 widening options.

2.5 SPEED LIMIT

I-75 has a posted speed limit of 70 miles per hour (mph). Exit 11 roadways have posted speed limits ranging from 25 mph to 45 mph. At Exit 15, US 25W has a posted speed limit of 55 mph. The surrounding rural highways maintain posted speed limits of 55 mph.

2.6 EXISTING TRAFFIC ANALYSIS

Existing traffic volumes were analyzed for I-75 and surrounding roadways. The most current annual average daily traffic (AADT) volumes from KYTC's traffic count stations are shown in **Figure 10**. Daily traffic on I-75 is heaviest just south of Corbin, at 38,200 vehicles per day (VPD), and drops to 33,000 VPD north of the Kentucky and Tennessee border. This decrease in traffic continues to the south into Tennessee, where I-75 carries 23,900 VPD, then begins increasing approaching Knoxville, as shown in **Figure 11**. Truck percentages on I-75 range from 27 percent north of Exit 15 to over 31 percent between the Tennessee state line and Exit 11.

Exit 11 has daily traffic ranging from 2,100 VPD to 10,600 VPD on KY 92, while Exit 15 has daily traffic around 6,300 VPD on US 25W.

Table 1: I-75 Bridges

Structure Number	Direction	Feature Intersected	Milepoint	Length (ft)	Year Built
118B00057L	Southbound	CSX RAILROAD	0.803	159	1962
118B00057R	Northbound	CSX RAILROAD	0.803	159	1962
118B00053R	Northbound	KY 1804	1.008	154	1962
118B00053L	Southbound	KY 1804	1.013	154	1962
118B00058R	Northbound	CLEAR FORK RIVER	1.331	346	1962
118B00058L	Southbound	CLEAR FORK RIVER	1.341	346	1962
118B00054R	Northbound	SANDY FLAT ROAD	1.872	99	1962
118B00054L	Southbound	SANDY FLAT ROAD	1.879	99	1962
118B00059L	Southbound	CLEAR FORK RIVER	2.493	399	1962
118B00059R	Northbound	CLEAR FORK RIVER	2.498	399	1962
118B00055L	Southbound	US 25W	3.18	214	1962
118B00055R	Northbound	US 25W	3.184	214	1962
118B00060R	Northbound	WOLF CREEK	5.572	212	1964
118B00060L	Southbound	WOLF CREEK	5.588	212	1964
118B00056R	Northbound	KY 2986-CANE CREEK RD	7.875	150	1965
118B00056L	Southbound	KY 2986-CANE CREEK RD	7.888	150	1965
118B00061N	Northbound	BRIER CREEK	10.957	32	1966
118B00045L	Southbound	CUMBERLAND RIVER & CROLEY RD	14.561	674	1965
118B00045R	Northbound	CUMBERLAND RIVER & CROLEY RD	14.561	674	1965
118B00062N	Northbound	BLAKE FORK CREEK	17.165	33	1967
118B00046L	Southbound	KY 836	17.326	172	1967
118B00046R	Northbound	KY 836	17.342	134	1967

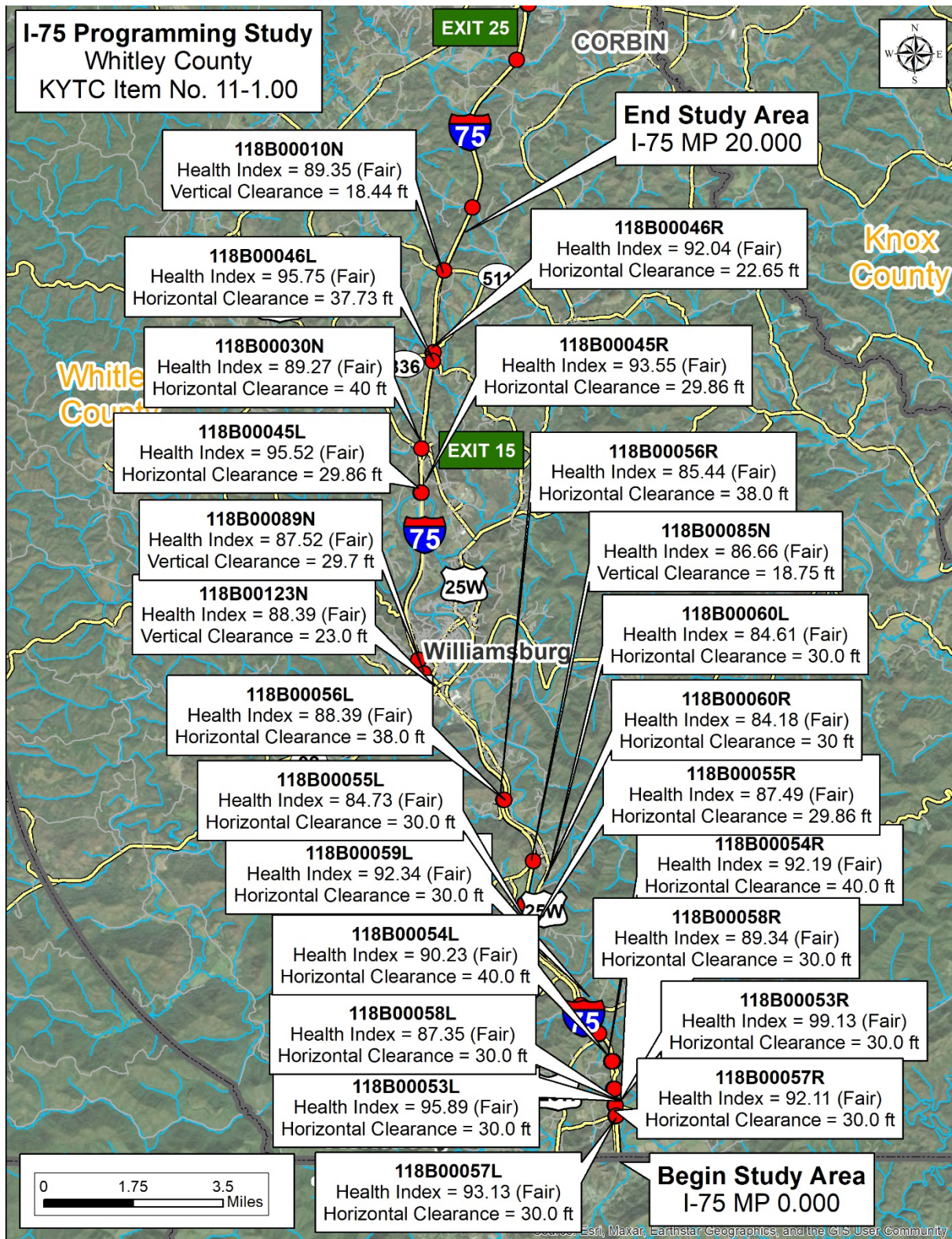


Figure 9: Bridge Location and Health Index

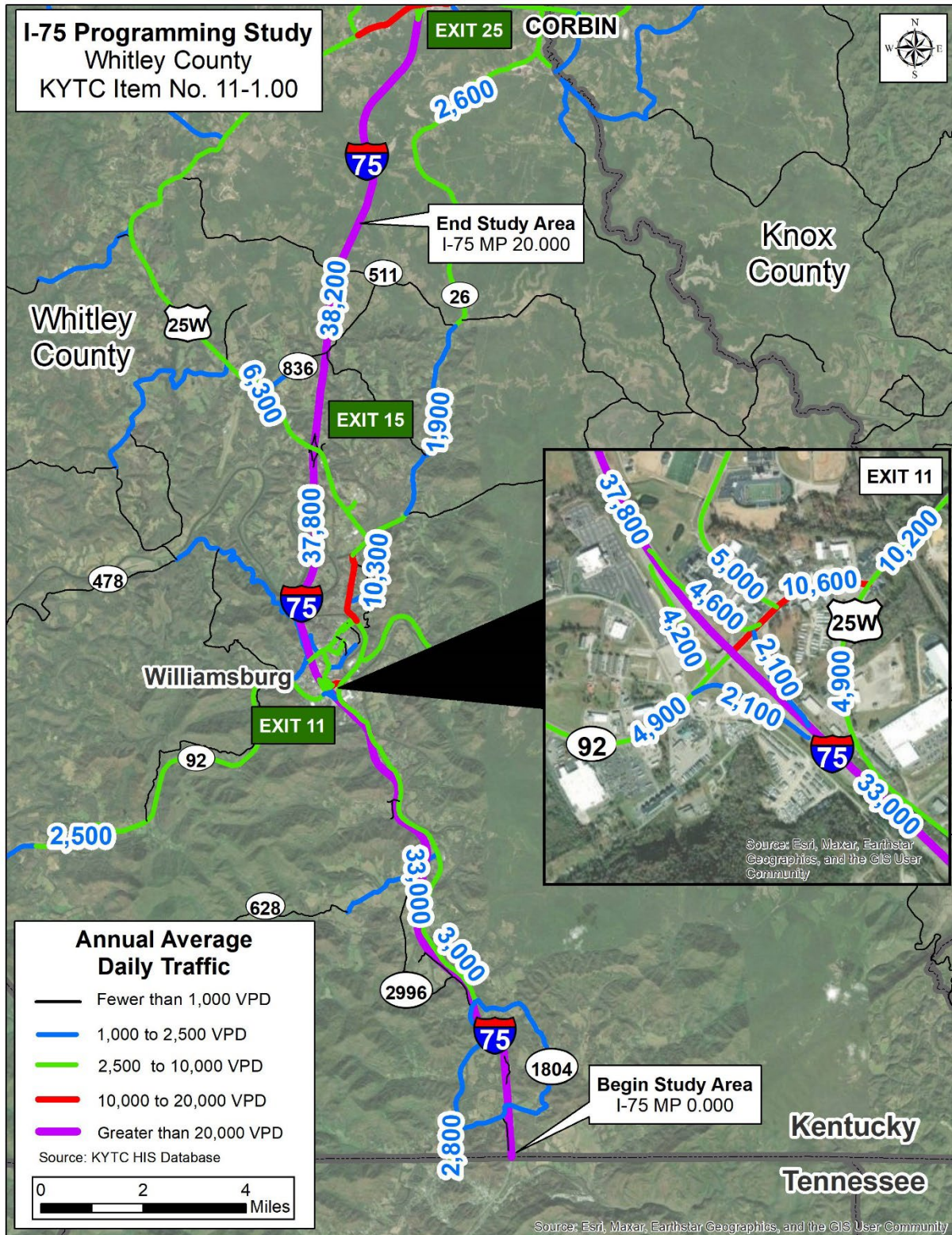


Figure 10: Annual Average Daily Traffic (ADT)

