



INTRODUCTION

The Kentucky Transportation Cabinet (KYTC) contracted with the consulting firm of Parsons Brinckerhoff to perform a programming study to identify and evaluate improvements for I-265 (Gene Snyder Freeway) from I-65 to the new East End Bridge in Louisville, Kentucky.

The study area limits along I-265 included existing right-of-way along the mainline of I-265, expanding out to a 250-foot buffer on each side of the mainline centerline. At the interchange locations along I-265, the ramp termini intersections are included along with the next adjacent upstream and downstream intersections. Refer to **Figure ES-1** for more details.

STUDY OBJECTIVES

Based on the initial direction provided by the KYTC, primary study objectives were developed as summarized below:

1. Examine existing traffic, highway, environmental, and safety conditions along the existing roadway;
2. Determine where there are problems or deficiencies;
3. Define project purpose and need;
4. Develop a list of improvements to satisfy the project purpose and need and address the identified problems; and
5. Evaluate and prioritize the list of improvements, considering public input as well as transportation, community, environmental, and economic benefits and impacts.

PURPOSE AND NEED

The purpose of the I-265 Programming Study is to evaluate the safety and capacity of the corridor and to identify needed improvements and priorities as a result of the expected increased traffic due to major transportation and development changes in the Louisville Metro area.

As already noted, the study area encompasses both the mainline of I-265 as well as the arterial interchanges along the system. As such, part of the need for this study is driven by not only issues with the operations of the mainline of I-265, but also by traffic operations from intersecting arterials that impact the mainline and vice versa. Study needs include the following:

Safety – Along the mainline of I-265, only one segment was found to have a critical crash rate factor (CCRF) greater than 1.0 – the segment between KY 22 and the I-71 interchange (1.40). However, many arterial segments evaluated on either side of the interchange were found to have a CCRF greater than 1.0. This includes the following:

- KY 61 (Preston Highway) – North and south of I-265 (CCRF = 3.08 and 1.63, respectively)
- KY 864 (Beulah Church Road) – South of I-265 (CCRF = 1.06)
- US 31E (Bardstown Road) – North and south of I-265 (CCRF = 4.16 and 2.24, respectively)
- KY 155 (Taylorsville Road) – East of I-265 (CCRF = 1.15)
- US 60 (Shelbyville Road) – West of I-265 (CCRF = 2.72)
- KY 146 (LaGrange Road) – East and west of I-265 (CCRF = 2.77 and 1.05, respectively)
- KY 1447 (Westport Road) – East and west of I-265 (CCRF = 1.72 and 1.78, respectively)
- KY 22 (Brownsboro Road) – East and west of I-265 (CCRF = 1.74 and 3.34, respectively)

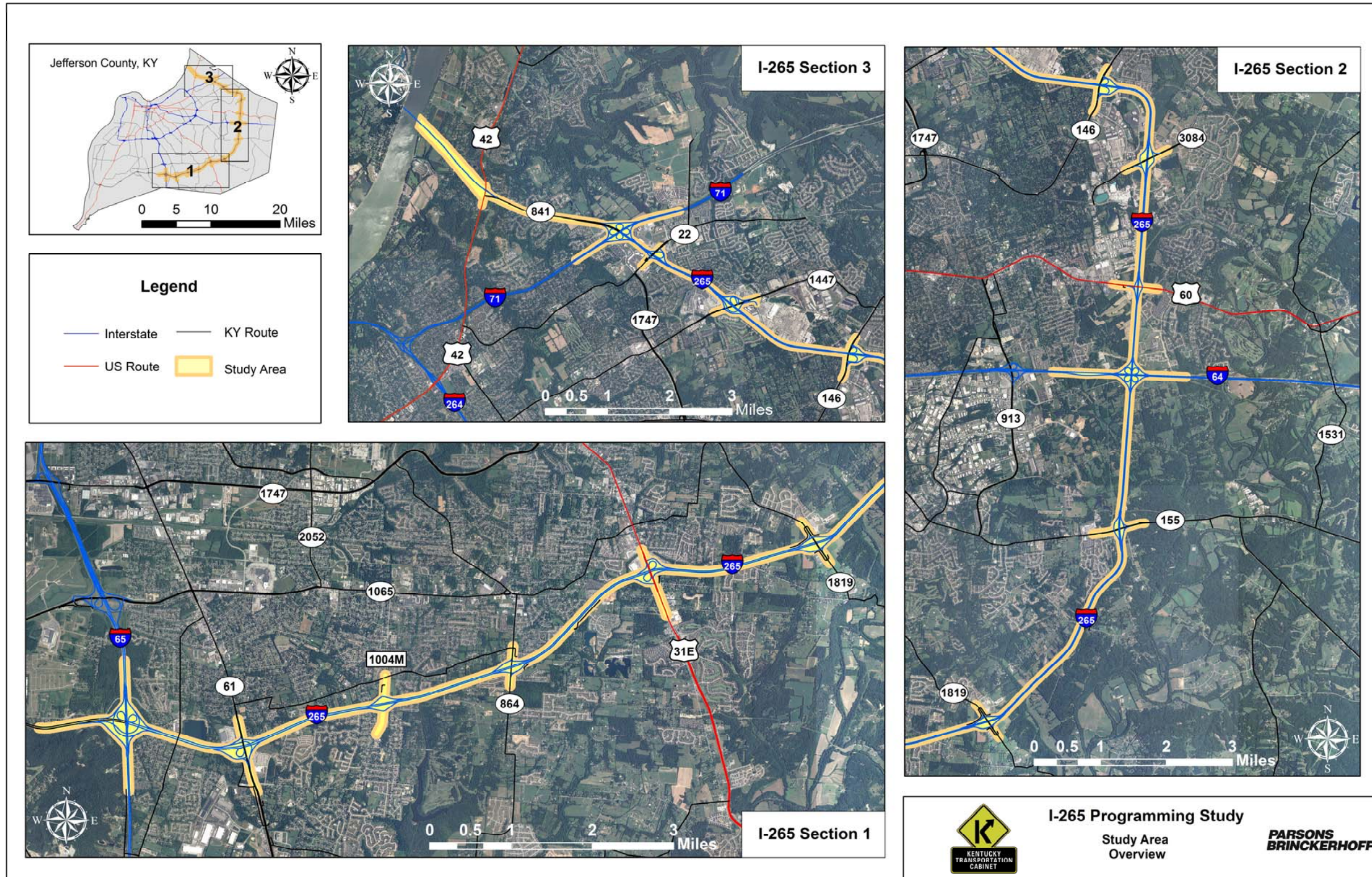
Capacity – An evaluation of volume to capacity (v/c ratio) on the mainline of I-265 shows that of the 31 segments evaluated, 77% in the AM Peak Period and 90% in the PM Peak Period operate over capacity in the future year of 2040.

