Stantec

Plantside Drive Extention Study

Item No. 5-80003
Jefferson County, Kentucky

FEBRUARY 2025

TEAM KENTUCKY®
TRANSPORTATION CABINET

Stantec

Final Report

Plantside Drive Extension Study

KYTC Item No. 5-80003.00

Jefferson County

February 2025

TEAM KENTUCKY TRANSPORTATION CABINET

Kentucky Transportation Cabinet
Central Office, Division of Planning
Highway District 5, Louisville

EXECUTIVE SUMMARY

The Kentucky Transportation Cabinet (KYTC), in collaboration with Louisville Metro Government and Kentuckiana Regional Planning and Development Agency (KIPDA), performed the Plantside Drive Extension Study to identify and evaluate potential concepts to improve connectivity between Rehl Road (CR 1006H) and Taylorsville Road (KY 155) in Louisville.

Numerous studies have evaluated the need for an alternative north-south connection inside the Gene Snyder Freeway (I-265) to address current and future traffic needs in this growing area of Jefferson County. Plantside Drive (CS 1001H) currently has a southern terminus at Rehl Road, but additional development is planned south of Rehl Road. In 2018, a bridge over the Norfolk Southern railroad was constructed with funding from Louisville Metro Council in anticipation that Plantside Drive would be extended in the future. This study evaluated the feasibility of conceptual routes both using and not using that bridge to improve north-south connectivity.

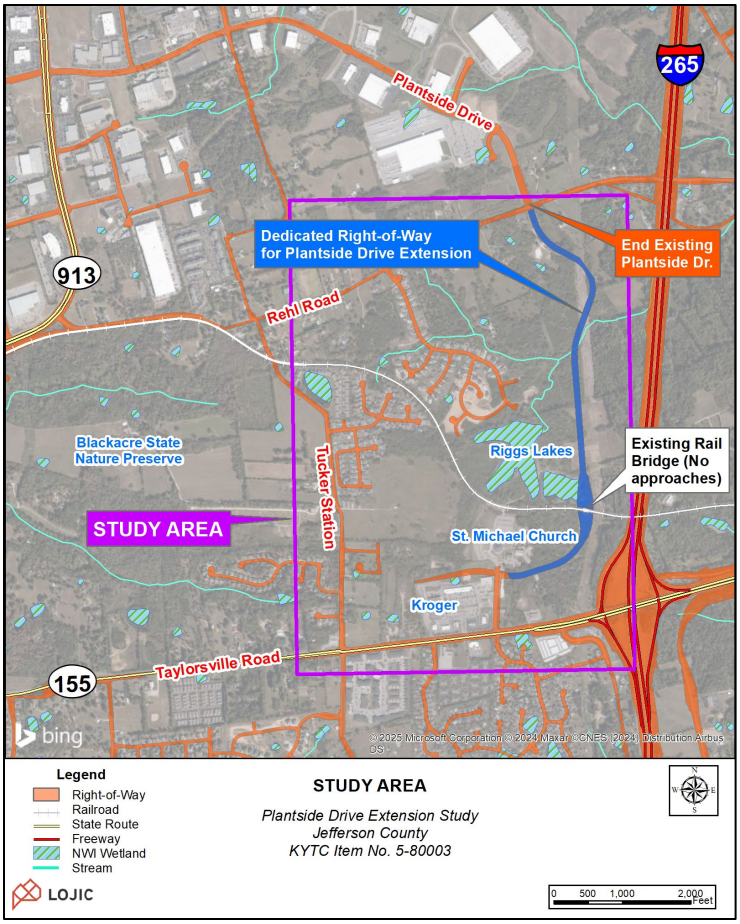

Figure ES-1: Study Area

The project is listed in *Kentucky's FY 2024 – 2030 Enacted Highway Plan* as KYTC Item Number 5-80003.00. Study goals and objectives include the following:

- Investigate the benefit of a new connection to the traveling public at large.
- Assess viability / feasibility of conceptual alternatives.
- Perform Red flag analyses of environmental, structural, and utility / right-of-way hurdles which may be encountered, as well as potential mitigation requirements.
- Engage local stakeholders on the facts, benefits, and challenges of the potential project.
- Estimate the realistic cost to complete, as well as potential schedule.

Previous studies such as the 2007 *Taylorsville Road Area / Urton Lane Study* and the 2009 *Rehl Road / I-265 Interchange Feasibility Study* have evaluated the need for transportation improvements in the study area. The extension of Plantside Drive from Tucker Station Road has been implemented in phases over many years, with the most recent segment connecting to Rehl Road opening to traffic in 2021.

DRAFT PROJECT PURPOSE AND NEED STATEMENT

Although this is a planning study, the project team developed a Draft Purpose and Need Statement to guide the development and evaluation of potential improvement concepts. The Draft Purpose and Need Statement is as follows:

> *Development along Bluegrass Parkway, Tucker Station Road, and existing Plantside Drive has increased traffic demand on all routes connecting to the interstate system in eastern Jefferson County, and trucks currently use roadways not designed to accommodate larger vehicles. The Purpose of the Plantside Drive Extension is to provide an alternative connection from already developed and developing areas to Taylorsville Road and I-265.*

FUTURE CONDITIONS

A significant number of developments are planned or anticipated in the study area, and the project team considered each of these in assessing demand for future travel. Traffic forecasts were developed for the year 2050 based on output from the updated KIPDA Travel Demand Model. "Build" forecasts were developed to determine the traffic impacts of the proposed Plantside Drive extension concepts between Rehl Road and Taylorsville Road. Based on results from the model, a new connection could serve up to 8,000 vehicles per day (VPD) in 2050.

Extending Plantside Drive to provide a new connection to Taylorsville Road will reduce future traffic demand on the existing roadways in the study area and provide a route that is more suitable to accommodate heavy trucks. Rehl Road and Tucker Station demand is expected to be reduced by 29 percent and 36 percent, respectively, with an extension of Plantside Drive. Taylorsville Road demand west of the study area is expected to be reduced by about 13 percent.

Figure ES-2: Existing Bridge over the Norfolk Southern Railroad

CONCEPT DEVELOPMENT

As previously discussed, a bridge was constructed over the Norfolk Southern railroad in preparation of this extension. The bridge was built to accommodate four twelve-foot lanes of vehicular traffic with bicycle lanes and sidewalks. Initial concepts to extend Plantside Drive south of Rehl Road were developed based on past planning efforts combined with input from the project team, evaluation of existing conditions, travel demand

Figure ES-3: Conceptual Three-Lane Typical Section With Shared-Use Path and Sidewalk

model analyses, and field reconnaissance. While the bridge was constructed to accommodate four travel lanes and bicycle lanes, future demand does not warrant four lanes and the intent for the corridor to serve heavy trucks would make bicycle lanes less than desirable. Therefore, the project team recommended a three-lane section with a separate shared-use path.

Two conceptual alignments were developed. Concept 1 would extend Plantside Drive from Rehl Road to Taylorsville Road utilizing the already designated right-of-way providing a three-lane cross section to the north, crossing the existing bridge, and widening to a five-lane cross section as the extension approaches Taylorsville Road via a widened Stone Lakes Drive. A curve is included south of Rehl Road with the alignment passing through the LG&E transmission line easement to minimize encroachment onto developable land. Concept 2 maintains all design aspects of the first except for removing the horizontal curve immediately south of Rehl Road.

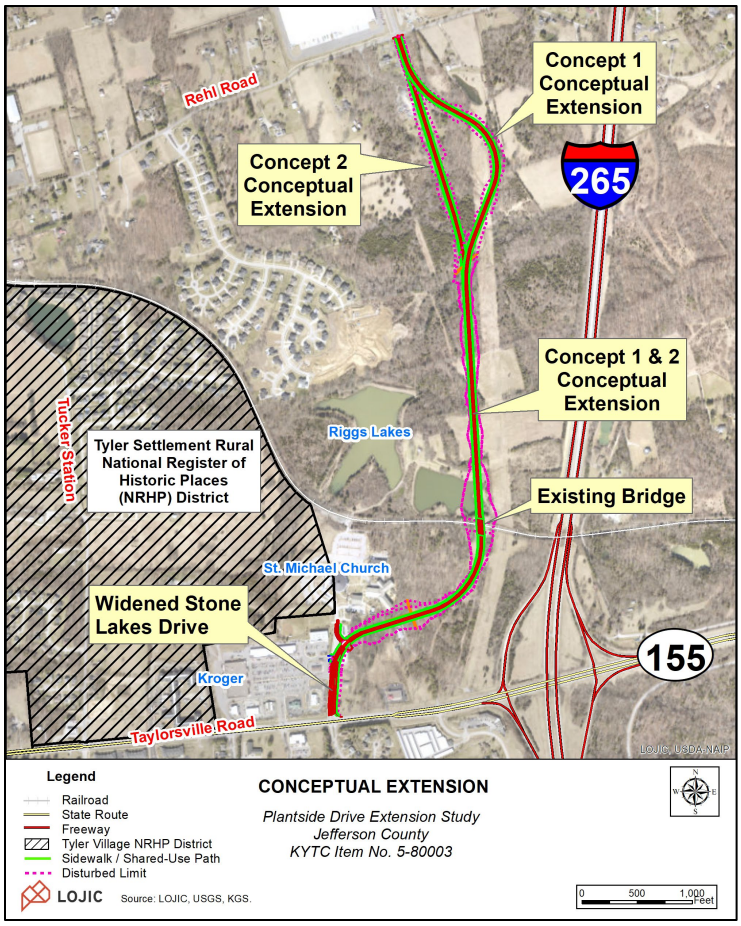

Figure ES-4: Plantside Drive Extension Concept

In the initial stages of this planning study, the idea of connecting Plantside Drive to Tucker Station Road was evaluated. While only preliminary analysis of this concept was conducted as a part of this study, it was not carried forward because it did not provide a travel benefit and would directly impact the Tyler Settlement Historic District. For these reasons, a connection to Tucker Station Road was determined to not be feasible to be included as a part of this project.

CONCLUSIONS

The goal of the Plantside Extension Study was to determine the feasibility of providing a new connection between already developed and developing areas to Taylorsville Road and I-265 in eastern Jefferson County. This investigation included examining traffic pattern impacts on the surrounding roadway network, identifying benefits of the extension to the commuting public, determining constraints, and updating the cost estimates needed to complete the project. **Table ES-1** provides a summary of the estimated costs by phase and the estimated project delivery timeline for each phase assuming funding is available. The right-of-way for Concept 1 has been mostly donated to Louisville Metro. Additional right-of-way acquisitions or donations would be necessary for Concept 2 to be constructed.

Table ES-1: Cost Estimate (in 2024 Dollars) and Approximate Phase Duration (Predicated on Funding Availability)

Project Phase	Approximate Phase Duration (Predicated on Funding Availability)	Concept 1	Concept 2
Design (Preliminary and Final) and Environmental	~2 Years	$1,790,000	$1,790,000
Right-of-Way*	~2 Years	$200,000	$200,000
Utilities*		$800,000	$800,000
Construction	~2 Years	$24,700,000	$24,000,000
Total	**Approximately 6 Years**	**$27,490,000**	**$26,790,000**

*Right of Way and Utility estimates were derived from funding allocated in FY 2024 Highway Plan.

Extending Plantside Drive from Rehl Road to Taylorsville Road by tying into Stone Lakes Drive would reduce large truck traffic on routes not designed to accommodate large vehicles and maintain adequate access / operations at existing intersections and businesses. This study confirmed utilizing the existing bridge over the railroad as a part of the alignment extension is feasible.

The next step following this study for any potential improvements would be Phase 1 Design (Preliminary Engineering and Environmental Analysis), should Louisville Metro wish to proceed with the project. Although funding has been allocated in the *2024-2030 Enacted Highway Plan* as a State Priority Project (SPP), there is not enough funding identified to complete the project. Funding is also necessary to advance a concept to the design phase as this phase was not included in the *2024-2030 Enacted Highway Plan*.

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1.0 INTRODUCTION

The Kentucky Transportation Cabinet (KYTC) initiated the *Plantside Drive Extension Study* in the city of Louisville, Kentucky in eastern Jefferson County to evaluate potential options to increase north-south connectivity inside and parallel to I-265. The general study location is shown on **Figure 1**. Advocates for the project suggest extending Plantside Drive would better connect developed and developing land to Taylorsville Road and the interstate and provide a route better equipped to handle large truck traffic to alleviate this demand currently navigating roadways not designed for this type of traffic. The study examined the benefits a new connection would have to the travelling public and the surrounding roadway network, the viability and feasibility of conceptual alternatives, hurdles or concerns associated with environmental impacts and potential mitigation requirements, and the utility and right of way impacts. This study was a collaborative effort between KYTC, Louisville Metro, and the Kentuckiana Regional Planning and Development Agency (KIPDA).

This study is funded using federal Surface Transportation Program (STP) funds. The project is listed in *Kentucky's FY 2024 – 2030 Highway Plan* as KYTC Item Number 5-80003.00.

1.1 STUDY AREA

The study area is in eastern Jefferson County and is bounded by Rehl Road to the north, I-265 (Gene Snyder Freeway) to the east, Taylorsville Road (KY 155) to the south, and Tucker Station Road to the west, as shown in **Figure 2**. Plantside Drive is currently a 4.2-mile-long Major Collector beginning at Bluegrass Parkway and ending at Rehl Road. The proposed project would extend the existing facility from Rehl Road to Taylorsville Road to the south.