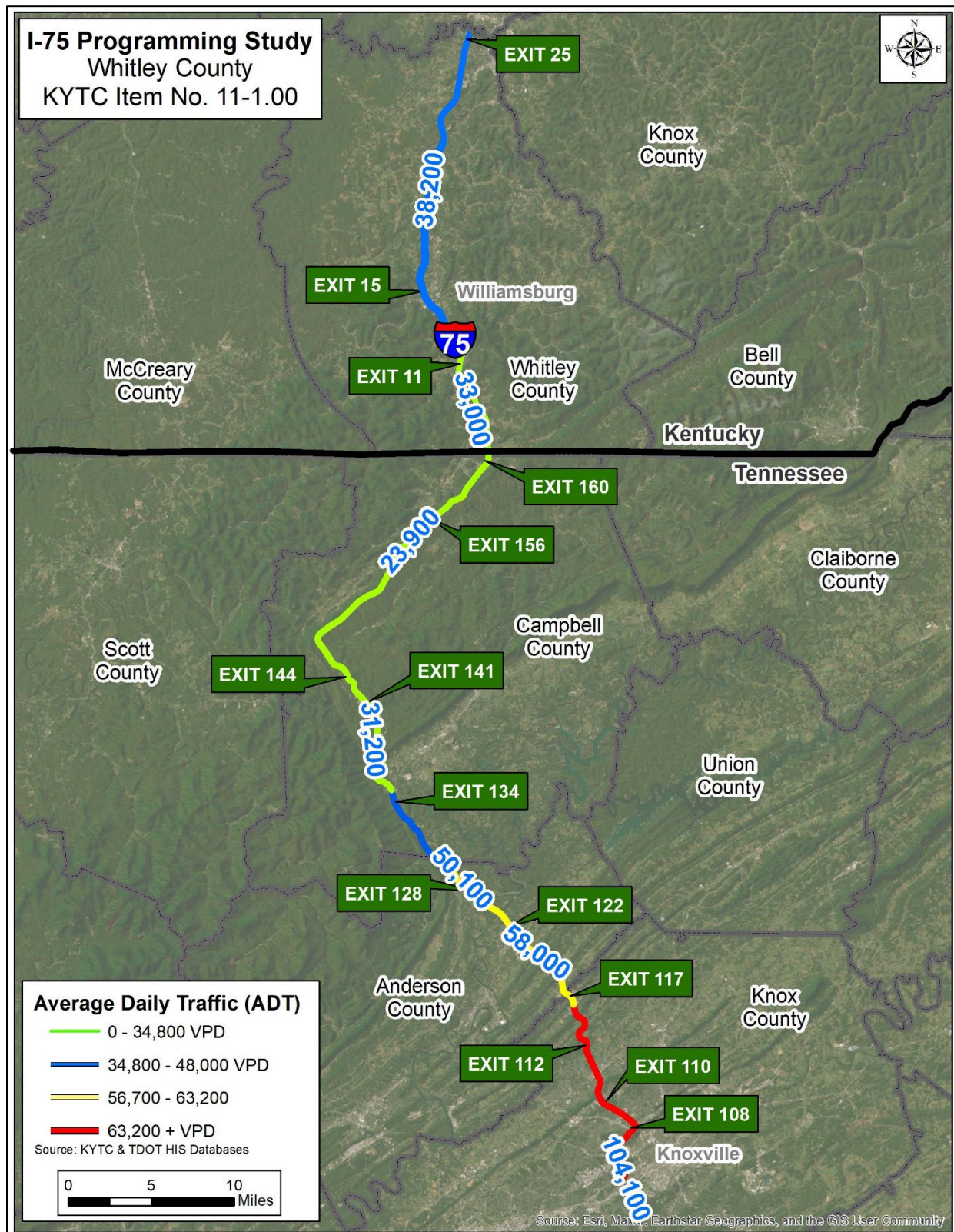


Figure 11: Tennessee Average Daily Traffic

Additional hourly traffic data were obtained for the three KYTC stations on the study portion of I-75. These hourly counts showed higher individual average daily traffic (ADT) than the corresponding AADTs and are summarized below:

- Station 118P83: I-75 between the Tennessee state line and Exit 11
 - AADT = 33,000 VPD (2023)
 - Single day ADT = 49,900 VPD (2019)
- Station 118515: I-75 between Exit 11 and Exit 15
 - AADT = 37,800 VPD (2023)
 - Single day ADT = 45,000 VPD (2021)
- Station 118771: I-75 North of Exit 15
 - AADT = 38,219 (2023)
 - Single day ADT = 42,200 VPD (2022)

Level of service (LOS), a qualitative measure describing operational conditions, was used to evaluate the adequacy of the existing roadway. In rural areas, LOS C or better is desirable and in urban areas, LOS D or better is desirable. A Highway Capacity Software (HCS) mainline freeway analysis was performed using the single-day hourly counts from 2019 – 2022. Results from the analysis revealed that the rural I-75 study corridor currently operates at LOS C or better during the weekday a.m. and p.m. peak hours with volume-to-capacity ratios under 0.5. Additionally, the study corridor currently operates under 52,900 VPD, the estimated capacity of a four-lane interstate before operations drop to LOS D.

Intersection analyses were performed along KY 92 near the I-75 interchange. **Table 2** presents a summary of the peak hour traffic operations at these intersections.

Table 2: KY 92 Traffic Operations Summary

Intersection	Approach	AM Peak		PM Peak	
		Delay (sec.)	LOS	Delay (sec.)	LOS
KY-92 at I-75 Ramps	EB KY-92	19.0	B	22.4	C
	WB KY-92	17.9	B	14.5	B
	NB I-75 Ramps	23.3	C	49.4	D
	SB I-75 Ramps	25.2	C	46.6	D
	Overall	20.1	C	25.1	C
KY-92 at 10th St	EB KY-92	24.9	C	22.6	C
	WB KY-92	38.4	D	44.9	D
	NB Shell Driveway	62.0	E	51.9	D
	SB 10th St	62.8	E	54.4	D
	Overall	43.0	D	38.0	D
US-25W at KY-92	EB KY-92	16.3	B	21.3	C
	NB US-25W	5.2	A	25.8	C
	SB US-25W	12.4	B	43.4	D
	Overall	8.8	A	32.6	C

2.7 CRASH HISTORY

Crash data were collected on study area roads for the five-year period between 2018 – 2022. Over the course of the five years, a total of 850 crashes were reported on I-75 within the study corridor. The crash records are included in **Appendix A**.

Of the 850 crashes on I-75, seven resulted in a fatality (one percent) and 141 resulted in one or more injuries (17 percent). **Figure 12** presents the locations of the crashes on I-75 by crash severity. The most common crash types on I-75 were single vehicle (52 percent), sideswipe (24 percent), and rear end collisions (19 percent). **Figure 13** presents the locations of the crashes by crash type.

The Kentucky Transportation Center's (KTC's) Crash Data Analysis Tool (CDAT) was used to perform an Excess Expected Crashes (EEC) analysis. EEC is a measure of the crash frequency at a given site compared to what is expected based on current conditions (geometrics, traffic, etc.). A positive EEC indicates more crashes are occurring than should be expected. Results from this analysis showed the entire study corridor has positive EECs, with the highest EEC on the segment of I-75 from the state line to Exit 11 (21.3 crashes per year), as shown in **Figure 14**. The Level of Service of Safety (LOSS) is three for all segments, indicating a moderate to high potential for crash reduction.

An additional crash analysis was performed on KY 92 near the Exit 11 I-75 interchange. In the three-year period between 2020 and 2022, there were 22 crashes at the KY 92 intersection with Penny Lane. Eight of the collisions were categorized as angle and eight were sideswipe, as shown in **Figure 15**. Angle collisions were also the most common crash type at the South 10th Street and US 25W intersections.

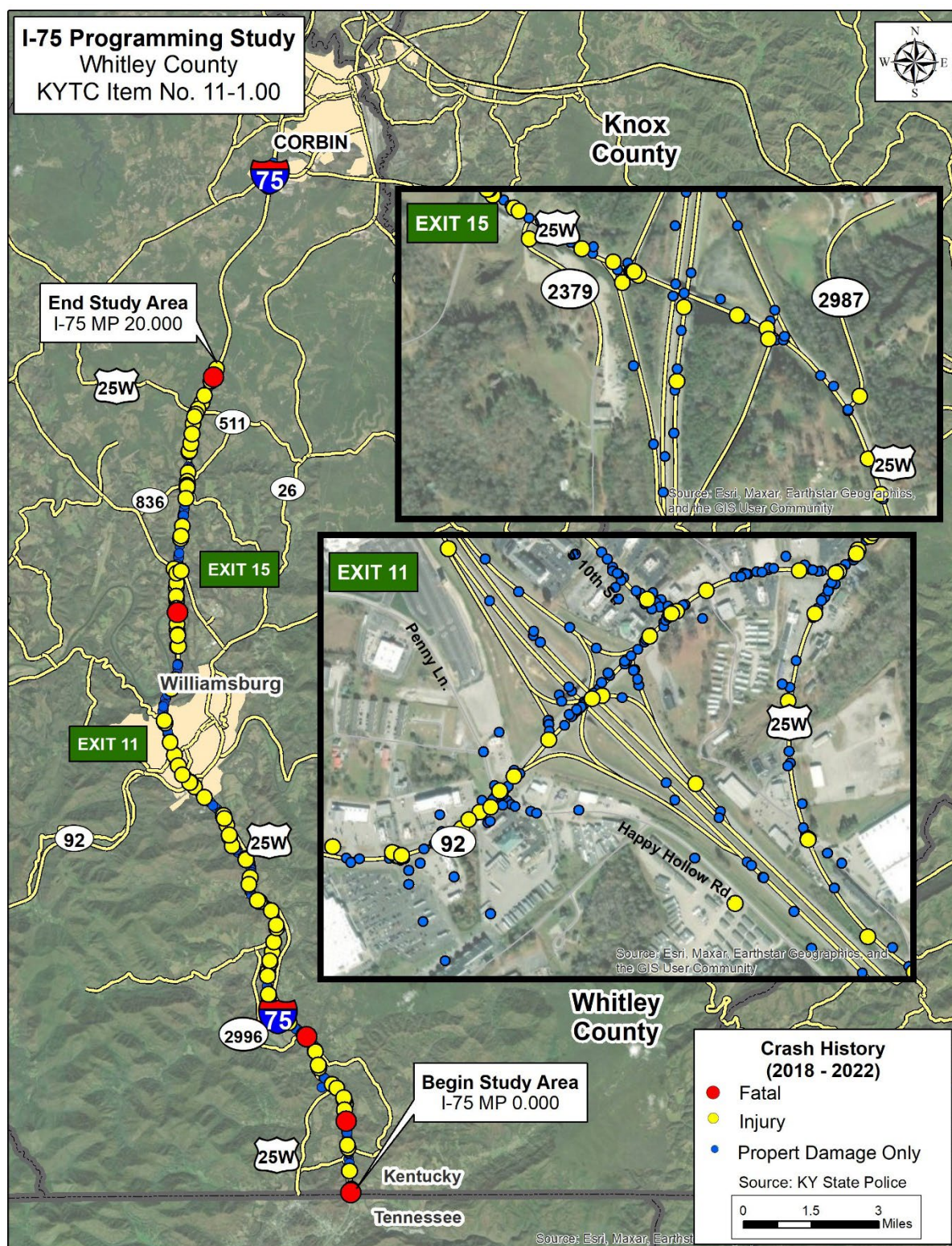


Figure 12: Crash Severity (2018 - 2022)