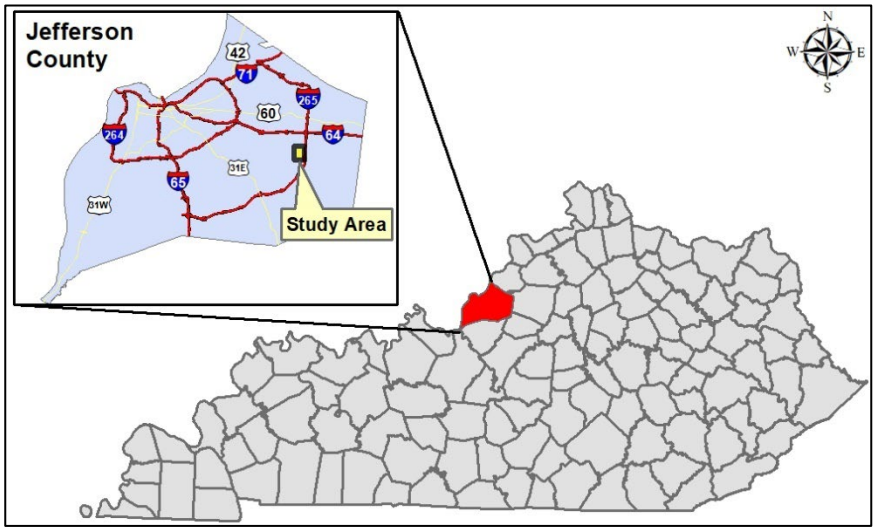


Figure 1: Study Location

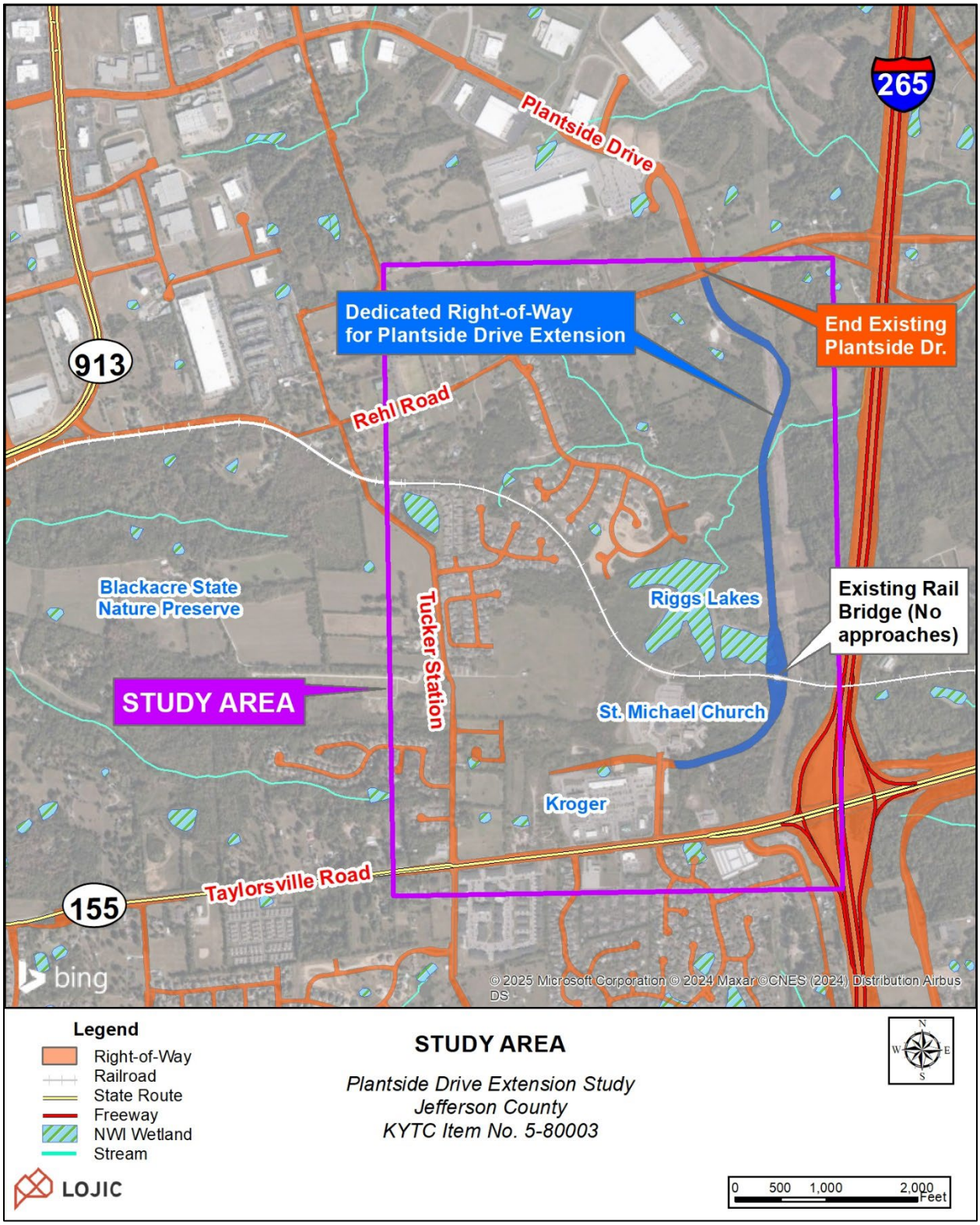


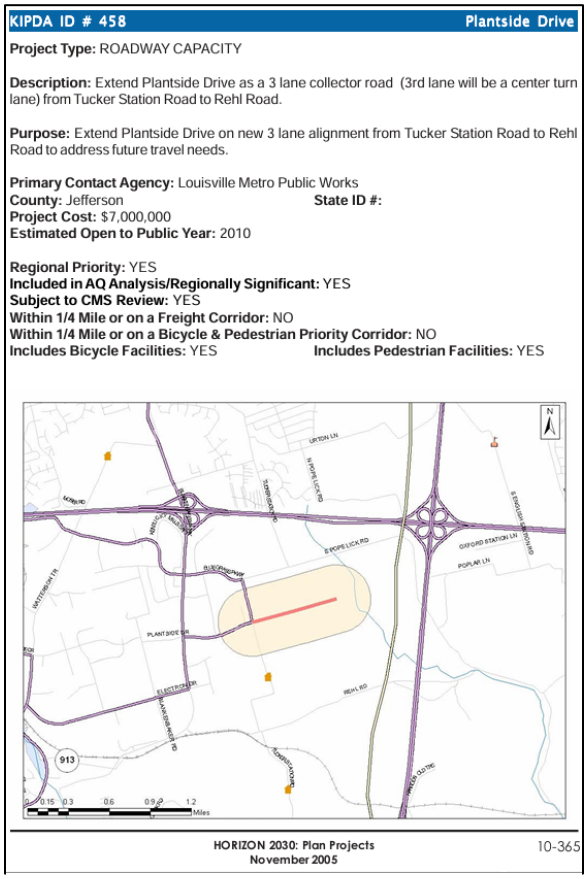
Figure 2: Study Area

1.2 PROJECT HISTORY

Previous studies have evaluated the need for transportation improvements within the study area. A brief summary of these studies is provided below.

- The 2007 *Taylorsville Road (KY 155) Scoping Study*[1] evaluated existing and future conditions on Taylorsville Road through the southern portion of the study area. The study recommended intersection improvements as well as widening Taylorsville Road to four lanes with a median along the entire corridor from Watterson Trail to east of I-265. There are currently no plans to widen Taylorsville Road west of I-265.
- The 2007 *Taylorsville Road Area / Urton Lane Study*[2] was initiated by Louisville Metro as a land use and transportation study aimed to address "the rapid pace of development coupled with the lack of a known location for the proposed Urton Lane Extension". As shown in **Figure 3**, Urton Lane was originally proposed to be extended across I-64 and south to connect to Taylorsville Road. An extension of Plantside Drive would replace an extension of Urton Lane within the current study area.
- The 2009 *Rehl Road / I-265 Interchange Feasibility Study*[3] examined the need for and feasibility of a new interchange on I-265 at Rehl Road. The study concluded that the interchange was feasible and would "be beneficial to Louisville Metro by meeting the planning-level Purpose and Need" which included accommodating safe and efficient movement of traffic to and from the future development and the interstate network and mitigating traffic impacts on other roads in the study area to aid in the area's economic viability. There are currently no plans to implement an interchange at this location.

Extending Plantside Drive was listed in KIPDA's Horizon 2030 long-range plan in 2005. Since that time, the extension of Plantside Drive from Tucker Station Road has been implemented in phases, as demonstrated in **Figure 4**. As shown, land use along the extension has evolved as the roadway has been constructed. Multiple businesses have developed along Plantside Drive, including significant truck generators like FedEx and Piston Automotive.



PLANTSIDE DRIVE EXTENSION LISTING
KIPDA HORIZON 2030 PLAN

[1] http://transportation.ky.gov/Planning/Planning%20Studies%20and%20Reports/Taylorsville%20Road%20Scoping%20Study%20-%20Final%20Report.pdf

[2] http://louisvilleky.gov/office-planning/document/taylorsville-urton-lane-corridor-study

[3] http://transportation.ky.gov/Planning/Planning%20Studies%20and%20Reports/4.%20Rehl%20Road%20Interchange%20Final%20Report.pdf

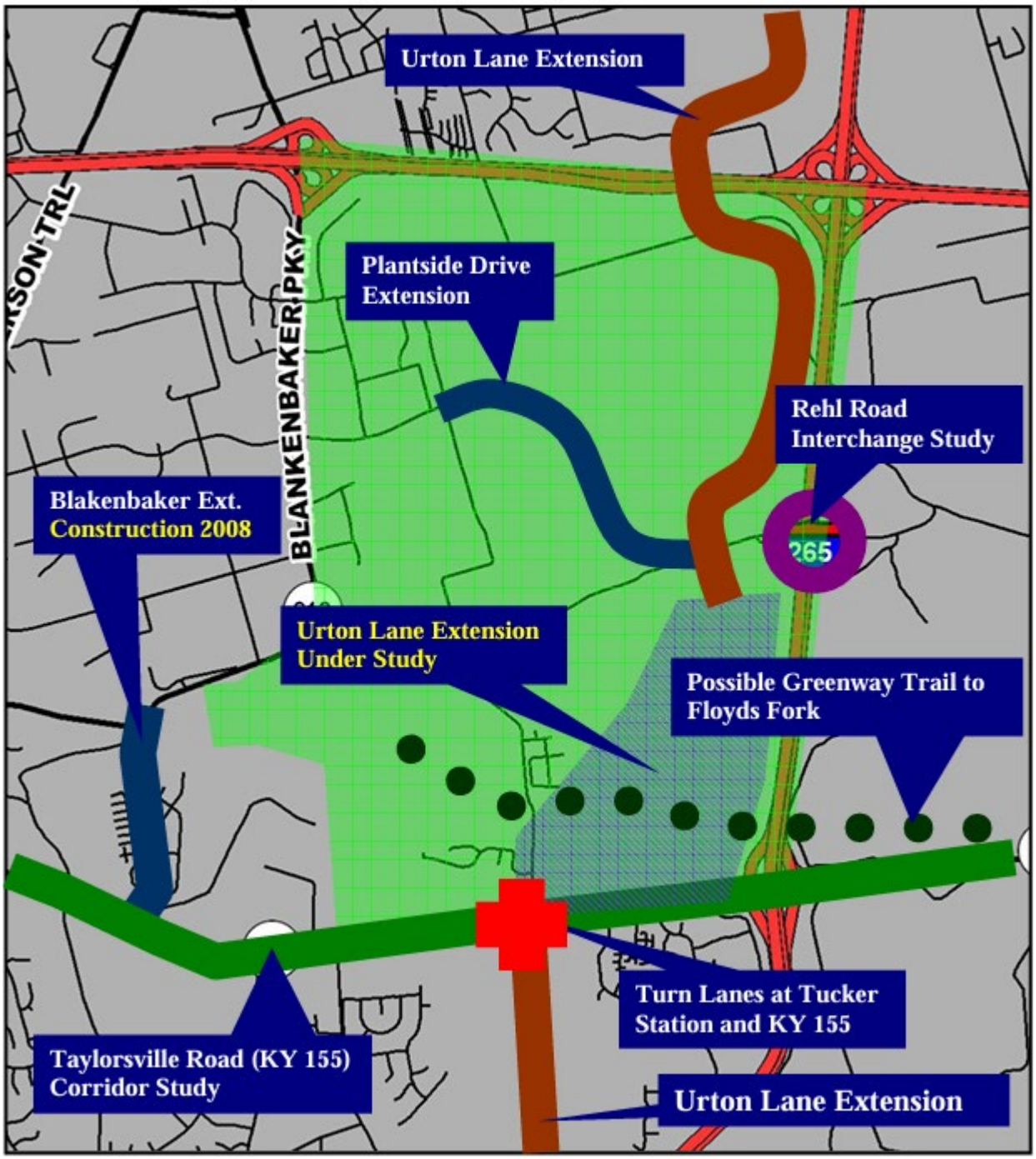


Figure 3: Urton Lane Extension Study Area and Previous Projects
(Source: *Taylorsville Road Area / Urton Lane Study, 2007)*

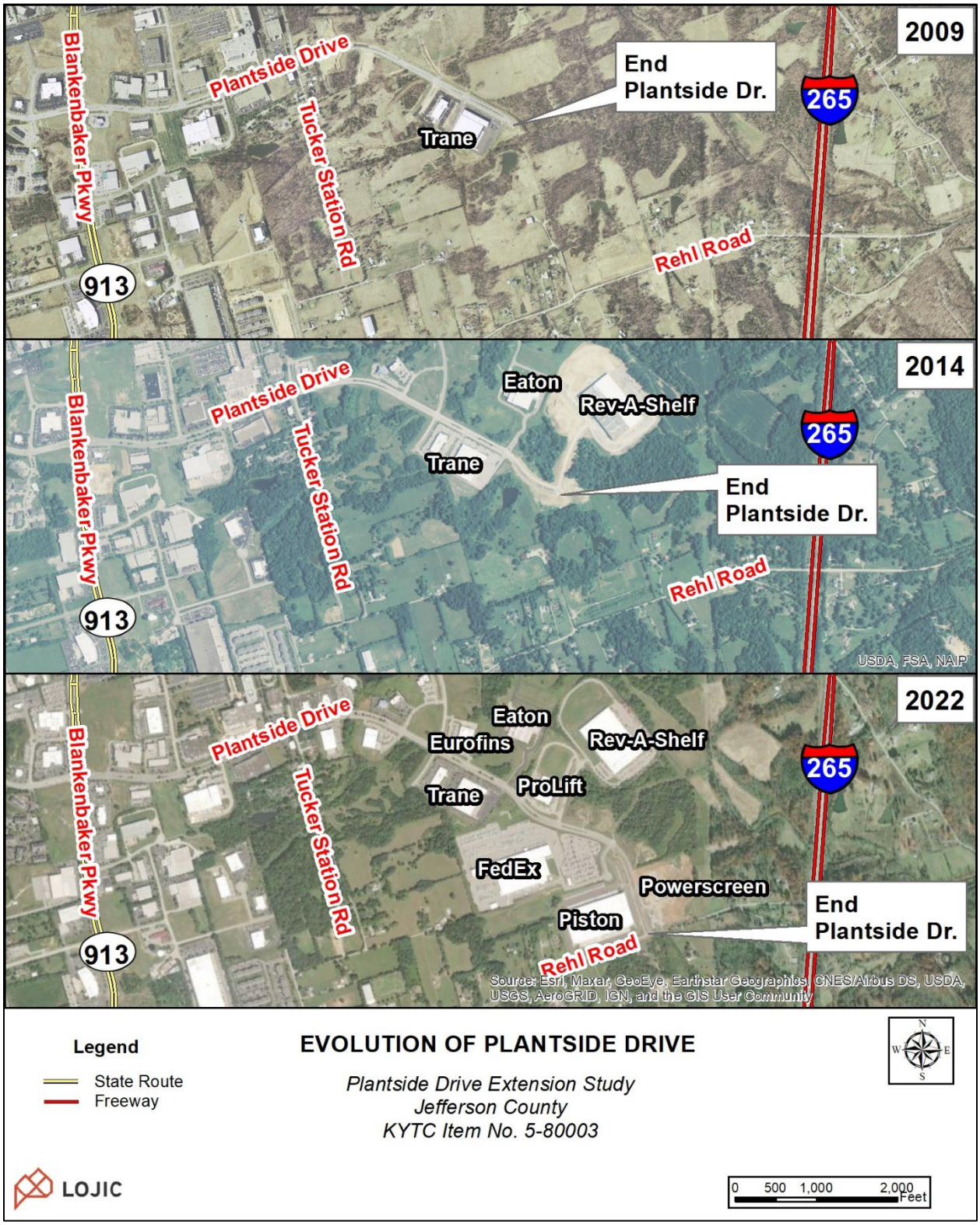


Figure 4: Extension of Plantside Drive Over the Years

1.3 PLANNED AND COMMITTED PROJECTS

The Plantside Drive extension was first listed in Kentucky's *2022-2028 Enacted Highway Plan* as KYTC Item No. 5-80003.00 with $12 million in total federal funding from 2022 to 2025. The project remains listed in the *2024-2030 Enacted Highway Plan*; however, it is currently listed with State Priority Project (SPP) funding including $200,000 (2025) in right-of-way funds, $800,000 (2025) in utility funds, and $10 million (2026) in construction funds. A design phase is not funded in the current highway plan.

I-Move Kentucky[4] is a $180 million investment to widen and improve interstates and revamp congested interchanges to improve safety along I-265, I-71, and I-64. The project achieved substantial completion in the fall of 2024 and has widened I-265 to six lanes north of the Taylorsville Road interchange, widened I-71 to six lanes between I-265 and KY 329 in Oldham County, widened I-64 west of I-265, and reconstructed the I-64 / I-265 system interchange.

The only other active KYTC Highway Plan project in the area is KYTC Item Number 5-8908.00.[5] This project is described as "widen Taylorsville Road to three lanes from I-265 to KY 148". Design funds were authorized in 2023, and construction is currently estimated for fiscal year 2026.

1.4 STUDY GOALS AND OBJECTIVES

This study is intended to investigate the viability and feasibility of conceptual alternatives for extending Plantside Drive from Rehl Road to Taylorsville Road. A fundamental component of this effort includes engagement with local officials and stakeholders to present findings, and discuss benefits and impacts of proposed, improvement concepts. Finally, the study aims to develop a realistic cost of implementation and construction schedule to ensure adequate funding is allocated to complete this project.

2.0 EXISTING CONDITIONS

Conditions of the existing transportation network were examined and are shown in the following sections. The information compiled includes existing roadway facilities, 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, Louisville Metro Public Works Traffic Count Data, Streetlight Data, aerial photography, and field inspection. An overall summary of the information gleaned from this process is shown in **Table 1** and discussed below.

[4] http://i-moveky.com

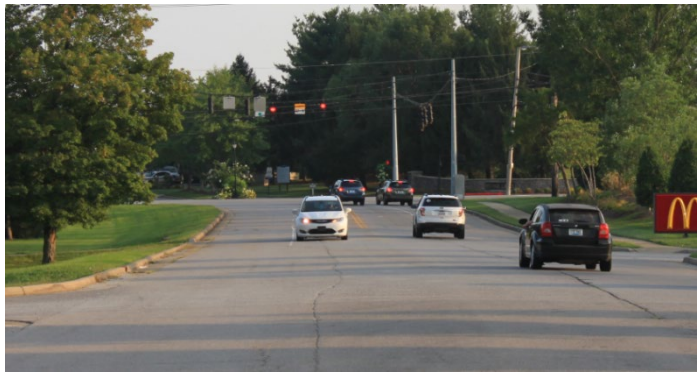
[5] http://pmtoolbox.kytc.ky.gov/SYPmapsPreconReport.asp?COMB=5-8908.00

Table 1: Highway Information System (HIS) Data Summary

Roadway	Begin Milepoint	End Milepoint	Section Length	Functional Classification	AADT (year)	Truck %	Median	Speed Limit	Lane Width (ft)	No. of Lanes	Shoulder Width
Plantside Drive (CS 1001H)	4	4.1	0.2	Local Road	1,400 (2023)	No data	Raised Non Mountable	35	11	4	4' paved and 2' curb
	4.1	4.2							12	2	4' paved and 2' curb
Tucker Station Road (CR 1001H)	3.54	4.536	1.0	Major Collector	4,950 (2023)	4.9%	None	35	10	2	6' stabilized
Rehl Road (CR 1006H)	1.25	1.5	0.25	Local Road	2,800 (2024)	7.7%	None	35	10	2	2' curb
Stone Lakes Drive (CS 1042H)	0.25	0.31	0.17	Local Road	8200 (2022)	no data	None	25	12	2	2' curb
	0.31	0.42						25	12	4	
Taylorsville Road (KY 155)	6.25	6.355	0.5	Urban Principal Arterial	17,598 (2023)	6.8%	Raised (Non Mountable)	55	12	4	2' curb
	6.355	6.45					Undivided Highway		12	4	6' paved
	6.45	6.75							12	3	6' paved

2.1 FUNCTIONAL CLASSIFICATION

Figure 5 shows the functional classification of roadways within the study area. Principal arterials, shown in red, serve major centers of metropolitan areas and provide a high level of mobility for substantial statewide travel. Major collectors, shown in green, facilitate trips between local roads and the arterial network. Local roads, shown in gray, provide connectivity between and throughout residential neighborhoods and provide connectivity to collector and arterial street systems.



Stone Lakes Drive approaching Taylorsville Road

Tucker Station Road along with some sections of Rehl Road (west of the study area) and Plantside Drive (west of Tucker Station Road) are classified as Urban Major Collectors. Taylorsville Road is an Urban Principal Arterial. At the intersection, both Rehl Road and Plantside Drive are classified as local streets.

Plantside Drive at Rehl Road

2.2 ROADWAY GEOMETRY

KYTC's HIS database was used to identify roadway geometry. The current number of lanes and estimated lane widths along study area are shown on **Figure 6**.

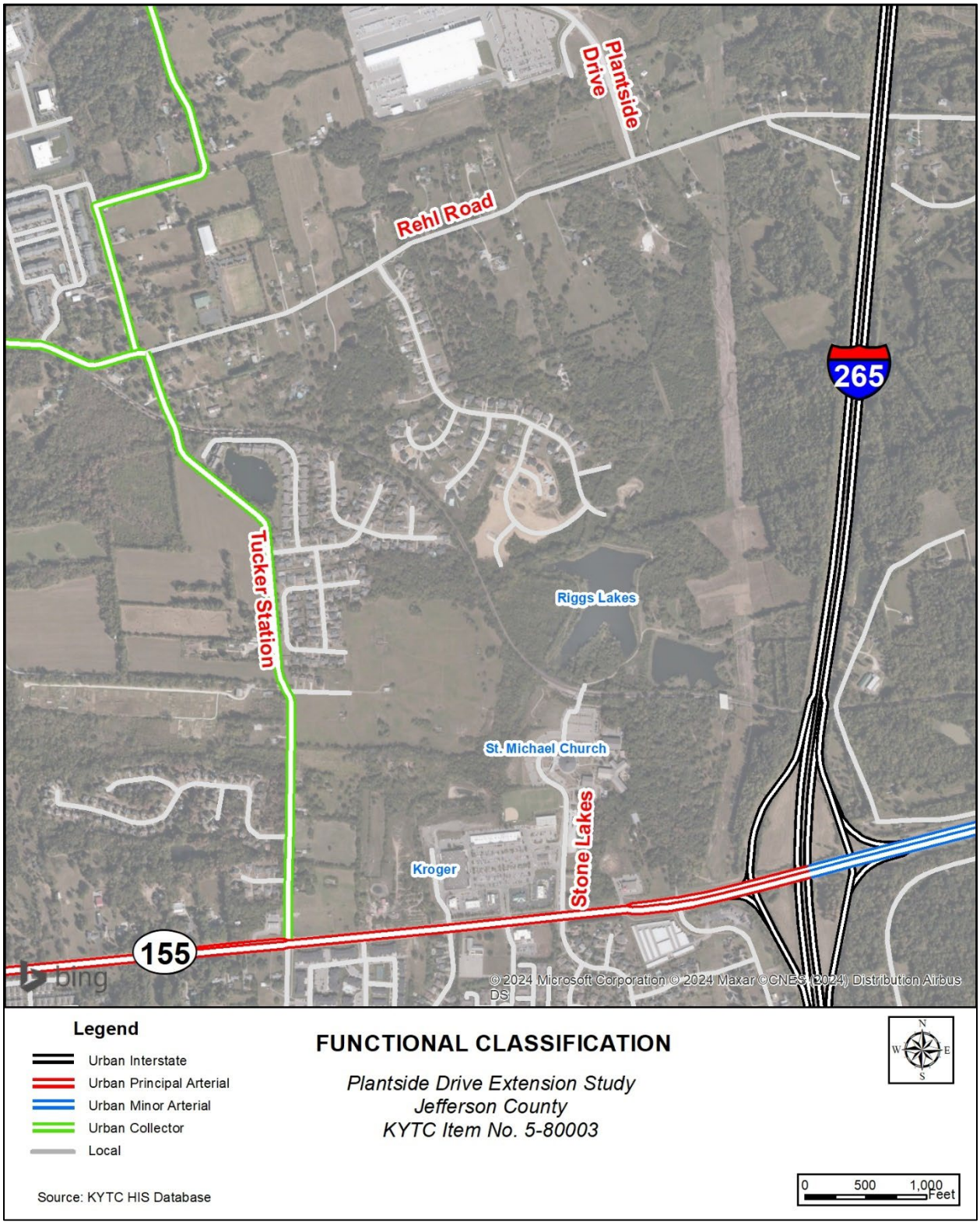


Figure 5: Functional Classification

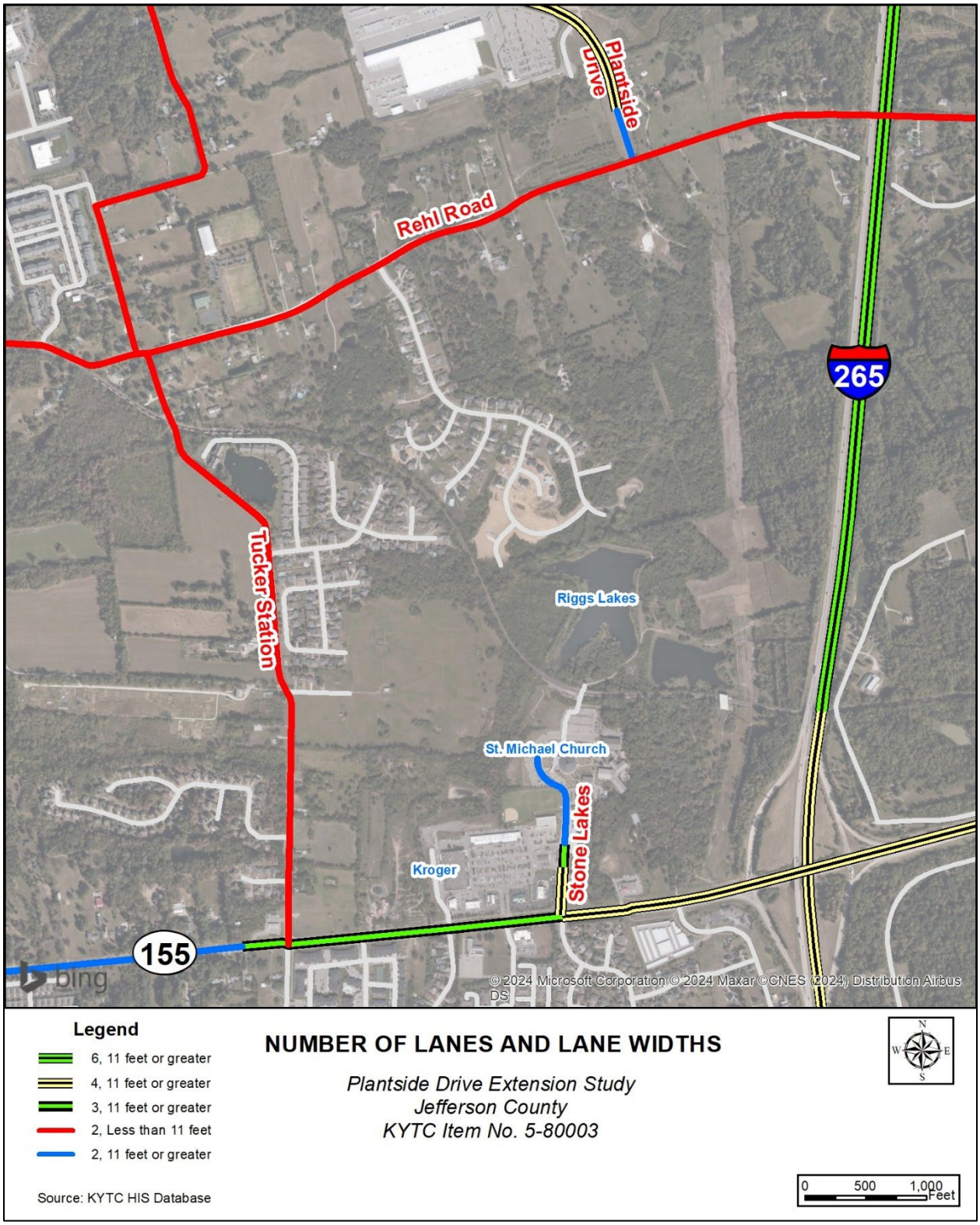
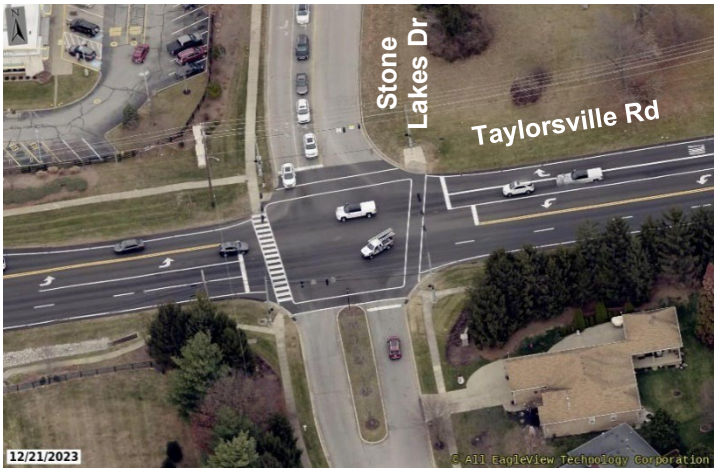


Figure 6: Number of Lanes and Lane Widths

Existing Plantside Drive at Rehl Rd

The north end of the potential Plantside Drive extension starts at the existing terminus of Plantside Drive where it intersects Rehl Road. The intersection currently operates as a side street stop condition with Plantside Drive being the controlled minor leg. Plantside Drive provides two approaching lanes and one receiving lane while Rehl Road provides a through lane in each direction of travel with an eastbound left turn lane.