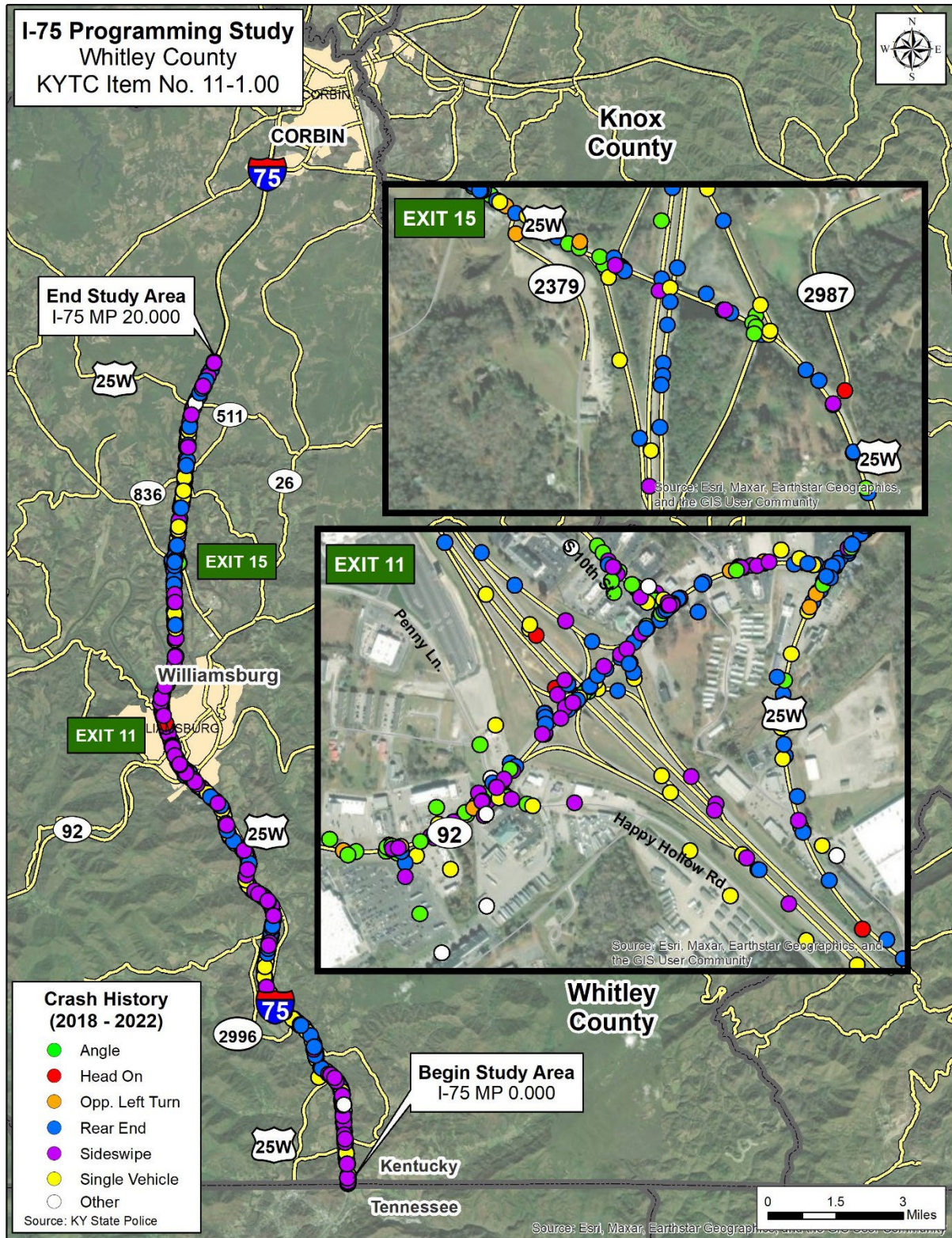


Figure 13: Crash Type (2018 - 2022)



Figure 14: Excess Expected Crashes (2017 – 2021)

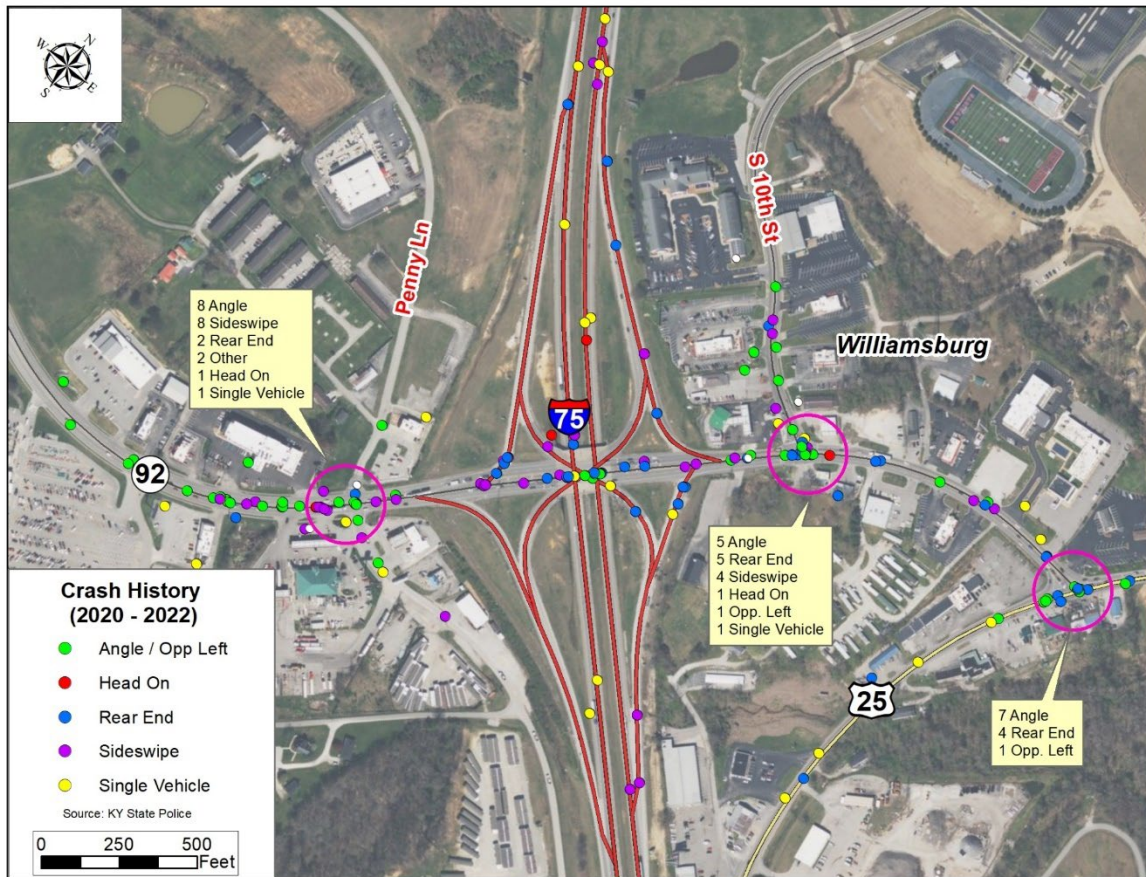


Figure 15: KY 92 Crash History (2020 - 2022)

3.0 ENVIRONMENTAL OVERVIEW

An Environmental Overview (EO) was completed to identify known natural and human features which occur within the study area. These features were considered during the development of improvement concepts and should be considered during advancement, along with avoidance or minimization of impacts to the environment. The complete document is included in **Appendix B**.

3.1 NATURAL ENVIRONMENT

Of the 2,568 acres within the study area, which included 500 feet west of the southbound centerline to 500 feet east of the northbound centerline, 446.1 acres were identified as 100-Year floodplain. There are 64 U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), 18 United States Geological Survey (USGS) National Hydrography Dataset (NHD) waterbodies (5.5 acres total), and 75 NHD streams in the study area. 24 percent of the study area was classified as "Prime Farmland" or "Farmlands of Statewide Importance."

The Daniel Boone National Forest is a Section 6f property and the protected lands overlap 41 percent of the study area. The Environmental Data Report (EDR) identified 15 oil and gas wells within the study area. The EDR also found five domestic water wells, 64 monitoring wells, and no public water supply system, but one source water protection area was identified spanning a significant portion of the study area, including Exit 11.

According to the USFWS's Information for Planning and Consultation (IPaC) resource list, there are 12 species of concern in the study area.

The Kentucky Office of State Archaeology (OSA) preliminary records review indicated six archaeological sites within the study area boundary. One of these was listed as eligible for NRHP, one was noted as an inventory site not presently meeting NR criteria, and four were listed as NRHP status unassessed. Most of the study area is underlain by bedrock with moderate potential for karst development.

3.2 HUMAN ENVIRONMENT

An overview of the human environment around Exit 11 is shown and the rest of the study area summarized in **Appendix B**. Based on the review of National Register of Historic Places (NRHP), there are 21 previously recorded historic architectural properties that fall within 1,000 feet of the project's centerline. Community resources and sensitive noise receptors in the study area include numerous houses and residential neighborhoods, four houses of worship, no schools, five gas stations, and two electric transmission lines. Eight additional houses of worship and two cemeteries were identified within a mile of the study area.

As this study was a programming study focused on widening long sections of I-75, a socioeconomic study was not completed.

4.0 FUTURE CONDITIONS

To determine the need for and purpose of potential transportation improvement options, it is necessary to estimate future conditions. This chapter summarizes the anticipated future conditions within the study area.

4.1 POPULATION TRENDS

Population data, including data from the 2020 Census, were obtained from the Kentucky State Data Center (KSDC) at the University of Louisville, Kentucky's official clearinghouse for Census data. Population estimates and projections for the state of Kentucky, Whitley County, and Williamsburg are summarized in **Table 3**. Between 2000 and 2020, Whitley County and Williamsburg grew at a slower rate than the state average, at rates of 0.12 percent per year and 0.05 percent per year, respectively. This growth is expected to continue and increase in Whitley County at 0.19 percent over the next 30 years. Population projections are not available for cities.

Table 3: Population Estimates & Projections

Area	Census Estimates			Annual Growth	2050 Projection	Annual Growth
	2000	2010	2020	2000 - 2020		2020 - 2050
Kentucky	4,041,769	4,339,367	4,505,836	0.54%	4,785,233	0.20%
Whitley County	35,865	35,637	36,712	0.12%	38,854	0.19%
Williamsburg	5,243	5,148	5,296	0.05%	N/A	N/A

4.2 HISTORICAL TRAFFIC COUNTS

Historical average daily traffic volumes and annual growth rates, between 2008 and 2023, for KYTC count stations in the study area are summarized in **Table 4** and **Table 5**. The red text in the tables represents traffic counts from 2020 which was not an accurate representation of recent traffic patterns due to COVID shutdowns and was not used to calculate the historical growth rates. Medium-term Compound Annual Growth Rate (CAGR) were calculated for each station, indicating the annual growth over roughly a 15-year period.

Traffic stations on I-75 show increasing daily traffic volumes, with annual growth ranging from 1.6 to 1.9 percent per year. KY 92 east of I-75, US 25W, and S. 10th Street all show declining traffic rates near the study corridor. However, KY 92 west of I-75 and both I-75 off and on ramps were found to increase since 2008 at rates that range from 0.46 percent to 4.11 percent.

Table 4: Historical KYTC Traffic Counts (Mainline I-75)

Year	I-75 (State line to Exit 11)	I-75 (Exit 11 to Exit 15)	I-75 (North of Exit 15)
	118P83	118515	118771
2008	25,000	29,800	28,800
2009	21,500		
2010			
2011	26,300	36,100	36,500
2012		30,992	30,393
2013	27,089	31,594	28,451
2014	28,045	36,856	36,278
2015	29,747		41,634
2016	29,923	38,667	38,519
2017	30,337	43,185	35,775
2018	30,833	34,031	32,521
2019	31,528	35,456	35,091
2020	27,432	32,586	33,772
2021		43,005	42,621
2022		37,542	38,213
2023	33,001	37,791	38,219
% CAGR	1.87%	1.60%	1.90%

Source: Kentucky Transportation Cabinet (KYTC)
 *2020 counts not used in growth rate calculations

Table 5: KYTC Historical Traffic Counts (Exit 11)

Year	KY 92 (West of I-75)	KY 92 (East of I-75)	US 25W (South)	US 25W (North)	S. 10th St.	I-75 SB Off Ramp	I-75 SB On Ramp	I-75 NB Off Ramp	I-75 NB On Ramp
	118E04	118E00	118D24	118D26	118D37	118D92	118D84	118D85	118D86
2008	3,830			10,900					
2009	3,720	13,300							
2010			7,060		6,770				
2011				10,100					
2012	3,847	12,519							
2013			6,125		6,398				
2014				10,790		3,612		1,611	3,958
2015									
2016			6,124		5,766				
2017				9,667					
2018	4,427	10,603				4,019	2,097	2,009	4,068
2019	4,710	14,056	5,331		4,534				
2020				9,174					
2021	4,910	10,550				4,228	2,126	2,136	4,591
2022			4,859		4,986				
2023				10,172					
% CAGR	1.93%	-1.91%	-3.07%	-0.46%	-2.53%	2.28%	0.46%	4.11%	2.14%

Source: Kentucky Transportation Cabinet (KYTC)

*2020 counts not used in growth rate calculations

4.3 KENTUCKY STATEWIDE TRAVEL DEMAND MODEL (KYSTM)

As an additional data source, study area growth rates from the Kentucky Statewide Travel Demand Model (KYSTMv19) were reviewed. Between 2019 (the model base year) and 2045, if no capacity upgrades are made to I-75, annual growth is expected to range between 0.7 and 1.1 percent.