At the south end of the study area, Stone Lakes Drive intersects Taylorsville Road as a four-leg signalized intersection. The north leg of Stone Lakes Drive provides two approaching lanes and two receiving lanes, and the south leg accommodates one approaching and receiving lane. The west leg of Taylorsville Road has a left turn lane with two through lanes while the east leg has one designated left, through and right turn lane.



Existing Stone Lakes Dr at Taylorsville Rd

2.3 EXISTING BRIDGE

A bridge over Norfolk Southern railroad was constructed between I-265 and Riggs Lake in 2018 at a cost of $1.5 million in preparation for a future extension of Plantside Drive.[6] This bridge was constructed to carry four 12-foot lanes of vehicular traffic with bicycle lanes and sidewalks. No approaches have been constructed.

Bridge over the Norfolk Southern Railroad

2.4 EXISTING TRAFFIC ANALYSIS

The most current average daily traffic (ADT) volumes from KYTC's traffic count stations, Louisville Metro Traffic Count Database, and KIPDA traffic counts are summarized in **Figure 7**. I-265 and Taylorsville Road have the highest traffic volumes in the study area, with 71,400 and 23,900 vehicles per day (VPD) respectively. Traffic volumes on Rehl Road range between 1,900 and 2,800 VPD east of Tucker Station Rd. Just north of Rehl Road, Plantside Drive serves

[6] http://louisvilleky.gov/metro-council-district-20/document/urtonlanebridgeoverthensrailroadpreliminaryplanspdf

1,400 VPD. Tucker Station Road, between Rehl Road and Taylorsville Road, has an ADT of about 6,000 VPD. North of the study area, Plantside Drive carries about 18.5 percent trucks.

2.5 TRUCK FACILITIES

Figure 8 provides a summary of the truck weight ratings for routes within the study area. As shown, Taylorsville Road and I-265 are both "AAA" rated for loads up to 80,000 pounds. Truck weight ratings are not provided for the local street network.

Figure 9 summarizes the designated truck network within the study area. I-265 is listed on the Federal-designated Truck Network and Taylorsville Road is listed on the State-designated truck network through and east of the I-265 interchange. No other study area routes are listed as truck network facilities.

2.6 CRASH HISTORY

Crash data were collected along existing roadways within the study area for a five-year period between January 1, 2018, and December 31, 2022, which are included in **Appendix A**. Over the course of the five-year period, there were 316 reported collisions on study area roadways within the project limits, as shown in **Figure 10**. Of the 316 crashes, there were 121 rear ends (38 percent), 104 angle/opposing lefts (33 percent), and 40 single vehicle collisions (13 percent). No crashes resulted in a fatality, and 47 (15 percent) resulted in an injury.

Figure 11 provides a summary of study area crashes involving trucks / commercial vehicles. As shown, two sideswipe crashes involving trucks occurred on Rehl Road over the five-year study period.

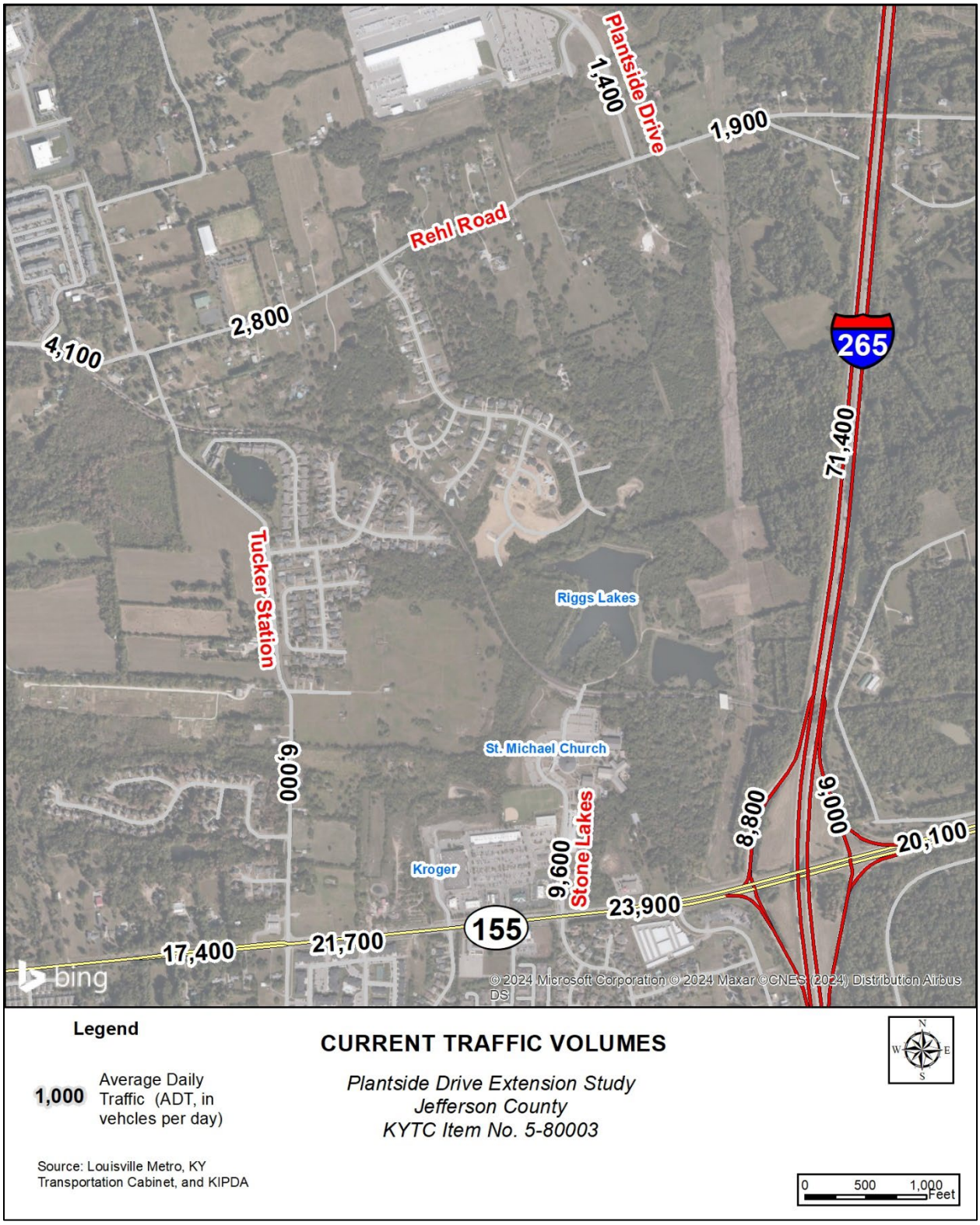


Figure 7: Average Daily Traffic (ADT) Volumes

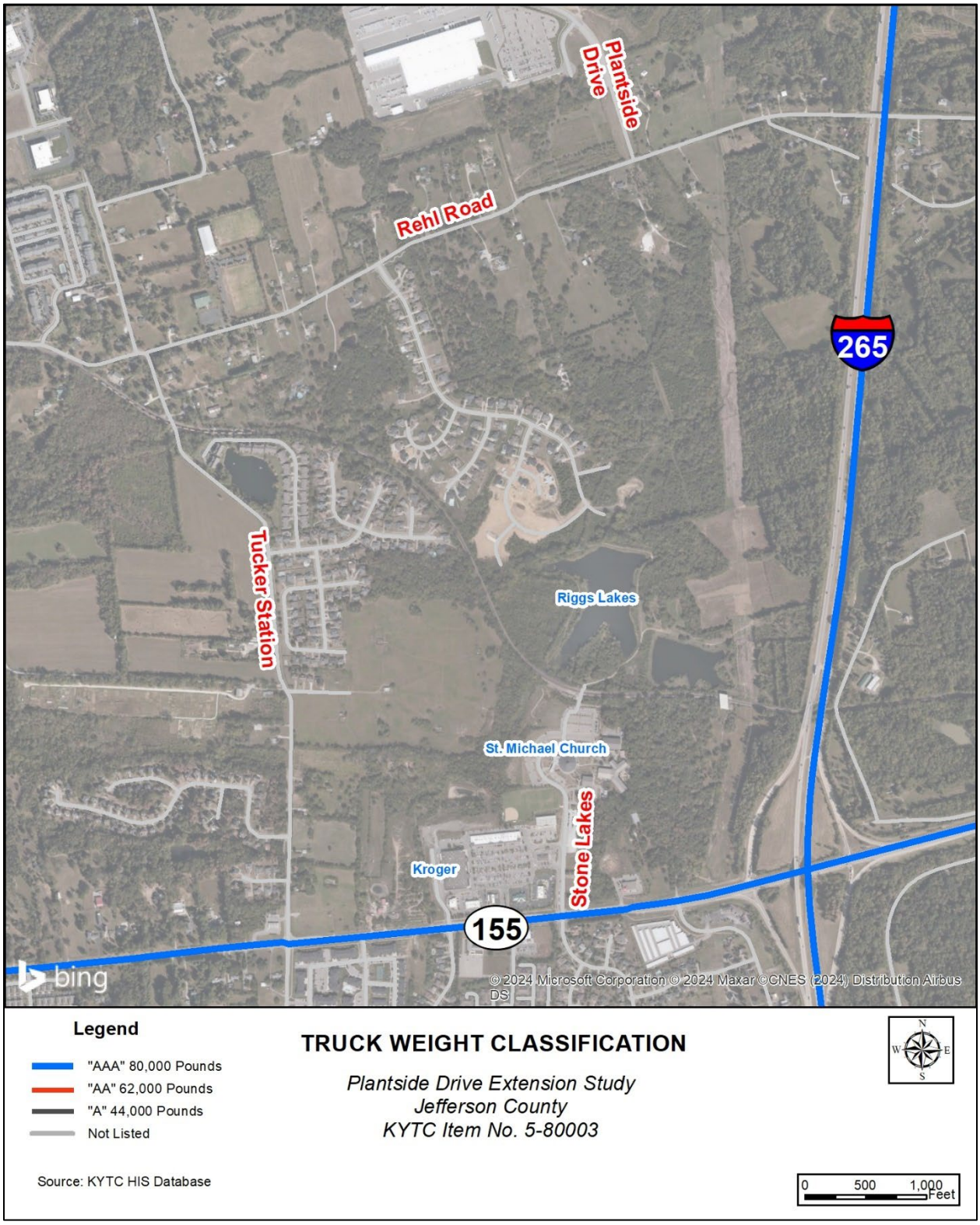


Figure 8: Study Area Truck Weight Classification

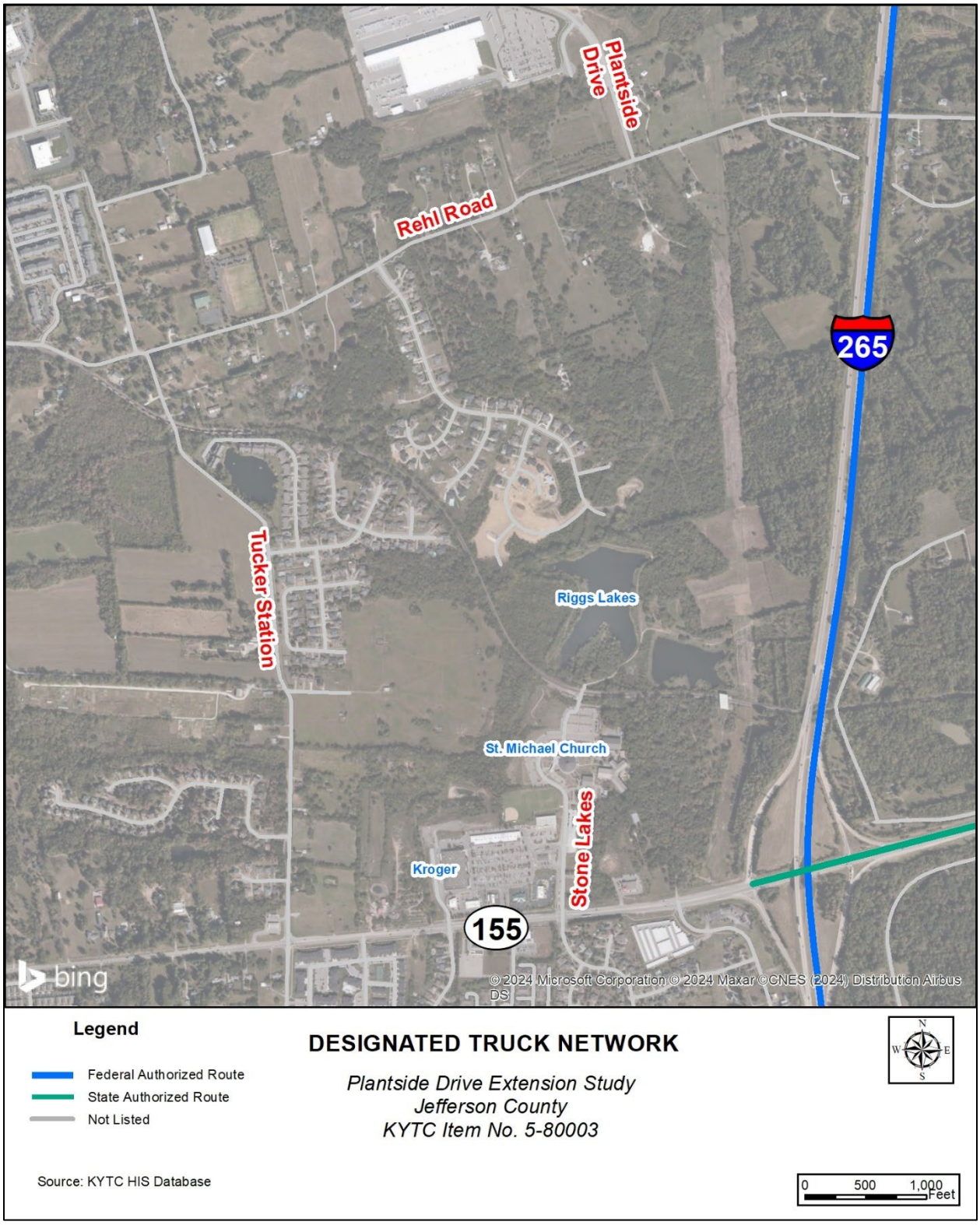


Figure 9: Study Area Truck Routes

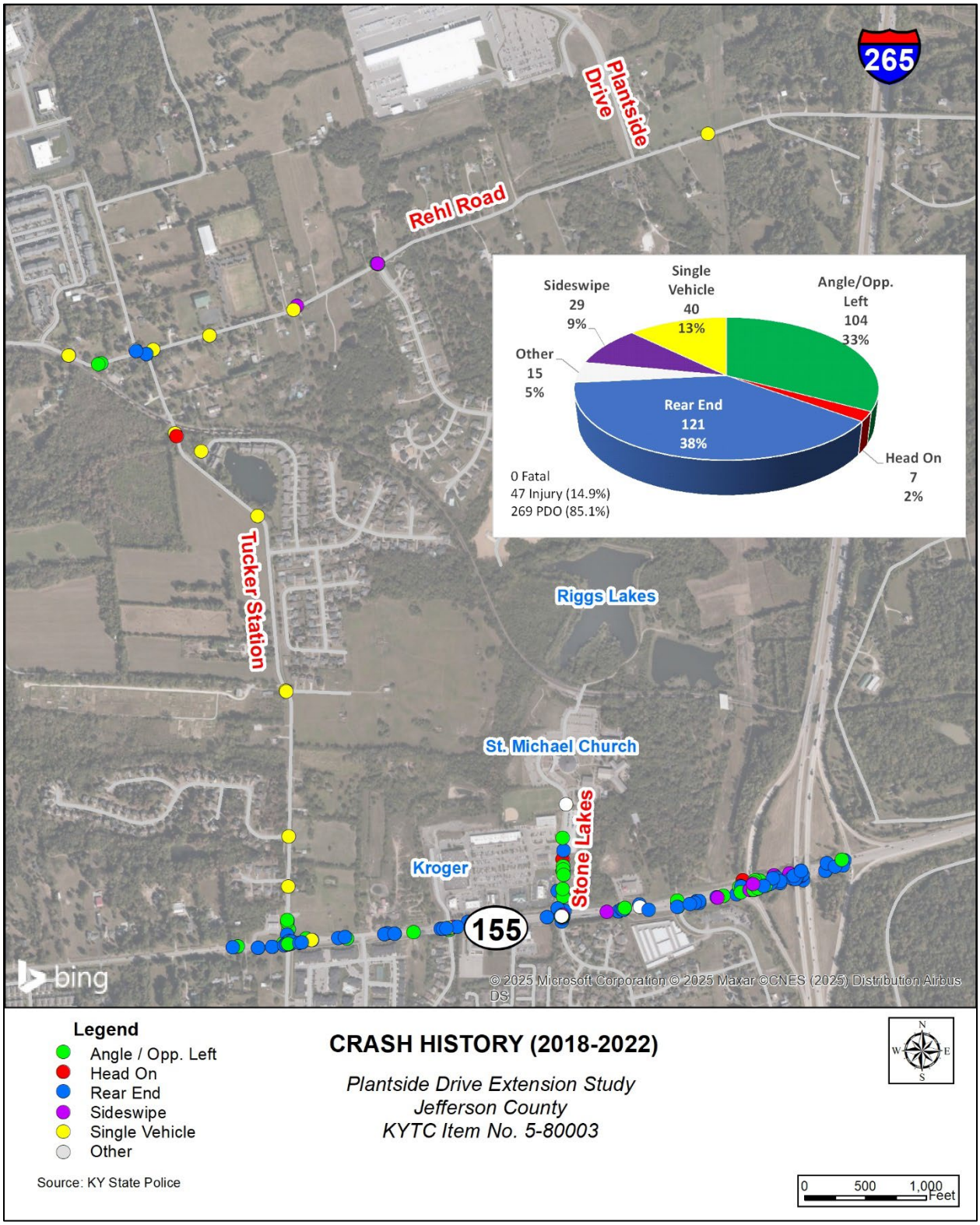


Figure 10: Crash Type (2018 – 2022)

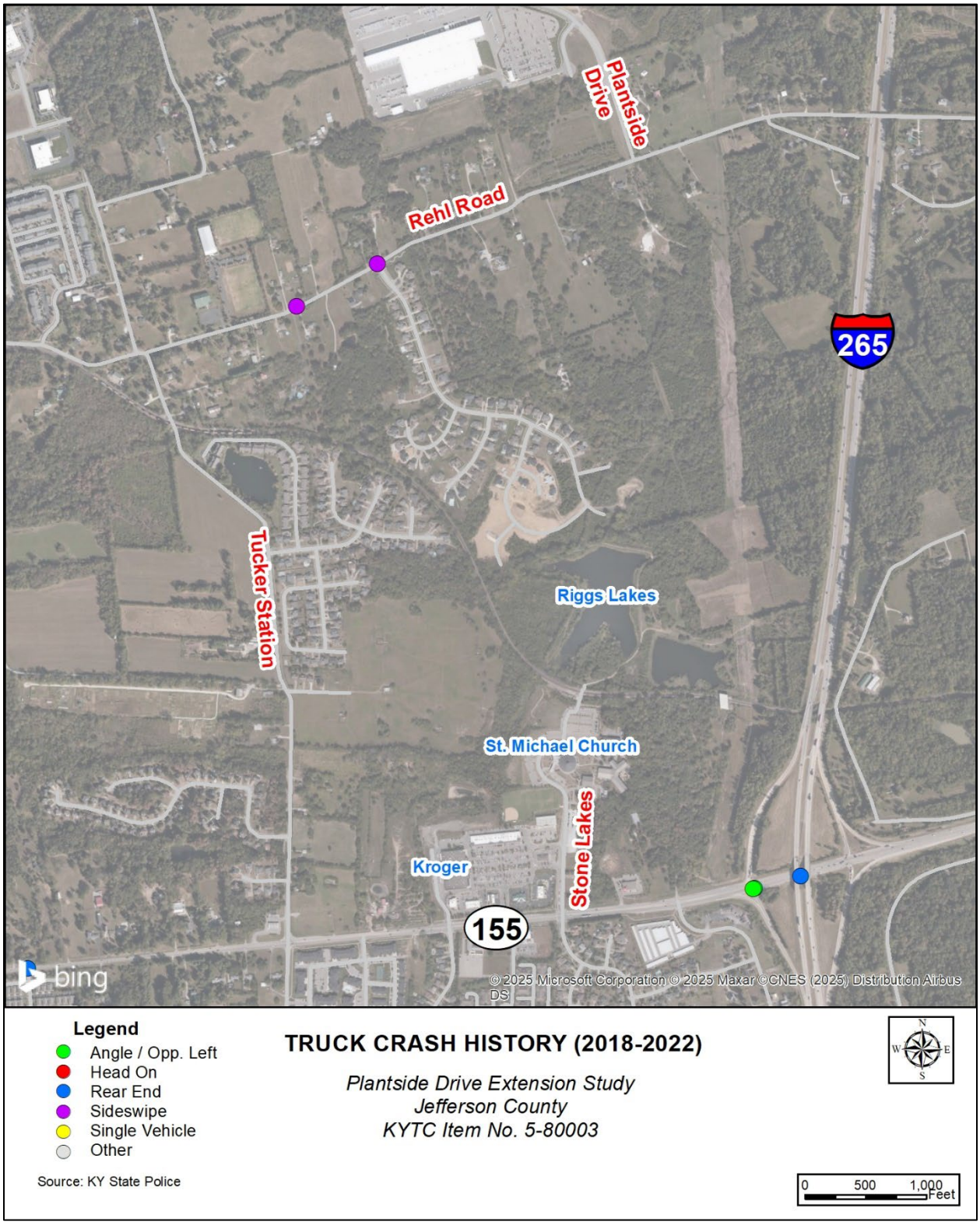


Figure 11: Truck Crashes (2018 – 2022)

3.0 ENVIRONMENTAL OVERVIEW

An Environmental Overview (EO) was prepared as part of the Plantside Drive Extension Study, which is included in **Appendix B**. This report identified environmental resources of significance, potential U.S. Army Corps of Engineers (USACE) jurisdiction features and other environmental concerns within the study area.

3.1 USGS STREAMS AND WETLANDS

There are 24 U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) wetland features (27.6 acres total), 19 United States Geological Survey (USGS) National Hydrography Dataset (NHD) waterbodies (22 acres total) and 21 NHD streams mapped within the study area. The Kentucky Watershed Viewer shows the majority of the study area falls within the Cane Run-Floyds Fork watershed with the remainder within the Chenoweth Run watershed. No Kentucky Division of Water (KDOW) outstanding state resource, 303(d) Impaired and Threatened Waters list, or 305(b) Water Quality list waters were identified within the study area. A portion of the study area is located within the Louisville MS4: MSD boundary of KPDES: KYS000001 permit area; however, KYTC maintains compliance under its own MS4 and KPDES statewide program commitments.

3.2 FEMA FLOODPLAIN

Figure 12 provides a summary of the Federal Emergency Management Agency (FMEA) defined floodplains within the study area. Rehl Creek, a tributary of Pope Lick, includes some 100-year floodplain within the northern portion of the study area. There is one perennial stream crossing, one intermittent stream crossing, and one freshwater pond in the study area.

3.3 FARMLAND

Approximately 283 acres (36 percent_ of the soils in the study area are identified as “Prime Farmland”. Prime Farmland protected from flooding or not frequently flooded during the growing season constituted 11 acres, or one percent of the study area. Approximately 138 acres or 18 percent are “Farmlands of Statewide Importance”. “Non-Prime Farmland” total 350 acres or 45 percent of the soils in the study area. In the study area some of “Prime Farmland” has previously been developed. Additionally, the US census recognizes the study area as an urban area and would be exempt from the Farmland Protection Policy Act.

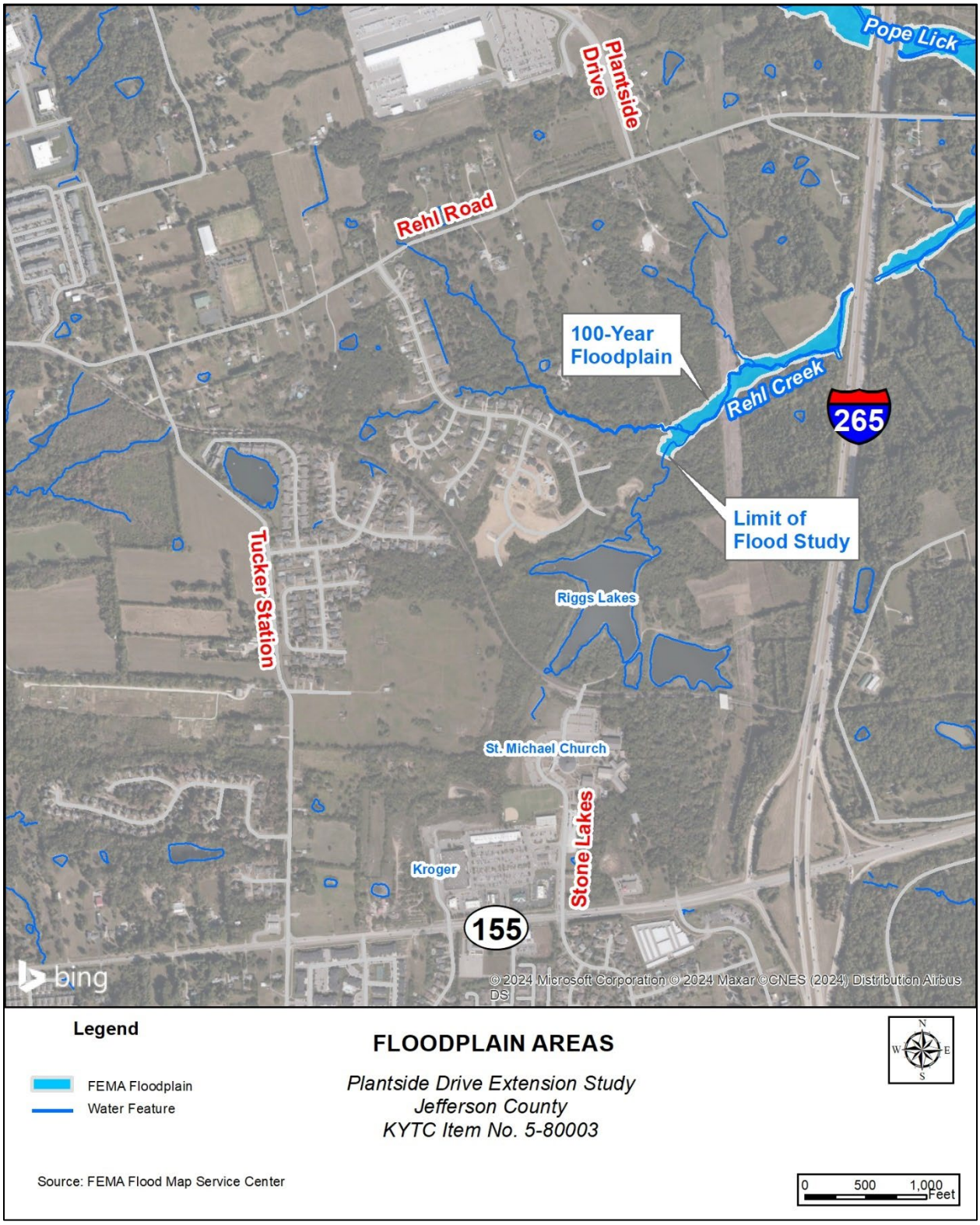


Figure 12: Floodplain Areas

3.4 THREATENED AND ENDANGERED SPECIES

According to U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC), there are three federally listed endangered species (Northern Long-Eared Bat, Gray Bat, and Indiana Bat), one federally listed proposed endangered species (Salamander Mussel), one federally listed candidate species (Monarch Butterfly), and one federally listed experimental population (Whooping Crane). All have the potential to occur within the study area. Freshwater mussels typically require perennial waters for their habitat and some forested areas are present that could provide suitable bat habitat.