Annual growth was also analyzed for the Build scenario if I-75 were to be widened to six lanes from MP 0.0 to MP 20.0. Daily traffic is expected to grow between 1.1 and 1.5 percent per year under the Build scenario.

No-Build KYSTM growth rates were also reviewed at the I-75 interchange with KY 92. Daily traffic on KY 92 is expected to increase between 0.4 and 0.9 percent per year, while traffic on South 10th Street and US 25W is expected to increase up to 1.9 percent per year. Growth on the I-75 ramps is expected to range between 0.6 and 2.2 percent per year.

4.4 2045 DAILY TRAFFIC FORECASTS

Future growth scenarios were then developed based on historical traffic trends, regional population trends, and output from the updated KYSTM. The following annual growth rates were proposed to develop future year traffic volumes:

Mainline I-75

- No Build Growth Rate = 1.0%
- Build Growth Rate = 1.5%

KY 92 Interchange & Other Routes

- No-Build & Build GR = 1.0%

These annual growth rates were then applied to the latest KYTC daily traffic counts (excluding 2020) to develop 2045 daily traffic forecasts. The complete Traffic Forecasting Technical Memorandum can be found in **Appendix C**. The 2045 No-Build daily forecasts are shown in **Figure 16**. Maintaining I-75 as four lanes and applying these growth rates, I-75 is expected to range 40,800 VPD to 48,000 VPD.

Annual growth was also analyzed for the 2045 Build scenario if I-75 were to be widened to six lanes from MP 0.0 to MP 20.0. Results from the Build analysis is shown in **Figure 17**. Applying the growth rates to the most recent traffic counts, daily traffic on I-75 is expected to range from 46,400 VPD to 53,800 VPD. Under this growth scenario, Section 2 (modeled as a six-lane facility) will be at the capacity for a four-lane interstate.

4.5 2045 TRAFFIC ANALYSIS

A 2045 No-Build traffic operations analysis was performed using HCS. Based on results from the analysis, I-75 is expected to generally operate at LOS C or better, with volume-to-capacity ratios (V/C) well under 1.0 indicating capacity is not an issue. Daily fluctuations, including increased traffic on the weekends are expected to occasionally cause operations to drop to LOS E with V/C ratios approaching 1.0. **Table 6** summarizes the peak hour V/C ratios for the 2045 No-Build and Build scenarios on I-75 in the northbound (NB) and southbound (SB) directions. Under the Build scenario, with I-75 widened to six lanes, I-75 is expected to operate at LOS C or better in 2045 with V/C ratios no greater than 0.71.

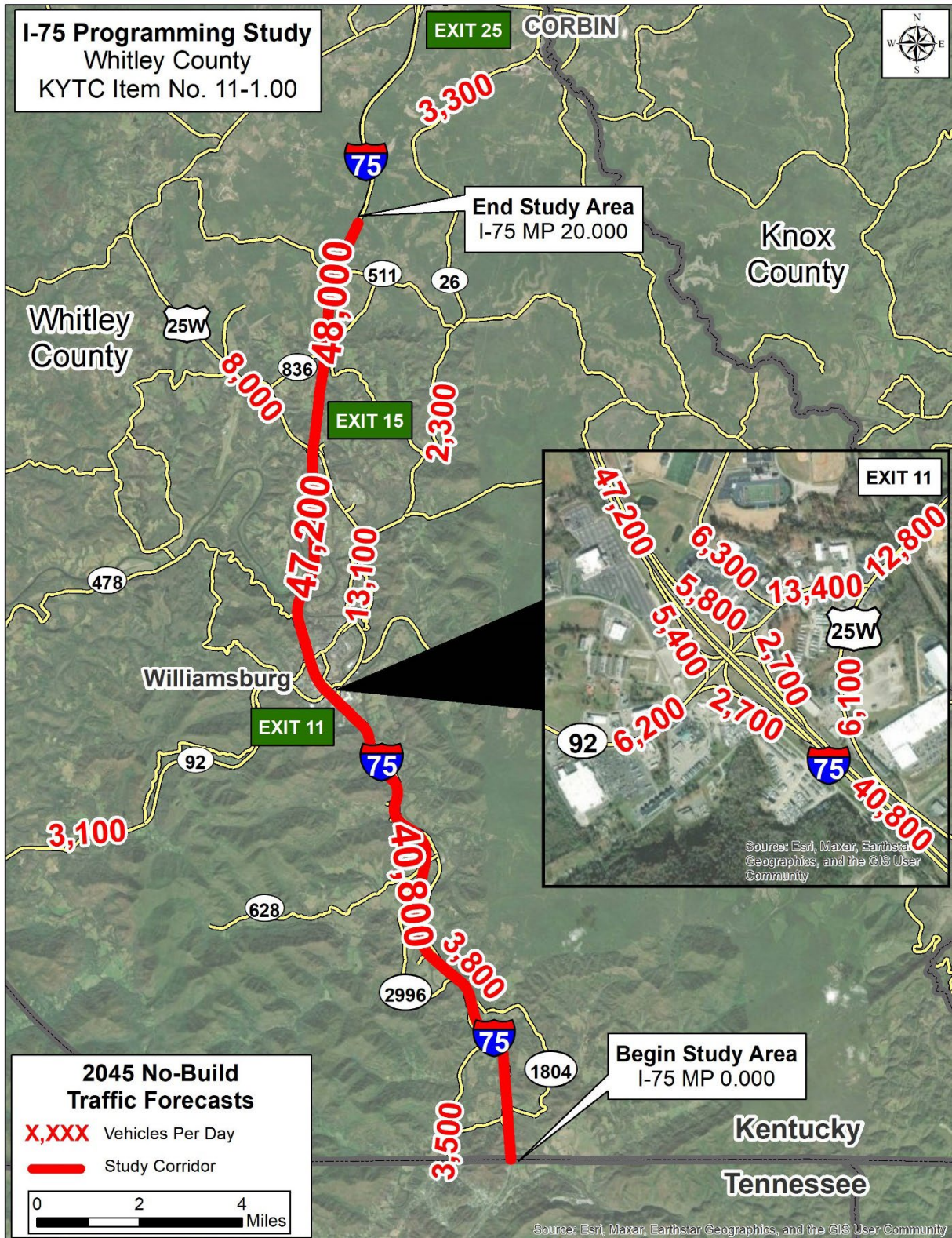


Figure 16: 2045 No-Build Daily Traffic Forecasts

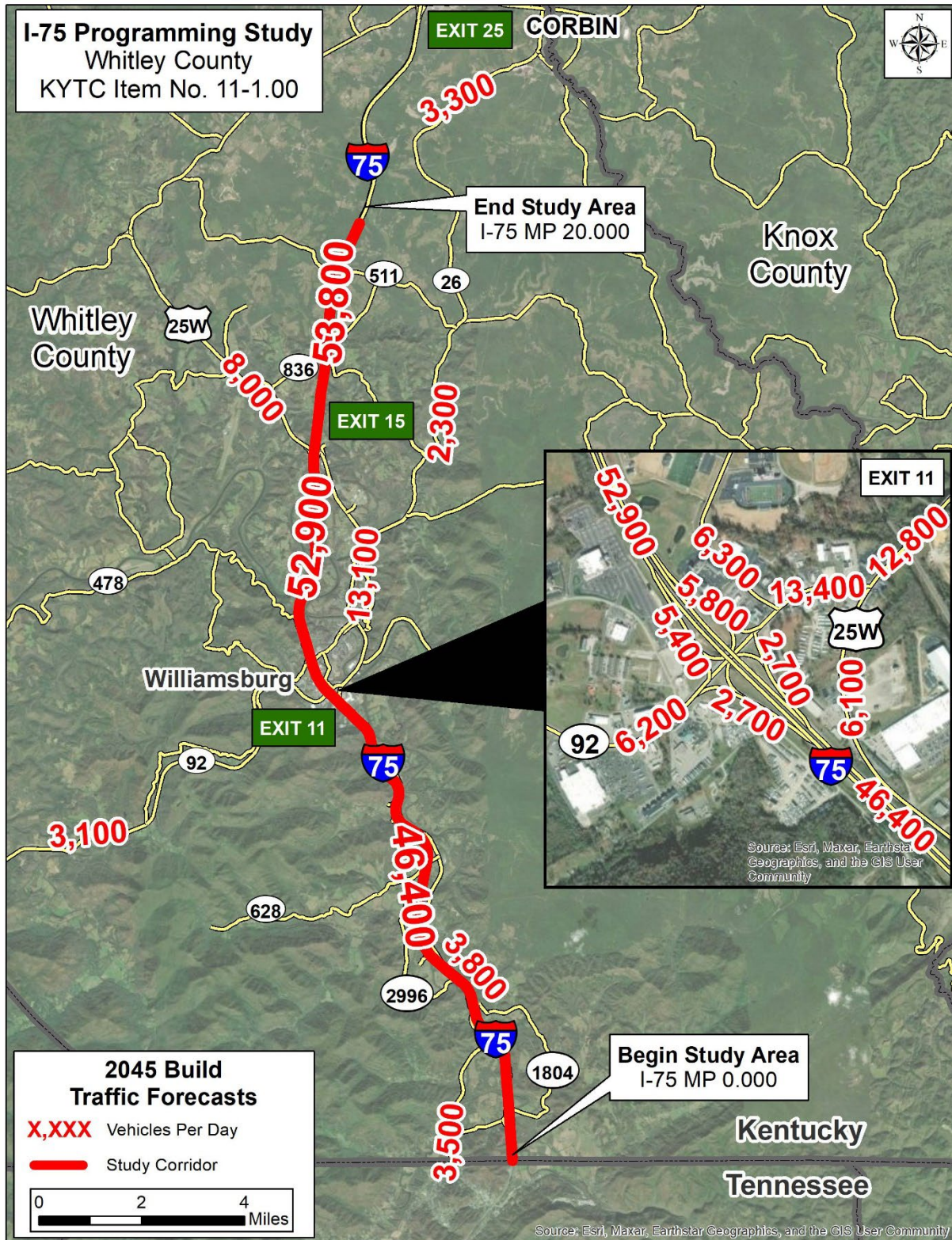


Figure 17: 2045 Build Daily Traffic Forecasts

Table 6: 2045 Traffic Analysis Summary

Route	Location	Weekday				Weekend			
		No-Build		Build		No-Build		Build	
		NB V/C	SB V/C	NB V/C	SB V/C	NB V/C	SB V/C	NB V/C	SB V/C
I-75	MP 0 to MP 11	0.58	0.48	0.43	0.35	0.95	0.78	0.71	0.58
	MP 11 to MP 15	0.60	0.54	0.45	0.4	0.66	0.67	0.49	0.5
	MP 15 to MP 20	0.62	0.70	0.46	0.52	0.68	0.59	0.51	0.44

5.0 PROJECT TEAM MEETING NO. 1

Over the course of the study, the project team met to coordinate on key issues. The project team included representatives from KYTC Central Office, KYTC District 11, and the consultant, Stantec. Detailed summaries of each meeting are presented in **Appendix D**.