3.5 GEOTECHNICAL CONSIDERATIONS

KYTC conducted a Geotechnical Overview for the study, which is included in **Appendix C**. The overview generally recommended embankments built from the native soils and bedrock can be constructed to a height of 20 feet with 2H:1V side-slopes, assuming the foundation is suitable and proper compaction methods are used. Any embankment built 20 feet or taller will require a stability analysis, which could necessitate a flatter slope be used.

Based on information from the USGS US Karst Occurrence Map, most of the study area is underlain by bedrock with high potential for karst development. The Office of Kentucky State Nature Preserves (OKNP) data search reported no record of caves or sinkholes within the study area. The Kentucky Speleological Society (KSS) database showed two caves within a one-mile buffer of the study area, but both are outside of the boundary and located west of Blankenbaker Parkway.

3.6 GROUNDWATER

A search of the University of Kentucky Groundwater Data Repository identified two agricultural waters well records although both were noted as "Plugged." No public water supply system and no source water protection areas were identified. Kaelin Spring and Tucker Spring are in the study area and were noted as "Unused".

3.7 HAZARDOUS MATERIALS

The Environmental Database Report (EDR) revealed 30 sites (122 records) within the study area. There are three underground storage tank (UST) sites including two gas stations and one personal residence. One aboveground storage tank (AST) site (listed as Louisville Metro Government) was identified in the study area. Two Resource Conservation and Recovery Act (RCRA) Non Generators / No Longer Regulated sites were identified. A total of 23 National Pollutant Discharge Elimination System (NPDES) sites were identified in the study area. Two high risk historical records were identified in the study area including a historic auto site (Kiel Brothers Oil Co; Taylorsville Road) and a historic cleaner (Dry Cleaning Deliver; Tucker Station).

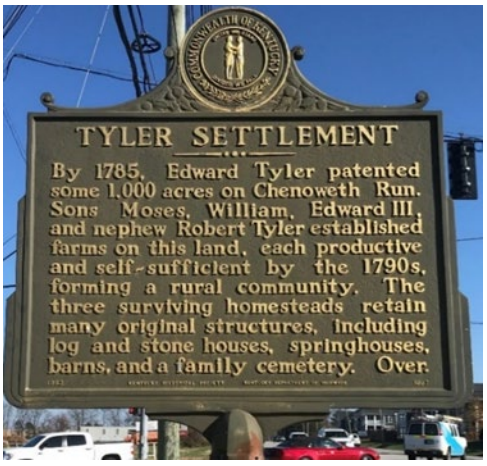
3.8 HISTORIC RESOURCES

Section 4(f) of the US Department of Transportation (USDOT) Act of 1966 provides protection for publicly owned parks and both publicly and privately owned historic resources. [7] When determining impacts of a transportation project to a historic site, the National Environmental Policy Act (NEPA) process applies, and effects in environmental reviews must be evaluated. Any encroachment within a cultural historic site would require the Section 4(f) process to be completed.

Figure 13 provides a summary of the historic resources found within the study area. The southwest portion of the study area falls within the Tyler Settlement Rural Historic District, established in 1986 to preserve the rural community formed by Edward Tyler in 1785. The historic marker, located near the Tucker Station Road intersection with Taylorsville Road, for the historic district reads as follows:

Front: By 1785, Edward Tyler patented some 1,000 acres on Chenoweth Run. Sons Moses, William, Edward III, and nephew Robert Tyler established farms on this land, each productive and self-sufficient by the 1790s, forming a rural community. The three surviving homesteads retain many original structures, including log and stone houses, springhouses, barns, and a family cemetery.

Reverse Description: Tyler Settlement - In 1986, a 600-acre area was designated the Tyler Settlement Rural Historic District, including portions of Moses, Edward III, and Robert Tyler's farms. Moses ran one of the state's earliest licensed distilleries. A portion of his land (170 acres) is now Blackacre State Natural Preserve, one of the oldest working farms in Jefferson Co. and an environmental education center.



Tyler Settlement Historic Marker
Source: http://history.ky.gov/markers/tyler-settlement

[7] http://www.ecfr.gov/current/title-23/chapter-I/subchapter-H/part-774

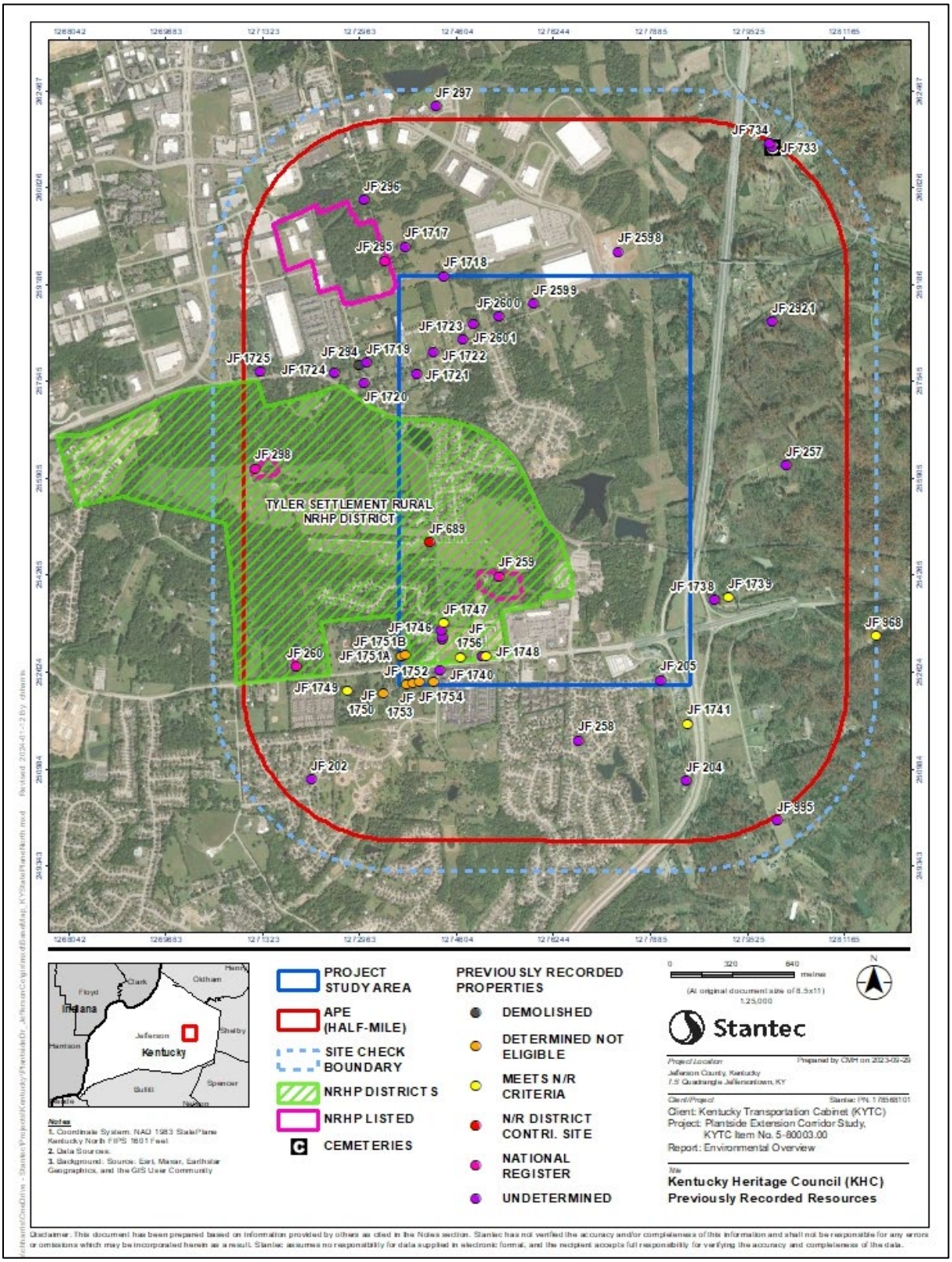


Figure 13: Cultural Historic Resources

4.0 FUTURE CONDITIONS

To determine the need for and impact of potential transportation improvement options, it is necessary to estimate future conditions. This chapter summarizes the anticipated future conditions within the study area. The complete Model Update and Traffic Forecasting Memorandum can be found in **Appendix D**.

4.1 KIPDA TRAVEL DEMAND MODEL

The KIPDA Travel Demand Model was used to develop future traffic forecasts in the study area. The Traffic Analysis Zones (TAZs) in the area were large, necessitating splits to better reflect localized land use and capture anticipated future development. The primary TAZ in the study area was split into four zones, with socioeconomic data allocated accordingly. This process was completed with input from KIPDA and Louisville Metro Public Works.

4.2 ANTICIPATED DEVELOPMENTS

Along with background traffic growth in the study area, multiple developments are expected. Tyler Crossing is a residential development anticipated on the east side of Tucker Station Road. It is expected to include 42 garden homes.

The property on the northeast corner of Taylorsville Road at Tucker Station Road recently was under consideration of a zoning change which would allow for the development of a new grocery store and associated outlots. This proposal resulted in significant opposition from residents and the Blackacre Conservancy. This development plan was rejected by Louisville Metro City Council. The property is still likely to develop, but the timing and intensity of development is unknown.

The study team met with local stakeholder Hollenbach-Oakley to collaborate and coordinate this project with their Blankenbaker Station Development. This business park is a phased development with a total of four phases spanning 600 acres. The first and third phases have already been developed and phase two is currently pending. Phase four includes an additional 200 acres for future development.

N.T.S.

Source: hollenbach-oakley.com/portfolio/business-parks/blankenbaker-station

4.3 TRAFFIC FORECASTS

Traffic forecasts were developed for the year 2050 based on output from the aforementioned updated KIPDA Travel Demand Model. "No-Build" forecasts include the expected developments as well as general growth in the area but assuming no extension of Plantside Drive. "Build" forecasts were developed to determine the traffic impacts of the proposed Plantside Drive extension alternatives between Rehl Road and Taylorsville Road. Based on results from the model, a new connection could serve up to 8,000 VPD in 2050, as shown in **Figure 14**.

Daily traffic demand on the existing roadways west of the proposed connection is expected to reduce by varying degrees when comparing the No-Build and Build conditions. Rehl Road and Tucker Station demand is expected to be reduced by 29 percent and 36 percent, respectively, with the implementation of an extension of Plantside Drive. Taylorsville Road demand west of the study area is expected to reduce by 13 percent. All other reductions are expected to be minor in comparison. Traffic demand on the existing section of Plantside Drive north of Rehl Road is expected to increase by about 60 percent.

5.0 INITIAL CONCEPTS

Initial concepts to extend Plantside Drive south of Rehl Road were developed based on a combination of past planning efforts coupled with input from the project team, evaluation of existing conditions, travel demand model analyses, and field reconnaissance. As previously discussed, a bridge was constructed over the Norfolk Southern railroad line in preparation of this extension built to accommodate four twelve-foot lanes of vehicular traffic with four-foot bicycle lanes and six-foot sidewalks. Utilizing this information, the team worked to determine if an extension is feasible.

The 2007 *Taylorsville Road Area / Urton Lane Study* recognized the significance of the Tyler Settlement historic district boundary. The study included the following language concerning concepts that might encroach into the historic district:

> "…applicable to the proposed Urton Lane Extension is Section 4(f), which is a substantive law (as opposed to a process law). Section 4(f) states the Federal Highway Administration (or any arm of the USDOT) 'cannot use land in a historic site, public park, or wildlife refuge unless there is no prudent and feasible avoidance alternative.' In short, this law forces the selection of an option outside this Tyler Rural Historic District and its contributing elements, if it is prudent. Therefore, since there is a prudent and feasible alternative to using the historic district, any option crossing the historic district cannot be selected."

As discussed in **Section 3.8** of this report, Section 4(f) protections would apply for Tyler Settlement. Because a direct impact to the historic district can be avoided without compromising the goals for the project, no options that directly impact the historic district have been evaluated. Additionally, modeling the connection to Tucker Station did not increase traffic demand on the extension.