5.1 PROJECT TEAM MEETING NO. 1

The first Project Team Meeting for the subject project was held at the KYTC District 11 Office and virtually via Microsoft Teams on July 10, 2023. The purpose of the meeting was to discuss the scope of work and present the results from the existing conditions analysis. The following items were discussed:

- The intersection of Penny Lane at KY 92 west of I-75 is currently right-in / right-out, however, there is no raised median or curb to prevent other turn movements. This study will consider access management solutions on KY 92.
- The KYTC Bridge Manual requires 16'-6" clearance on all bridges. As part of the study, Stantec will verify the vertical clearance of the structures.
- As part of their Regional Transportation Plan, the Tennessee Department of Transportation (TDOT) analyzed I-75 traffic patterns between 2008 and 2018 and found minimal to negative growth. TDOT has no plans to widen I-75 south of the Kentucky state line.

6.0 PRELIMINARY IMPROVEMENT CONCEPTS

Preliminary improvement concepts were developed based on a combination of input from the project team, a review of existing conditions, local officials / stakeholder input, and field reconnaissance. Concepts included I-75 widening and improvements along KY 92 at Exit 11.

6.1 I-75 WIDENING

I-75 is currently four lanes (two lanes each direction) through the study area. Based on results from the traffic forecasts, additional capacity will likely be needed in the future to account for daily fluctuations and increased traffic on the weekends. Widening I-75 to six lanes (three lanes in each direction), as shown in **Figure 18**, reduces the forecasted V/C ratios and allows for additional future growth. During construction, widening will occur in the median to minimize right-of-way and traffic impacts. Maintaining traffic will become more difficult as V/C ratios approach 1.0, so it is imperative that I-75 is widened while there is additional capacity available. This matches the widening that has been constructed for the sections to the north.

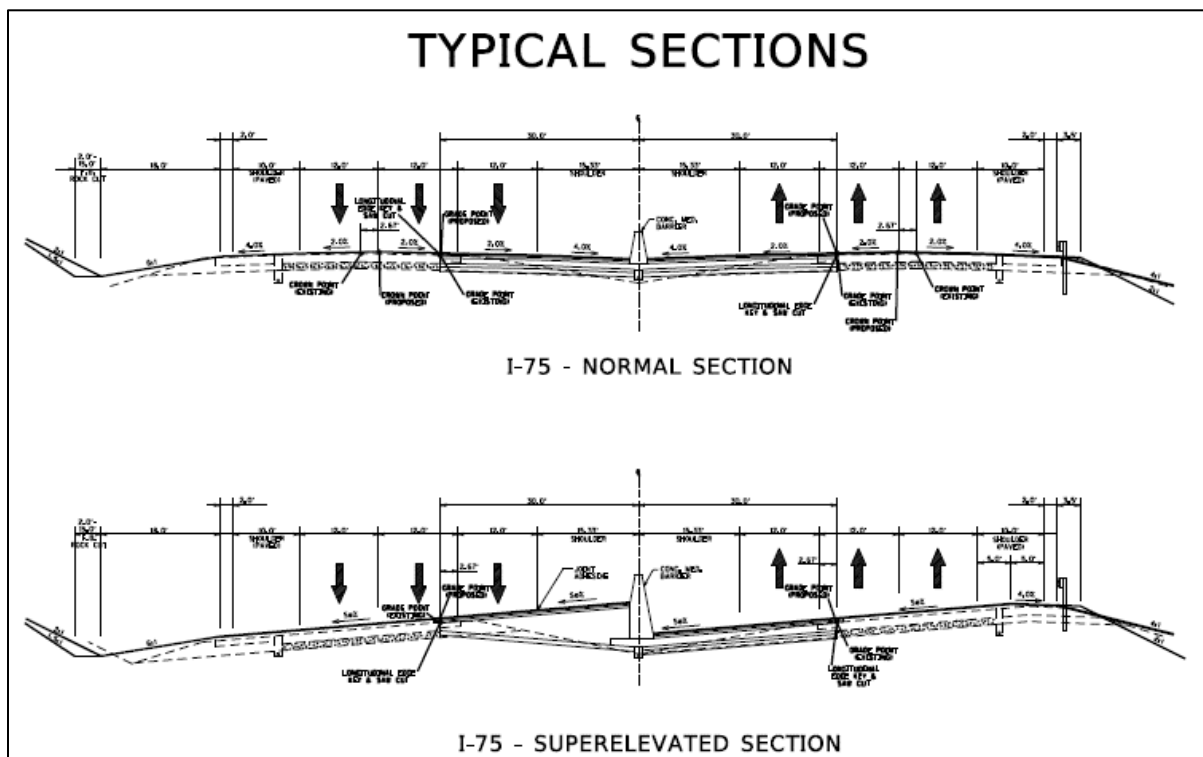


Figure 18: 6-Lane I-75 Typical Section

6.2 KY 92 IMPROVEMENT CONCEPTS

Following the first project team meeting, access management solutions on KY 92 were developed to improve safety, especially for vehicles turning on and off KY 92.

6.2.1 West of I-75

West of the I-75 interchange, KY 92 provides access to multiple businesses, including hotels, restaurants, gas stations, Walmart, and the Mint Gambling Hall, which can be accessed from I-75 via Penny Lane. Because of the proximity to the I-75 southbound off ramp (less than 500 feet), the Penny Lane approach (north) is striped as right-in / right-out. Many drivers, however, do not adhere to the turning restrictions at Penny Lane. There is a current project, KYTC Item No. 11-80264.00, to construct a new connection to Penny Lane to the west.

This section of KY 92 was noted by the Williamsburg police as being one of the highest crash locations, especially for vehicles turning left across five lanes of traffic. Numerous businesses have access to KY 92 via Happy Hollow Road (south approach to the Penny Lane intersection.) The intersection is located too close to the I-75 interchange to accommodate a traffic signal.

An option to improve safety is to construct a raised median on KY 92, providing left turns in at major intersections only, as shown in **Figure 19**. This would allow for a left-in / right-out only at Happy Hollow Road. A backage road could be built to the south along Hurricane Hollow Road to provide a connection for vehicles wishing to travel west from Happy Hollow Road, with a roundabout at KY 92.



Figure 19: Preliminary Concept 1

6.2.2 Exit 11 East of I-75

East of I-75, KY 92 has multiple driveways and intersections within 400 feet of the southbound I-75 ramps, including a signalized intersection at South 10th Street. Further east, KY 92 intersects US 25W at a signalized intersection with multiple business access points within the intersection. This lack of access management creates conflict points for turning vehicles at the intersections.



Unsignalized Access at the KY 92 / US 25W Intersection

Additionally, the eastern approach and the bank's access to the existing signalized intersection violates the Manual on Uniform Transportation Control Devices (MUTCD) Section 4D.05 - unsignalized / uncontrolled approaches are not allowed at signalized intersections.

An option to improve safety and traffic flow includes constructing a Green-T intersection at the KY 92 intersection with South 10th Street and a roundabout at the US 25W intersection, shown in **Figure 20**. The Green T Intersection concept would allow free-flow operations on KY 92 in the eastbound direction by using acceleration / merge lanes for left turn movements from the South 10th Street. This type of intersection is expected to improve safety and reduce congestion. The roundabout at US 25W would consolidate access to only the major roadway movements and a raised median would be constructed on KY 92 between South 10th Street and US 25W, forcing vehicles to turn right out of driveways.

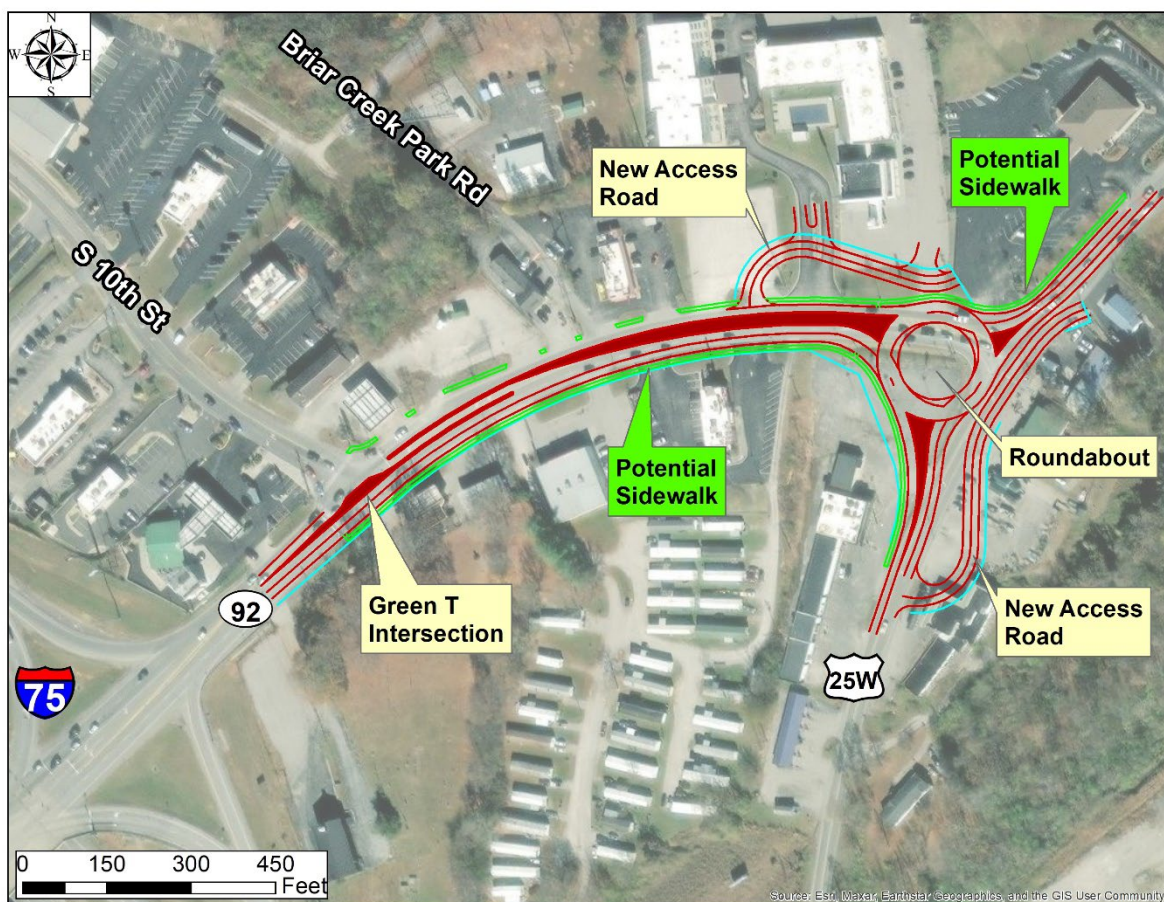


Figure 20: Preliminary Concept 2

A second option east of I-75 includes constructing roundabouts at the KY 92 intersections with South 10th Street and US 25W with a raised median along KY 92, as shown in **Figure 21**.