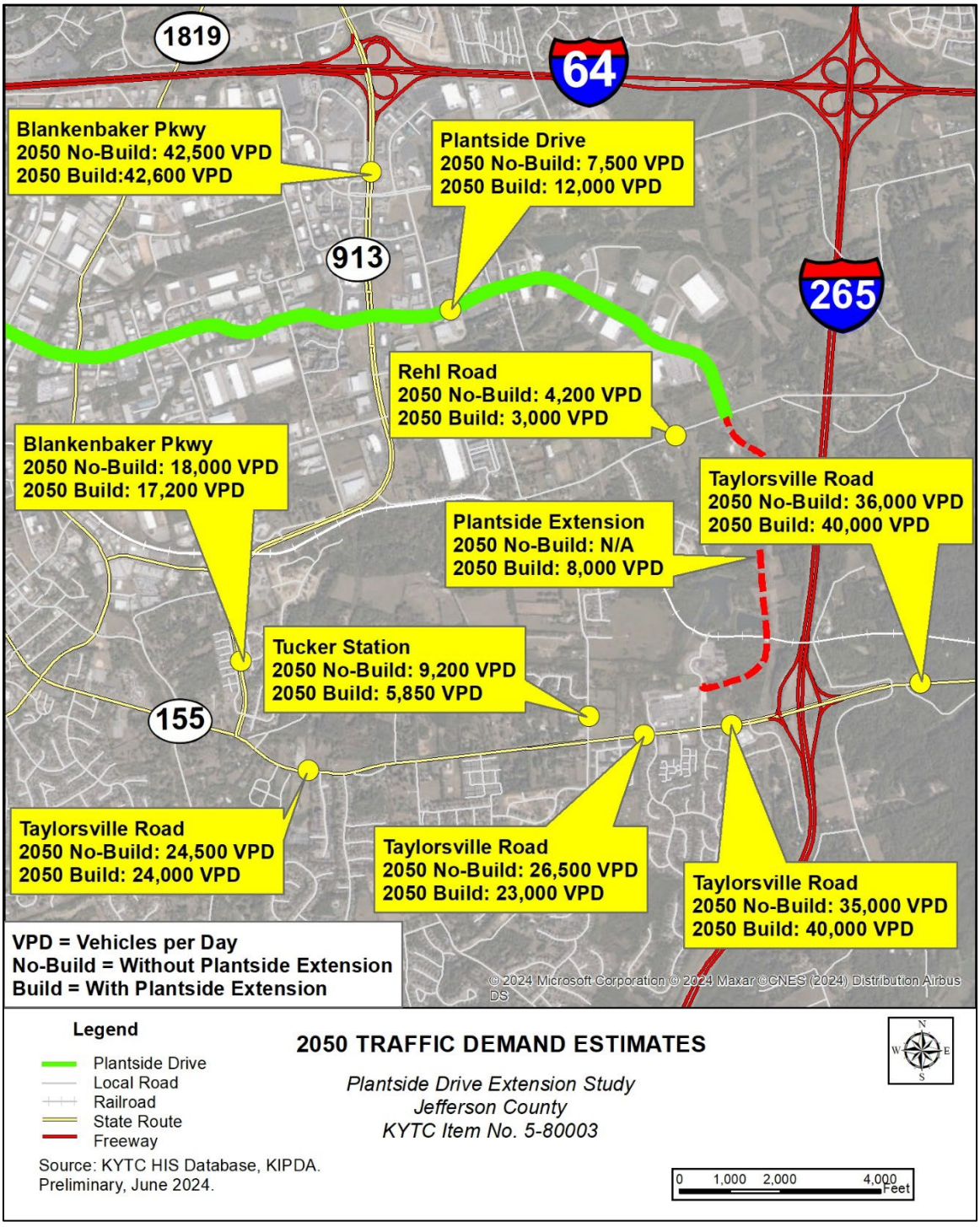


Figure 14: 2050 Traffic Forecasts Based on the KIPDA Model

An early four-lane extension concept was considered, but based on the traffic forecasts only two travel lanes are necessary. Therefore, a four-lane extension was dismissed early. Additionally, no options that would terminate on Taylorsville Road east of Stone Lakes Drive were considered. The signalized Stone Lakes intersection is located approximately 1,500 feet west of the southbound I-265 ramp terminal intersection. As Taylorsville Road is a Principal Arterial, KYTC access management guidelines would recommend full access point and traffic signal spacing of at least 1,200 feet. There would not be sufficient distance between the two existing traffic signals for an additional full access point or signalized intersection.

Along with the No-Build concept, two alignment concepts were developed, as shown in **Figure 15**. Both concepts utilize the existing bridge and provide a three-lane cross section, shared use path on one side of the roadway, and a sidewalk on the other. This would satisfy KYTC and Louisville Metro's Complete Streets policies.[8] Both options terminate at Stone Lakes Drive.

Concept 1: Extend Plantside Drive from Rehl Road to Taylorsville Road utilizing the already designated right of way providing a three-lane cross section to the north, crossing the existing bridge, and widening to a five-lane cross section as the extension approaches Taylorsville Road. A curve is included south of Rehl Road with the alignment passing through the LG&E transmission line easement. The entire extension provides a shared-use path and sidewalk.

Concept 2: Extend Plantside Drive from Rehl Road to Taylorsville Road utilizing a similar alignment without the horizontal curve immediately south of Rehl Road. This alignment will necessitate the acquisition of additional right of way but still provides a three-lane cross section to the north, crossing the existing bridge and widening to a five-lane cross section as the extension approaches Taylorsville Road. The entire extension provides a shared-use path on one side of the roadway and a sidewalk on the other.

[8] http://louisvilleky.gov/government/public-works/complete-streets

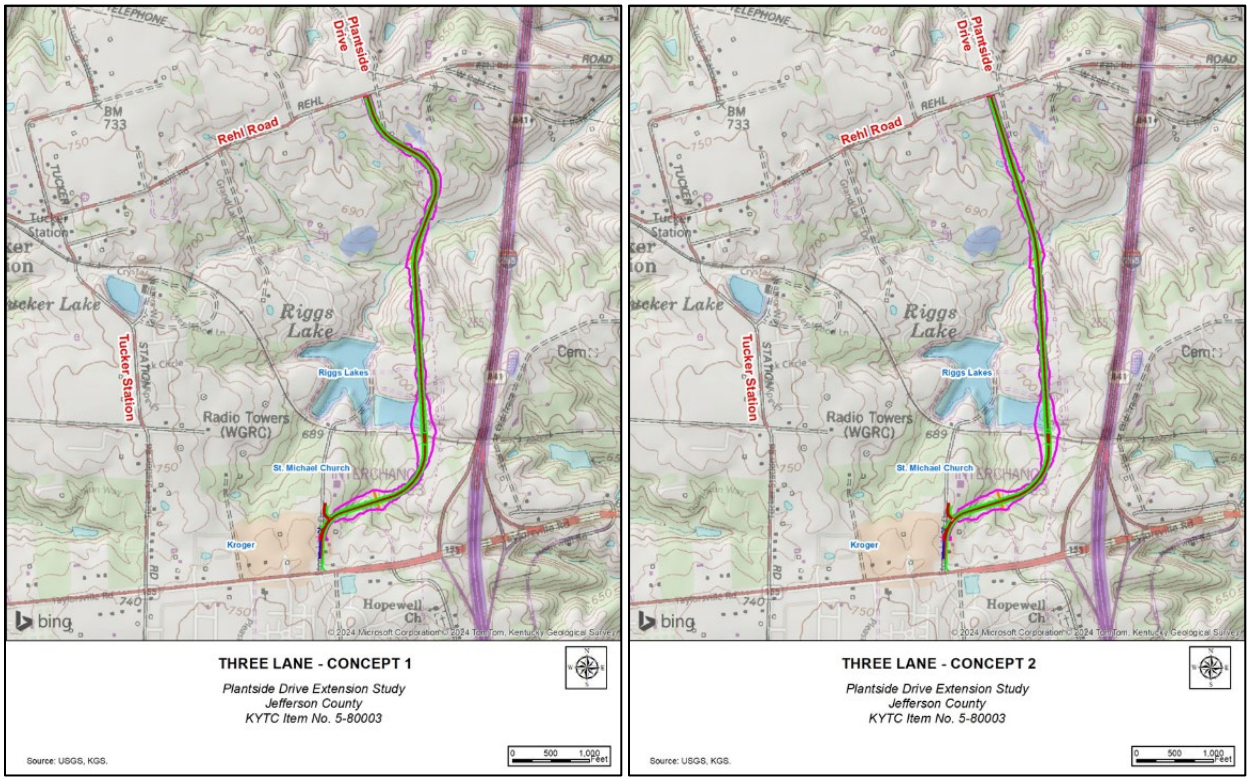


Figure 15: Plantside Drive Extension – Concepts 1 and 2

Any connector concepts that use the existing Norfolk Southern bridge will require crossing a pond located north of the railroad. This pond is not connected to a blueline stream and therefore should not result in need for environmental mitigation. The bridge plans and preliminary development plans for that area show the pond being drained in the future. Any roadway construction across the drained pond area would assume undercut of pond-bottom materials and replacement with rock or other suitable embankment materials.

6.0 PROJECT TEAM COORDINATION

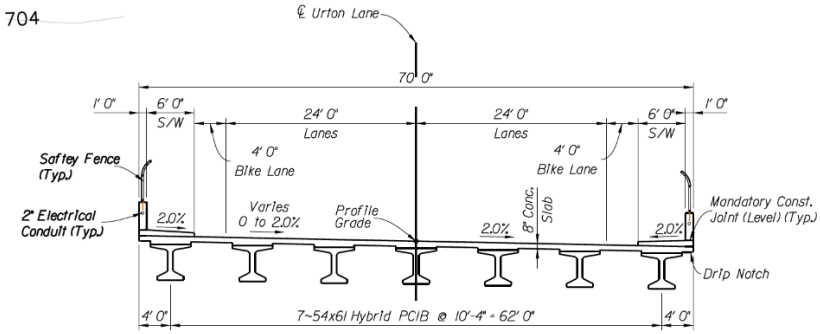
Over the course of the study, the project team held five meetings to coordinate on key issues. Two of the meetings were for the project team, two meetings were with local officials, and one meeting was with local stakeholders. Detailed summaries of each meeting are provided in **Appendix E**.

6.1 PROJECT TEAM MEETING NO. 1

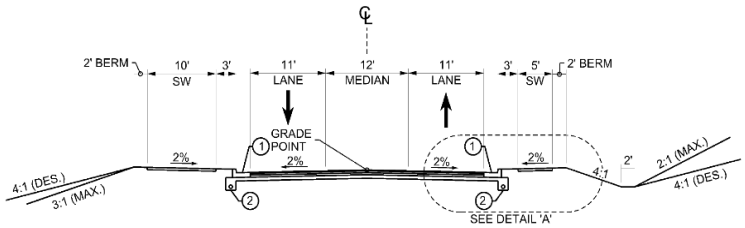
The first project team meeting was held at KYTC District 5 office and via Microsoft Teams on April 12, 2024. Representatives from KYTC Central Office, KYTC District 5, KIPDA and Stantec were in attendance. The purpose of the meeting was to discuss the existing and future conditions and get feedback from the project team on initial improvement concepts.

While this is a planning study and a Purpose and Need Statement would not ordinarily be developed, this study is unique in that this is not the first time such a connector route has been evaluated in this area. There was discussion concerning the purpose of extending Plantside Drive, and that included accommodating anticipated development and providing a route for trucks wishing to access I-265.

Conceptual Three-Lane Typical Section



Typical Section from Norfolk Southern Bridge Plans



Plantside Drive Three-Lane Typical Section

Additionally, the project team discussed potential typical sections. With the intent of the extension to serve heavy truck traffic, accommodating bicycle lanes (as shown on the typical section from the Norfolk Southern bridge plans) was determined to be undesirable. Rather, a shared-use facility and a sidewalk would be incorporated into all concepts. The existing bridge has sufficient width to match the proposed typical section, but the left sidewalk will need to be widened to safely accommodate the shared-use path. Barrier walls could also be considered in the design phase between the shared-use path or sidewalk and the driving lanes.

6.2 LOCAL OFFICIALS MEETING NO. 1

The first local officials meeting was held at KYTC District 5 office and via Microsoft Teams on May 22, 2024. Representatives from KYTC Central Office, KYTC District 5, KIPDA, Louisville Metro City Council, Louisville Metro Planning, the Kentucky House of Representatives and Stantec were in attendance. The purpose of the meeting was to discuss existing and future conditions, get feedback and address concerns from attendees on initial improvement concepts.

A primary focus of the meeting was on the Draft Purpose and Need Statement that was developed after Project Team Meeting No. 1. The following draft was presented for discussion:

> *Development along Bluegrass Parkway, Tucker Station, and existing Plantside Drive has increased traffic demand on all routes connecting to the interstate system in eastern Jefferson County, and trucks currently use roadways not designed to accommodate larger vehicles. The Purpose of the Plantside Drive Extension is to provide an alternative connection from already developed and developing areas to Taylorsville Road and I-265.*

The meeting attendees agreed the draft Purpose and Need captures what needs this project intends to address and how it would address those needs. A question was raised concerning terminating the extension concept at Stone Lakes Drive and whether additional improvements would be needed at the signalized intersection with Taylorsville Road. The project team noted they would examine that need as the study progressed.

6.3 STAKEHOLDERS MEETING NO. 1

A meeting with local stakeholders was held at the Hollenbach-Oakley office on Plantside Drive on June 19, 2024. Representatives from Hollenbach-Oakley, the Kentucky House of Representatives, and Stantec were in attendance. The purpose of the meeting was to collaborate and share information pertaining to ongoing and upcoming projects and developments. This included discussion of designated right-of-way as well as construction easements. The stakeholders concurred that terminating the Plantside Drive extension at Stone Lakes Drive would satisfy the needs of planned and anticipated development.

Hollenbach-Oakley indicated the original concept plans for the Plantside Drive extension developed by another consultant included potential construction easements. The 90 feet of right-of-way shown in those plans is consistent with what was provided for previously constructed sections of Plantside Drive. Should additional temporary construction easements be required to accommodate drainage or slope construction, it was discussed that the property owners would be willing to work with KYTC and Louisville Metro. It was also noted that the intent of the curve south of Rehl Road was to leave as much developable land available as possible for the property along the west side of the corridor in that vicinity. Electronic versions of these plans were provided after the meeting.

6.4 PROJECT TEAM MEETING NO. 2

The second project team meeting was held at KYTC District 5 office and via Microsoft Teams on August 30, 2024. Representatives from KYTC Central Office, KYTC District 5, KIPDA, and Stantec were in attendance. The purpose of the meeting was to discuss the revised improvement concepts and cost estimates and to continue discussion on key issues, and constraints.