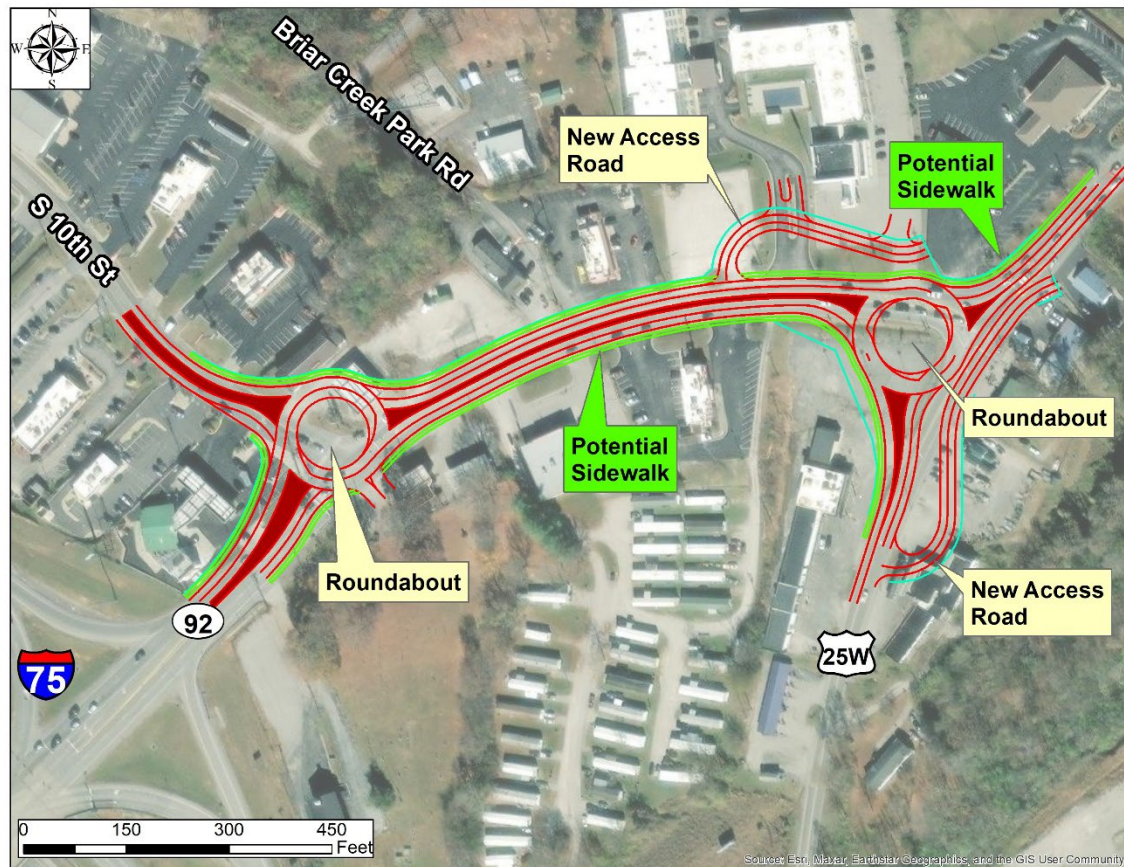


Figure 21: Preliminary Concept 3

7.0 PROJECT TEAM MEETING NO. 2

Following the development of the initial improvement concepts, the project team met for a second time at the KYTC District 11 Office and virtually via Microsoft Teams on February 12, 2024. The purpose of the meeting was to discuss preliminary improvement concepts. The following items were discussed:

- Widening south of the KY 92 interchange is not a high priority as TDOT has no plans to construct improvements south of the Kentucky state line. The priority widening was confirmed to include I-75 from MP 9.6, just south of Exit 11, to the northern end of the project area at MP 20.0.
- StreetLight Data is a mobility analytics platform that takes big data from mobile devices to fuel analyses for origin-destination matrices and travel time. A StreetLight analysis was conducted to determine current pedestrian and bicycle activity across the I-75 interchange with KY 92 at Exit 11. Between 2021 and 2022, it is estimated that approximately 78 pedestrians and zero cyclists crossed the I-75 bridge each day even though there are no existing bicycle or pedestrian facilities. Because of this demand, sidewalks will be considered across I-75.

- Heatmaps generated from Strava, a fitness tracking app, were also analyzed for the KY 92 / Williamsburg area. Higher volumes of pedestrians are represented with brighter or hotter colors, as shown in **Figure 22**. There is significant pedestrian activity across the I-75 interchange.

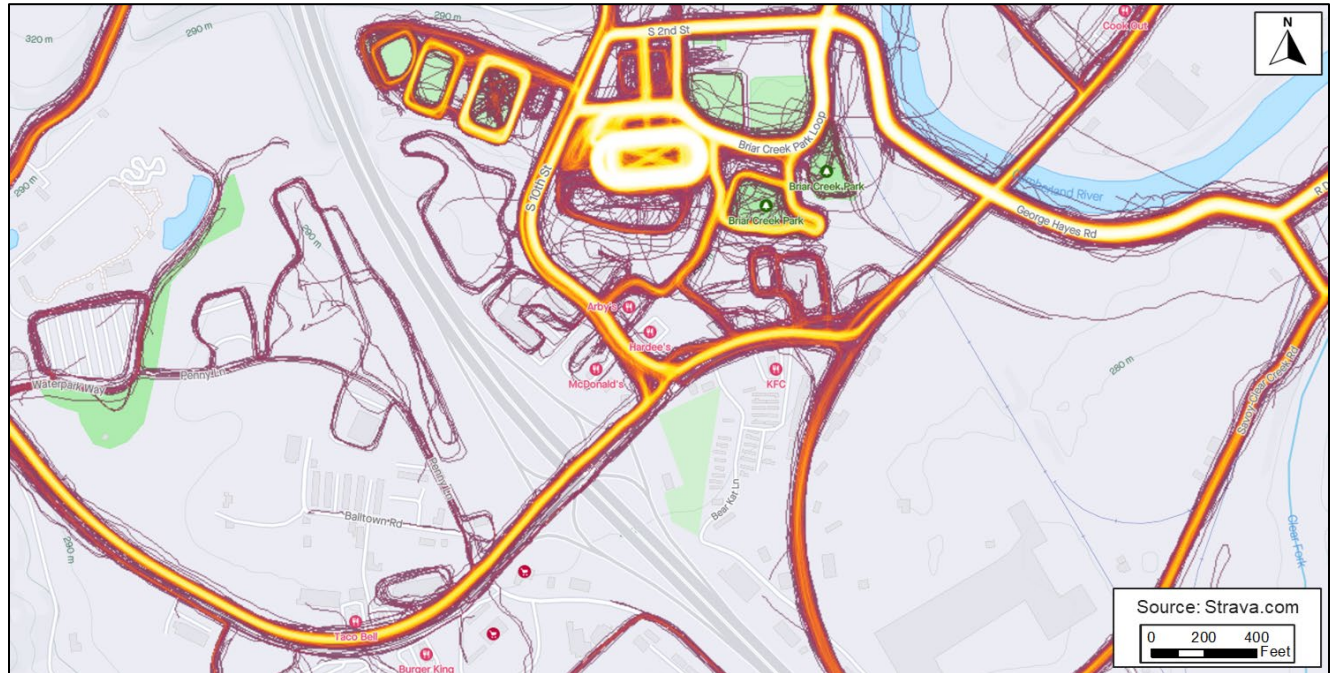


Figure 22: Strava Heat Map

8.0 REVISED IMPROVEMENT CONCEPTS

After the second project team meeting, the improvement concepts were revised and relabeled. This chapter presents the updated concepts.

8.1 I-75 WIDENING CONCEPTS

8.1.1 I-75 Widening Concept A

Concept A includes widening I-75 to six lanes for the entire study corridor, from MP 0.0 (Tennessee state line) to MP 20.0.

8.1.2 I-75 Widening Concept B

Concept B includes widening the I-75 priority section to six lanes from to MP 9.6 (south of Exit 11) to MP 20.0. The Tennessee Department of Transportation (TDOT) currently has no plans to widen I-75 south of the Kentucky border. Without plans for widening in Tennessee, the priority widening section does not extend south of MP 9.6. However, the widening between MP 9.6 and MP 20.0 can be segmented as funding is available.

8.1.2.1 I-75 Widening Concept B1

Includes widening I-75 to six lanes from MP 15.5 (Exit 15) to MP 20.0.

8.1.2.2 I-75 Widening Concept B2

Includes widening I-75 from MP 9.6 (south of Exit 11) to MP 15.5 (Exit 15).

8.1.3 Maintenance of Traffic

Two lanes of traffic would be maintained on I-75 during construction, with widening occurring in the median, as shown in **Figure 23**.

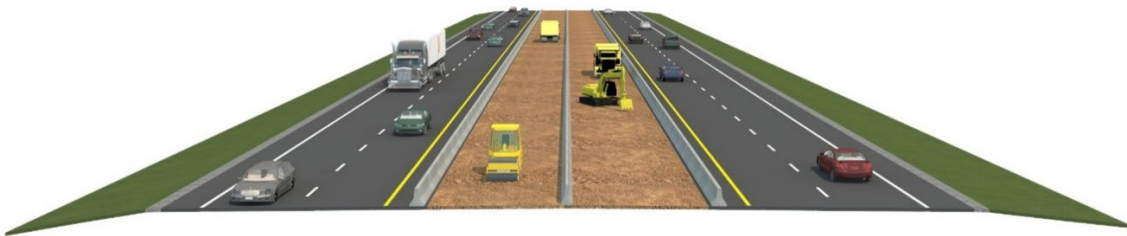


Figure 23: Maintenance Of Traffic On I-75

8.2 KY 92 IMPROVEMENT CONCEPTS

8.2.1 KY 92 Concept 1

West of the interchange, the proposed southern backage road will connect to the proposed Penny Lane at a roundabout, KYTC Item No. 11-80264.00, as shown in **Figure 24**. A raised median will be installed from the roundabout to I-75 to improve safety. Because of the proximity to the interchange, a traffic signal is not being considered at the KY 92 intersection with Penny Lane.

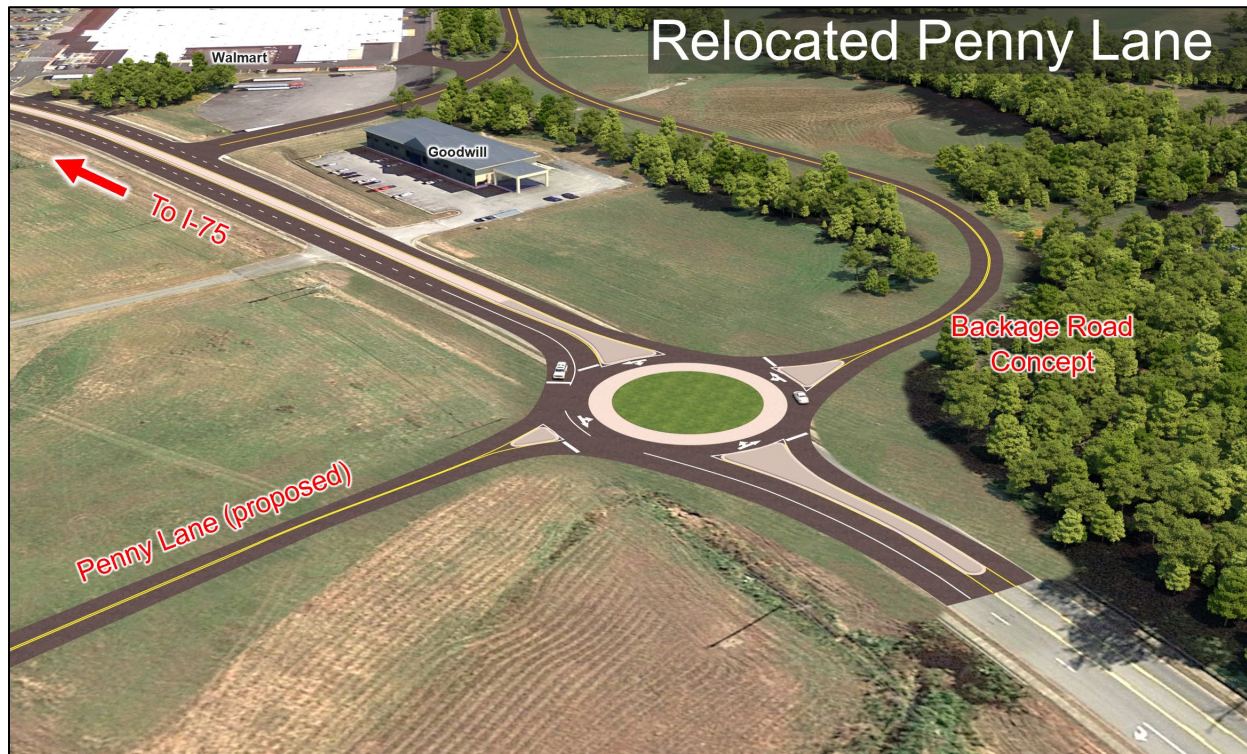


Figure 24: Relocated Penny Lane Concept with Southern Backage Road (Looking South)

In addition to the roadway improvements, a sidewalk could be constructed on the north side of KY 92 across the I-75 interchange, connecting to the existing sidewalk that begins west of Penny Lane.