In addition to updated alignment concepts and cost estimates, a primary focus of the meeting was improvements affecting Stone Lakes Drive and Taylorsville Road. To avoid impacts to the Tyler Settlement Historic District, all concepts include a realignment and through connection into

Stone Lakes Drive. This will satisfy the purpose of the project while avoiding a connection between Stone Lakes and Tucker Station that would impact the historic district.

Existing Louisville Metro counts and Streetlight Data, were used to develop design year build condition (2050) peak hour turning movement forecasts for the signalized Stone Lakes Drive intersection with Taylorsville Road, as shown in **Figure 16**. Southbound dual left-turn lanes are needed on Stone Lakes Drive as well as a signal phasing change to accommodate a westbound right-turn lane overlap on Taylorsville Road.

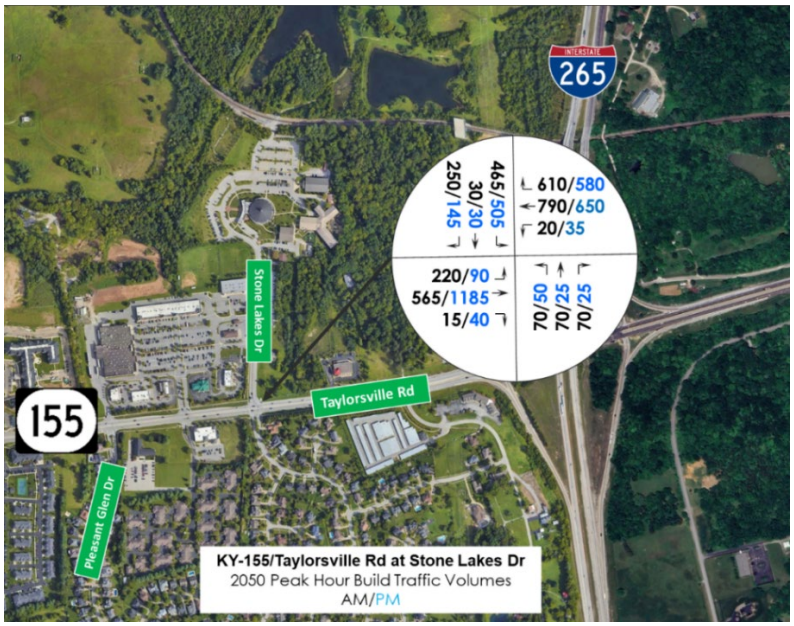


Figure 16: 2050 Taylorsville Road / Stone Lakes Drive Turning Movement Forecasts

More discussion of the Stone Lakes Drive segment and connection to a conceptual Plantside Drive extension is included in **Section 7.0**.

6.5 LOCAL OFFICIALS MEETING NO. 2

The second project team meeting was held at KYTC District 5 office and via Microsoft Teams on October 28, 2024, at 10:30 AM EDT. Representatives from KYTC Central Office, KYTC District 5, KIPDA, Louisville Metro City Council, Kentucky House of Representatives and Stantec were in attendance. The purpose of the meeting was to discuss the finalized traffic forecasts, recap the stakeholder meeting, and to present revised improvement concepts and updated cost estimates.

A question was asked concerning St. Michael Catholic Church and whether the church is agreeable to the realignment on Stone Lakes Drive. Representatives from the church have not been directly asked to provide input on the current concept. However, based on previous discussions, their original concern was that an extension of Plantside Drive may pass through the heart of their campus. This concept for extending Plantside Drive avoids major impacts to the church campus.

7.0 REVISED IMPROVEMENT CONCEPTS

After the second project team meeting, improvement concepts were revised based on feedback received. The revised concepts satisfy the study goals by providing an alternative connection between developed and developing areas to Taylorsville Road and I-265, decreasing traffic, heavy truck traffic in particular, on the surrounding roadway network, and minimizing impacts to the focus area.

A 2050 build condition Synchro traffic analysis at Stone Lakes Drive and Taylorsville Road demonstrated a need for southbound dual left-turn lanes and a westbound right-turn overlap phase as previously discussed. One option to construct dual left-turn lanes on Stone Lakes Drive is shown in **Figure 17**. This concept, which widens Stone Lakes along the east side, would avoid impacting known utilities, and would minimize impacts to businesses within the Tyler Village shopping center to the west.

7.1 PLANTSIDE EXTENSION CONCEPT 1

The preliminary Concept 1 presented in **Section 5.0** was updated based on input from the local stakeholders meeting and additional project team input. The intent was to extend Plantside Drive from Rehl Road to Taylorsville Road utilizing the already designated right of way. Throughout the extension, active transportation facilities are provided by way of a shared-use path on one side of the roadway and a sidewalk on the other. This concept provides a three-lane cross section for vehicular traffic on the north end of the project extending south of the existing bridge. As the extension approaches Taylorsville Road, the vehicular cross-section widens to five lanes. Preliminary plans and profiles for Concept 1 are provided in **Appendix F**.

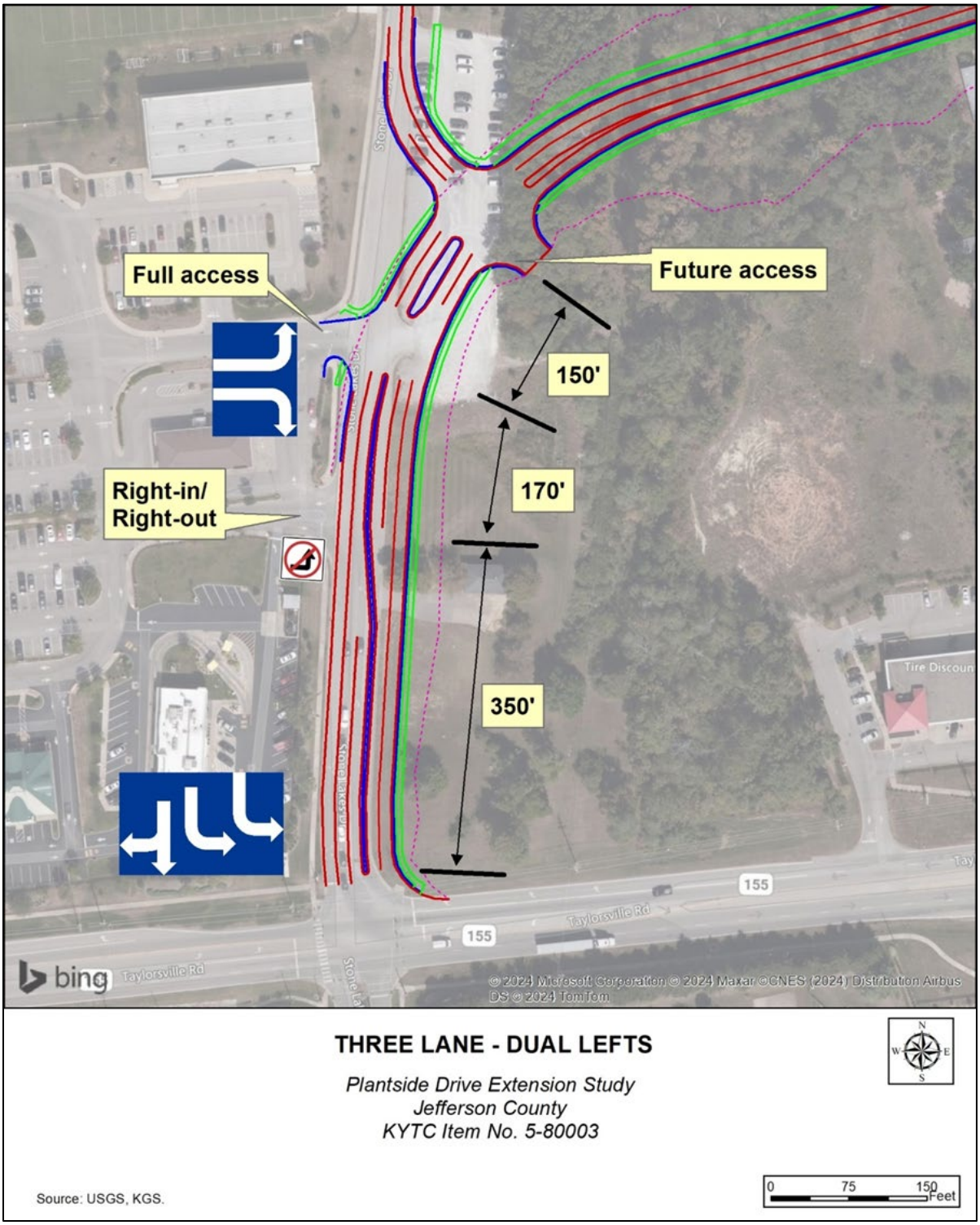


Figure 17: Dual Left-Turn Lane Option on Stone Lakes Drive

7.2 PLANTSIDE EXTENSION CONCEPT 2

Concept 2 maintains all design aspects of the first except for removing the horizontal curve immediately south of Rehl Road. Preliminary plans and profiles for Concept 2 are provided in **Appendix F**.

7.3 COST ESTIMATES

Planning level cost estimates were prepared for Concept 1 and Concept 2, as shown in **Table 2** and **Appendix G**, based on current average KYTC unit costs. The estimated project delivery timeline for each phase is also shown assuming funding is available. The right-of-way for Concept 1 has been mostly donated to Louisville Metro. Additional right-of-way acquisitions or donations would be necessary for Concept 2 to be constructed.

Table 2: Cost Estimate (2024 Dollars) and Approximate Phase Duration

Project Phase	Approximate Phase Duration (Predicated on Funding Availability)	Concept 1	Concept 2
Design (Preliminary and Final) and Environmental	**~2 Years**	**$1,790,000**	**$1,790,000**
Right-of-Way*	**~2 Years**	**$200,000**	**$200,000**
Utilities**		**$800,000**	**$800,000**
Construction	**~2 Years**	$17,900,000	$17,500,000
Contingency***		$5,400,000	$5,200,000
Mobilization / Demobilization		$1,050,000	$1,000,000
Environmental Mitigation		$350,000	$300,000
Construction Total		**$24,700,000**	**$24,000,000**
Total Cost (All Phases)	**Approximately 6 Years**	**$27,490,000**	**$26,790,000**

*Right of Way estimate derived from funding allocated in FY 2024 Highway Plan.
**Utility estimate derived from funding allocated in FY 2024 Highway Plan.
***Contingency is 30% of proposed construction cost.

8.0 CONCLUSIONS

The goal of the Plantside Drive Extension Study was to determine the feasibility of providing a new connection between already developed and developing areas to Taylorsville Road and I-

265 in eastern Jefferson County. Such an extension would **reduce large truck traffic** on routes not designed to accommodate large vehicles and maintain adequate access / operations at existing intersections and businesses. This investigation included examining traffic pattern impacts on the surrounding roadway network, identifying benefits of the extension to the commuting public, determining constraints, and updating proposed costs.

In the initial stages of this planning study, the idea of connecting Plantside Drive to Tucker Station Road was evaluated. While only preliminary analysis of this concept was conducted as a part of this project, it was not carried forward because it did not provide a travel benefit and would directly impact the Tyler Settlement Historic District. For these reasons, **a connection to Tucker Station Road** was determined **not to be feasible** to be included as a part of this project.

It was determined that extending Plantside Drive from Rehl Road to Taylorsville Road by tying into Stone Lakes Drive will improve traffic flow in the vicinity and reroute heavy truck traffic to this alternative connection which is better equipped to accommodate large vehicles. This study confirmed **utilizing the existing bridge** over the railroad as a part of the alignment extension is **feasible**.

Conceptual Three-Lane Typical Section

Two alignment concepts were determined to be viable options warranting further consideration. In both cases, the same typical section was used to provide active transportation facilities throughout by way of a shared-use path on one side of the road and a sidewalk on the other, with three vehicular travel lanes (shown to the right) at the north end of the project continuing south of the existing bridge where it widens to a five-lane section nearing Taylorsville Road. The only difference is that Concept 1 utilizes the existing right of way, which has a horizontal curve immediately south of Rehl Road, and Concept 2 removes this alignment shift which would require additional right-of-way acquisitions or donations.

Both Build conditions will necessitate signal timing and phasing changes at the existing Taylorsville Road signalized intersection. Under the 2050 Build condition southbound dual left turn lanes are likely to be warranted as well as a westbound right turn overlap phase.

8.1 NEXT STEPS

The next step following this study for any potential improvements would be Phase 1 Design (Preliminary Engineering and Environmental Analysis), should Louisville Metro wish to proceed with a project. Further funding is necessary to advance an improvement to the design phase as design of this project currently has no funding. Although funding has been allocated in the *2024-2030 Enacted Highway Plan* as a State Priority Project (SPP), the funding is not sufficient to complete the project. Currently allocated funding includes $200,000 (2025) in right-of-way funds, $800,000 (2025) in utility funds, and $10 million (2026) in construction funds, as shown in **Table 3**.

Table 3: Allocated Funding

Jefferson					On NHS	Description:	EXTEND PLANTSIDE DRIVE FROM REHL ROAD TO TAYLORSVILLE ROAD. (18CCN) (2020CCR) (2022CCR) (2024CCR)		
						Type of Work:	NEW ROUTE(O)		
Item#:	5-80003.00	Parent#:	5-80003.00	Length		Bridge ID:			
Plan Year:	2018	Parent Year:	2018	0.00					

FUND	PH	2024	2025	2026	2027	2028	2029	2030	Phase Total
SPP	R	$0	$200,000	$0	$0	$0	$0	$0	**$200,000**
SPP	U	$0	$800,000	$0	$0	$0	$0	$0	**$800,000**
SPP	C	$0	$0	$10,000,000	$0	$0	$0	$0	**$10,000,000**
FY TOTAL:		**$0**	**$1,000,000**	**$10,000,000**	**$0**	**$0**	**$0**	**$0**	**$11,000,000**

The scope of this study focused on analyzing traffic needs, assessing feasibility, and providing cost estimates. Assuming funding is available, the typical project delivery timeline for a road of this size is shown below. Because much of the right-of-way for this project has already been designated and few utilities are impacted, those phases could be shorter than typical.

Figure 18: Approximate Project Delivery Timeline (Predicated on Funding Availability)

9.0 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 5 Project Manager, Tracy Lovell, at (502) 210- 5400 (email at Tracy.Lovell@ky.gov).