8.2.2 KY 92 Concept 2

East of I-75, the Green-T intersection option at the KY 92 intersection with South 10th Street remained the same, with the exception of an extension of the westbound right turn lane onto 10th Street, as shown in **Figure 25**.



Figure 25: Green T Concept at KY 92 / S. 10th Street Intersection (Looking South)

8.2.3 KY 92 Concept 3

A second option east of I-75 is to construct roundabouts at the KY 92 intersections with South 10th Street and US 25W, as shown in **Figure 26**.



Figure 26: Roundabout option at KY 92 / US 25W Intersection (Looking North)

8.2.4 KY 92 Concept 4

Based on discussions with the local officials and a review of available data, there is significant pedestrian activity on KY 92 across the I-75 interchange, suggesting a need for dedicated pedestrian facilities. An option to improve pedestrian connectivity between Williamsburg / the University of the Cumberland's east of I-75 and the commercial areas along KY 92 west of I-75 is to construct sidewalks on both sides of KY 92 across the I-75 interchange, as shown in **Figure 27**.

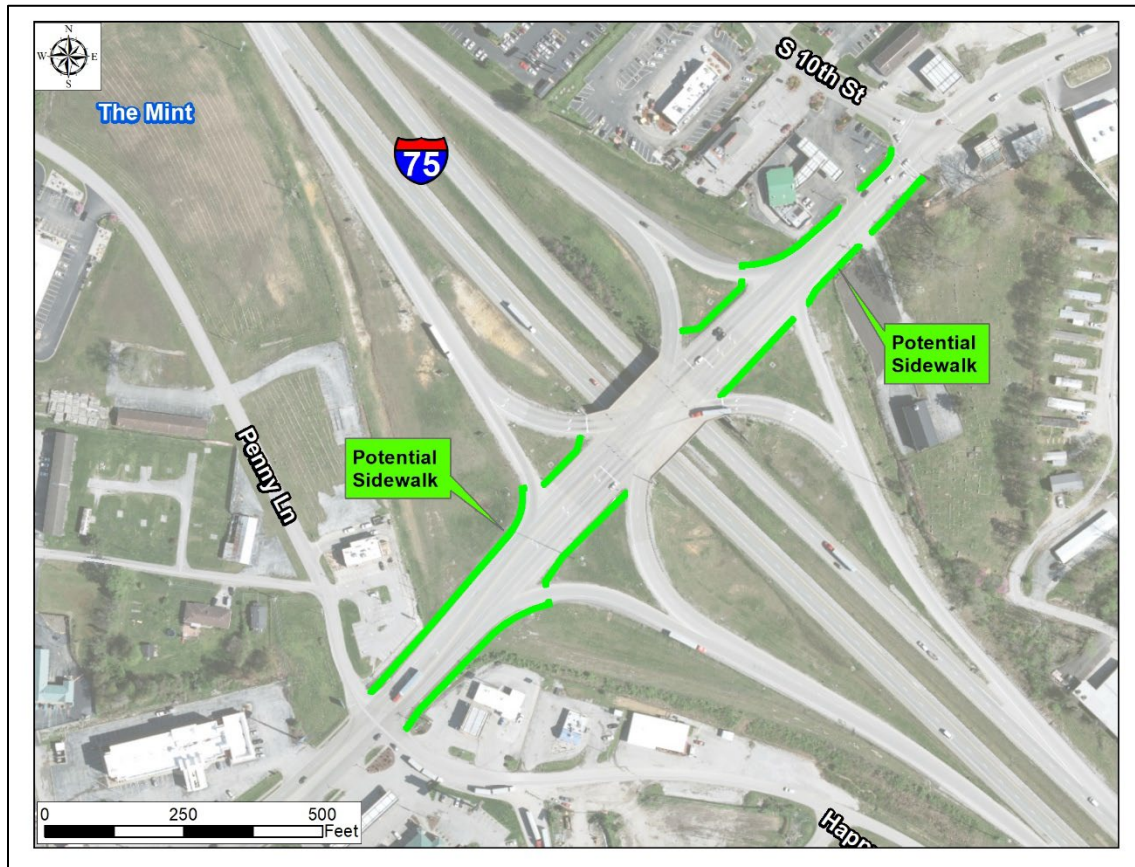


Figure 27: Sidewalks along KY 92 Across I-75 Interchange

9.0 LOCAL OFFICIALS / STAKEHOLDER MEETING

Following the development of the initial improvement concepts, the project team met with the local officials and stakeholders at the Whitley County Public Library on June 10, 2024. The purpose of the meeting was to provide updates on the study and to solicit feedback from the local officials and stakeholders on preliminary improvement concepts. The following was discussed:

- The Williamsburg police noted that most crashes occurring on KY 92 are caused by drivers crossing five lanes of traffic. Restricting left turns would eliminate these crashes.
- The proposed raised median is six inches and will be mountable for emergency access.

At the end of the meeting, attendees were asked to fill out a survey to provide input on the preliminary improvement concepts. Eight local officials / stakeholders filled out the survey, all eight of which live in the study area and drive through it weekly.

Respondents were then asked if I-75 needs to be widened to six-lanes in the study area. Seven answered that widening is needed now, and one answered that widening is needed in 10-15 years, as shown in **Figure 28**.

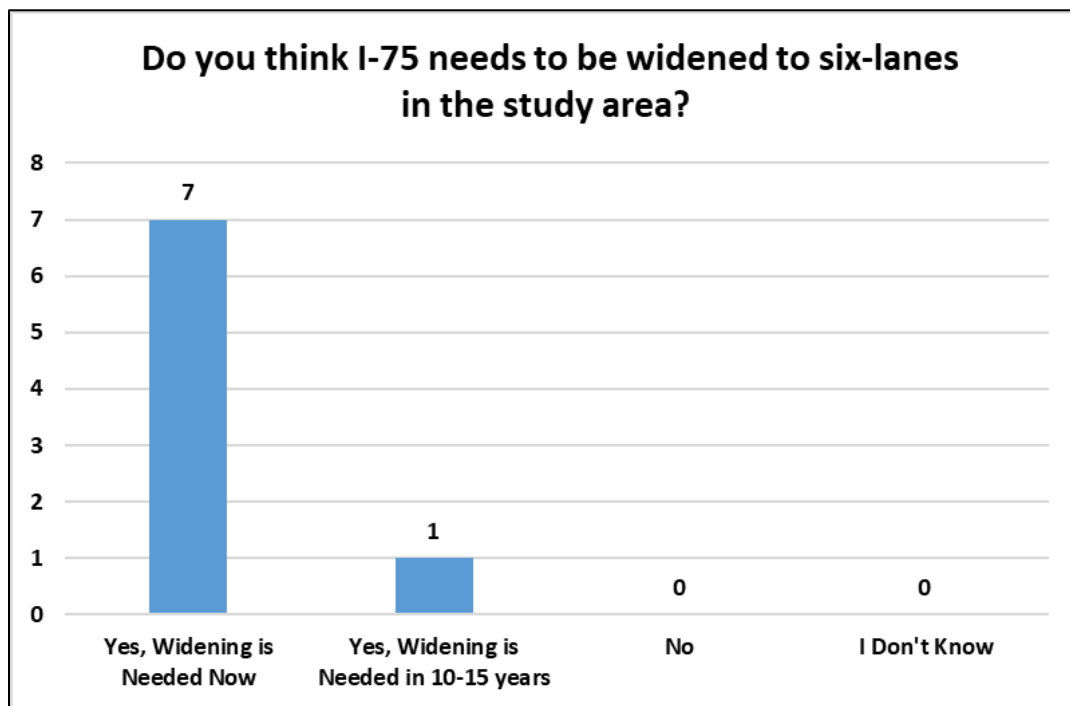


Figure 28: Local Official Survey - I-75 Widening

The next survey question asked respondents if they agree with the prioritization of the construction sections presented with widening starting in the northern section and continuing south. All eight answered that they agree with the prioritization. One respondent left a suggestion to extend the six-lane to MP 7, at least in the southbound direction, to improve safety conditions.

When asked if improvements are needed at Exit 11 along KY 92, all answered respondents answered yes. The Local Officials / Stakeholders were then given the opportunity to select their preferred improvement options at Exit 11 (this could include multiple concepts). The options included:

- constructing a southern backage road with a roundabout at KY 92 and implementing access management west of existing Penny Lane;
- constructing a Green T at the KY 92 intersection with 10th Street and a roundabout at US 25W; and
- constructing a roundabout at the KY 92 intersections with 10th Street and US 25W.

The most popular improvement option was to construct a southern backage road with a roundabout at KY 92 and implement access management west of existing Penny Lane, as shown in **Figure 29**. One comment included minimizing the concrete barrier / median as much as possible to avoid impacts to businesses.

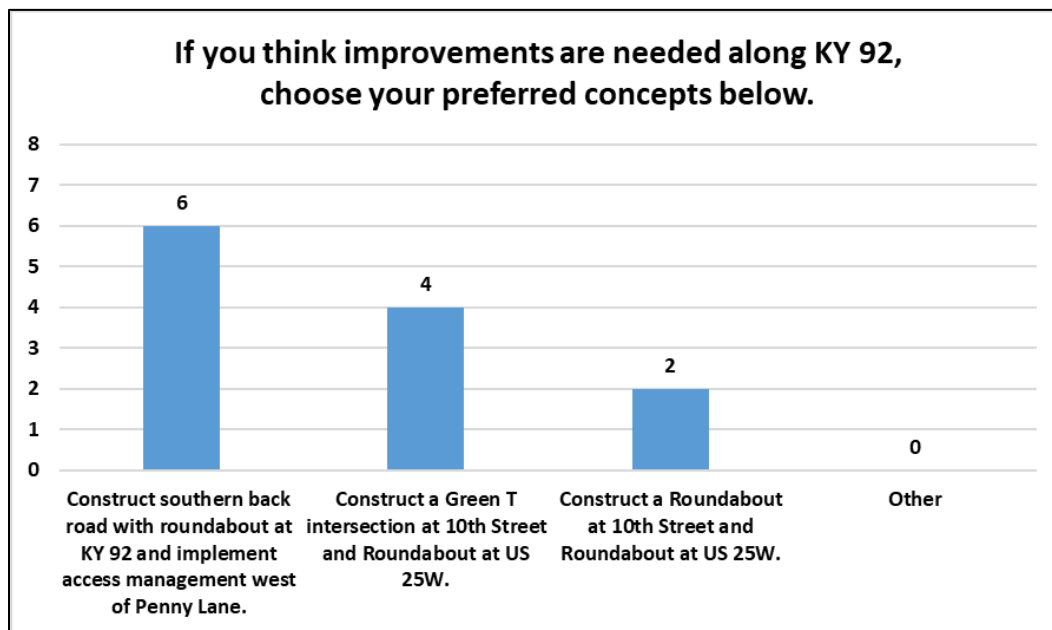


Figure 29: Local Official Survey - KY 92 Improvement Concepts

The next question asked respondents if pedestrian and bicycle accommodations are needed along KY 92 between Waterpark Way and US 25W. There are currently sidewalks on both sides of KY 92 between Waterpark Way and Penny Lane, west of the I-75 interchange. Four answered that sidewalk(s) are needed, while three answered that sidewalk(s) and bike accommodations are needed, as shown in **Figure 30**.

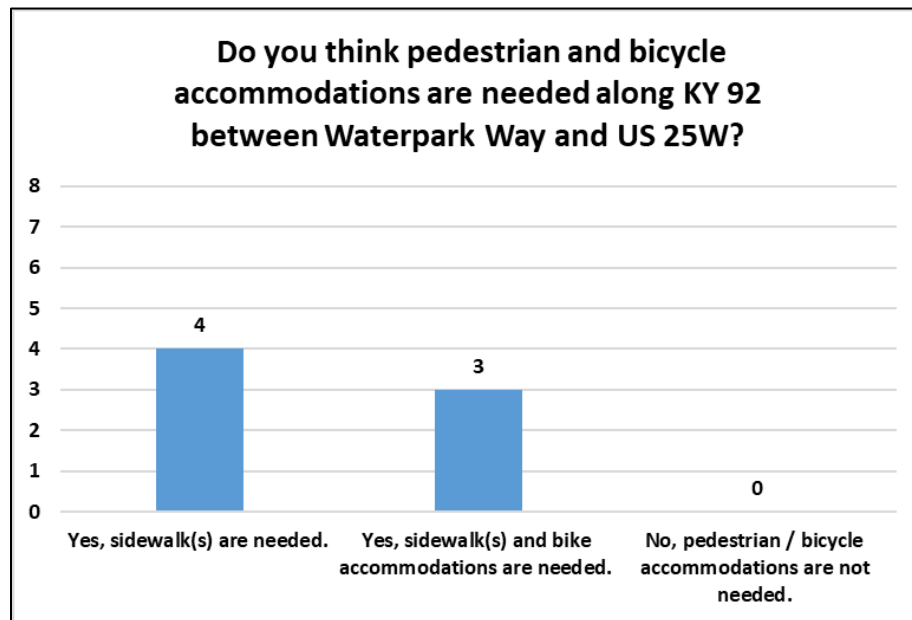


Figure 30: Local Official Survey - KY 92 Pedestrian & Bicycle Accommodations

The respondents were then given the opportunity to identify any other improvements that they would like the Project Team to consider. One respondent indicated that they would want to see a right of way alternative west of Penny Lane to consolidate access points.

The next question asked respondents if there were any concepts that they would like the Project Team to remove from consideration. One respondent answered that they would want to see the concept of a "median barrier" removed. At the end of the survey, all eight respondents indicated that the meeting provided the right kind of information for the study.

10.0 CONCLUSIONS

The objective of the *I-75 Programming Study* was to determine the impacts of widening I-75 in Whitley County to six lanes, including impacts to mainline I-75 and adjoining interchange operations. This included an analysis of existing / future traffic operations, crash history, bridge conditions, geometrics, and local official feedback. Concepts were also considered along KY 92 at Exit 11.

It is recommended that the I-75 widening project, from MP 20.0 to MP 9.6, be advanced to Phase 1 Preliminary Design. However, the project can be divided into smaller, prioritized segments to be implemented as funding allows. The priority section for immediate focus is the widening of I-75 from MP 20.0 to MP 15.5 (Concept B1), followed by the section from MP 15.5 to MP 9.6 (Concept B2). **Figure 31** presents the priority I-75 widening section.

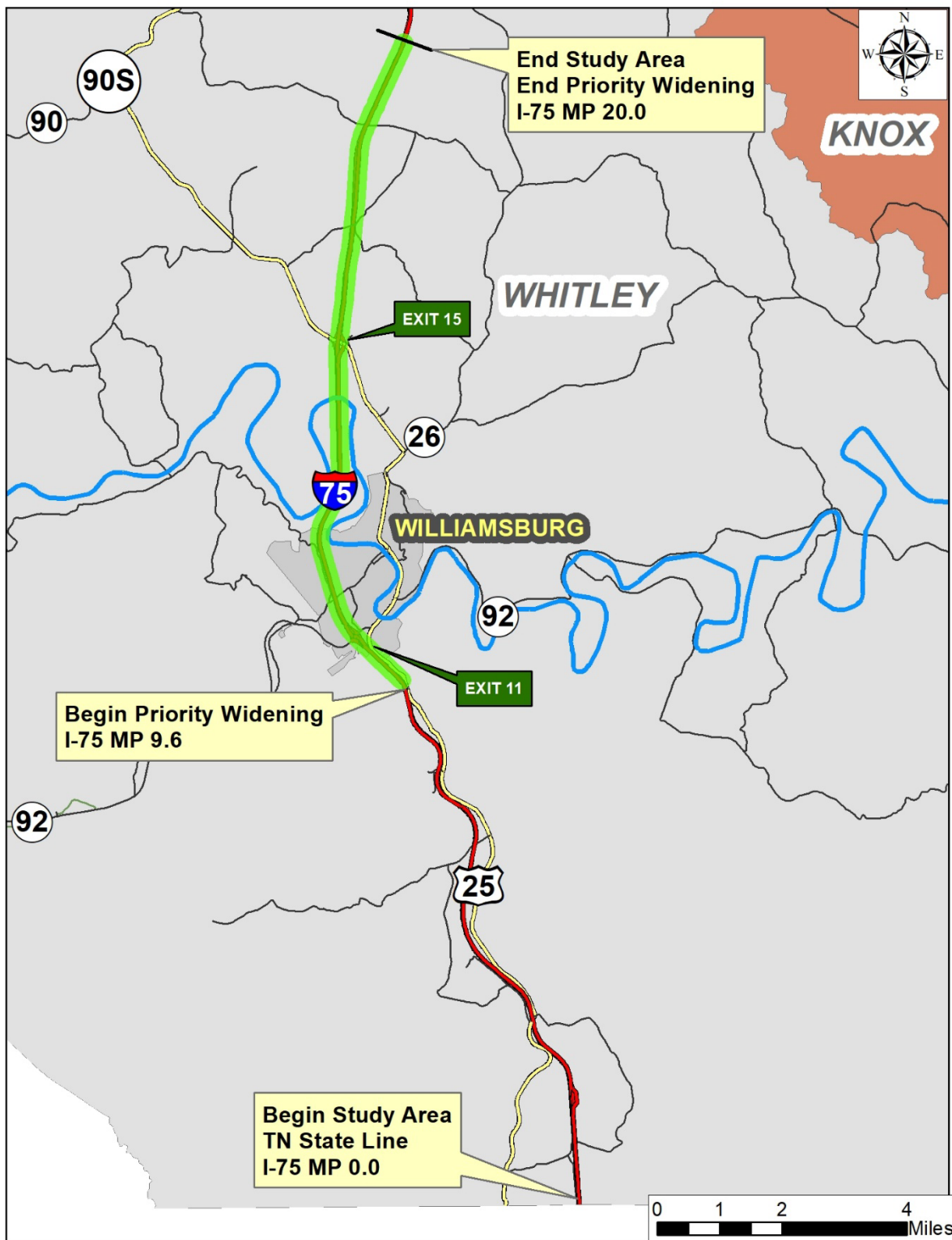


Figure 31: I-75 Widening Priority Sections

At the KY 92 interchange, it is recommended that Concepts 1, 2, and 3 be moved forward to Phase 1 Design. As a short-term project, a sidewalk is recommended across the I-75 Exit 11 interchange with KY 92 (Concept 4).

10.1 COST ESTIMATES

Updated 2024 opinions of probable cost were developed, as shown in **Table 7**.

Table 7: 2024 Cost Estimates

Concept	Corridor	Description	2024 Cost Estimates		
			Design	Construction	Total
A	I-75	Widen I-75 to six lanes from MP 0.0 (TN State Line) to MP 20.0	\$46,720,000	\$467,200,000	\$513,920,000
B		Widen I-75 to six lanes from MP 9.6 (South of Exit 11) to MP 20.0	\$22,260,000	\$222,600,000	\$244,860,000
B1		Widen I-75 to six lanes from MP 15.5 (Exit 15) to MP 20.0	\$8,950,000	\$89,500,000	\$98,450,000
B2		Widen I-75 to six lanes from MP 9.6 (South of Exit 11) to MP 15.5 (Exit 15)	\$13,310,000	\$133,100,000	\$146,410,000
1	KY 92	Construct southern backage road with roundabout at KY 92 and implement access management west of Penny Lane	\$637,000	\$6,370,000	\$7,007,000
2		Construct a Green T intersection at S 10 th Street and Roundabout at US 25W	\$435,000	\$2,900,000	\$3,335,000
3		Construct a Roundabout at S 10 th Street and Roundabout at US 25W	\$540,000	\$3,600,000	\$4,140,000
4		Construct sidewalks on both sides of KY 92 across I-75	\$32,000	\$320,000	\$352,000

10.2 NEXT STEPS

The next step following this study for any potential improvements would be Phase 1 Design (Preliminary Engineering and Environmental Analysis). I-75 Widening Concept B1 is largely consistent with the milepoints identified as KYTC Item No. 11-80354 in Kentucky's 2024-2030 *Enacted Highway Plan* with \$2.5 million in Design (2027), \$500,000 for Right-of-Way (2028), \$500,000 for Utilities (2028), and \$105.5 million for Construction (2029).

I-75 Widening Concept B2 is largely consistent with the milepoints identified as KYTC Item No. 11-80355 in Kentucky's 2024-2030 *Enacted Highway Plan* with \$2.5 million in Design (2028), \$500,000 for Right-of-Way (2029), \$500,000 for Utilities (2029), and \$92.5 million for Construction (2030).

It should be noted that the current funding may not be sufficient for the milepoints identified by this study.

In accordance with 23 USC 106, this potential project is expected to exceed the threshold of \$100 million for FHWA financial planning requirements. Future project teams should follow the procedures outlined in KYTC *Design Memorandum No. 6-24* which detail compliance with these requirements, including enhanced coordination, a Financial Plan, and adherence to the project development checklist.

Further funding will be necessary to advance any of the KY 92 improvements to the design phase as additional phases of this project are not funded in Kentucky's FY 2024 – FY 2030 Highway Plan.

11.0 CONTACTS/ADDITIONAL INFORMATION

Written requests for additional information should be sent to Mikael Pelfrey, Director, KYTC Division of Planning, 200 Mero Street, Frankfort, KY 40622. Additional information regarding this study can also be obtained from the KYTC District 11 Project Manager, Keenan Jones, at (606) 598-2145 (email at Keenan.Jones@ky.gov).