Congestion – Level of service (LOS) D is typically considered acceptable for traffic operations in an urban area. The LOS analysis shows that 87% of the 31 segments in the AM Peak Period and 100% in the PM Peak Period operate at a LOS E or F in the year 2040.

Access – The public was given the opportunity to rate potential improvement projects for the mainline of I-265 as well as the intersecting arterials and other adjacent interstate facilities. Improvements to the interchanges with I-71 and I-64 were top rated projects. Widening I-265 was also highly rated. Improved access was an overall theme from respondents regardless of which projects they considered to be the most necessary.

Economic Development – Within the vicinity of I-265 (or along the mainline) there are over 40 projects identified through various transportation plans and project identification forms (PIFs) through KYTC and the Kentuckiana Regional Planning and Development Agency (KIPDA). These projects are in various stages of commitment with some having funding (10) in the KYTC 2012 Six-Year Highway Plan. This study provides a means to prioritize these projects along with other identified projects to formulate a plan for investing in transportation projects along I-265.

Figure ES-1: Study Area



I-265 Programming Study
Study Area
Overview

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REVIEW OF PLANNED PROJECTS / EXISTING STUDIES

The identification of all relevant projects and studies provided necessary information related to previous, planned, and on-going work within the area to evaluate the impact of these projects on the future transportation system and identify where additional projects may provide safety and traffic operations improvements along the corridor.

Sources used to identify projects currently in the planning process included:

- KYTC 2012 Six-Year Highway Plan
- KYTC Statewide Transportation Improvement Program (STIP) FY 2013 – 2016
- KYTC District 5 Unscheduled Projects List
- Project Identification Forms (PIFs) from KYTC and the Kentuckiana Regional Planning and Development Agency (KIPDA)
- KIPDA Metropolitan Transportation Plan (MTP)
- KIPDA Transportation Improvement Plan (TIP)
- KYTC Statewide Long Range Transportation Plan (LRTP)

There are several planning studies recently completed that impact this programming study¹. These include the following:

- *Alternatives Study for I-71 / I-265* – This study was completed in August 2010 and includes the I-71 interchange with I-265 as well as the KY 22 interchange with I-265.
- *I-71 Corridor Study* – This study was completed in March 2014 and includes the I-71 interchange with I-265.
- *KIPDA Interchanges Study* – This study was completed in June 2005 by Parsons Brinckerhoff. Several interchanges were evaluated that overlap the current study area. Subsequently, the recommendations for most of these interchanges were included in the KYTC 2012 Six-Year Highway Plan.

EXISTING CONDITIONS

A detailed inventory was completed to examine existing roadway characteristics, current and future traffic volumes, level of service (LOS), capacity, crash rates, bicycle and pedestrian facilities, and environmental features. A summary of key points is as follows:

- The existing traffic operations of I-265 are generally acceptable with some locations starting to experience congestion. Only one section in the PM peak period operates at a poor level of service (LOS E) which is the 2-lane section north of I-64 to south of US 60 where it becomes

3 lanes. The capacity analysis shows adequate capacity on all segments with a few getting close to the threshold of 1.00 which indicates a facility is operating at capacity.

- Only one segment on I-265 was identified as having a critical crash rate factor great than 1.0 – the segment between KY 22 and the I-71 interchange (1.40). Many of the intersecting arterials were calculated to have a critical crash rate factor greater than 1.0 on either side of the interchange ramps.
- There were a total of 1,179 crashes between January 1, 2010 and December 31, 2012. Of these crashes, 202 resulted in an injury (17%) and 5 (less than 1 percent) resulted in a fatality. The majority were rear-end collisions (47%) with a significant portion of crash types also being single vehicle collisions (33%). Most of these collisions also occurred during clear weather (62%) and during the daylight (66%).
- There are three National Register of Historic Places (NRHP)-listed historic districts and nine individually listed properties in the study area.

IMPROVEMENT OPTIONS DEVELOPMENT

The first step in developing the projects to be ranked was to compile a list of previously identified projects in the study area. After the compilation of the previously identified projects, a list was made to develop alternatives for the widening of the I-265 mainline. A total of six alternatives were developed that encompassed various widening options including widening to three or four lanes, as well as the implementation of a collector-distributor (C-D) road. All six alternatives were not shown to the public. Instead, a simple “Widening of I-265” was placed on the list of projects. This allowed the public to rank the importance of adding capacity to I-265, while allowing for a more thorough traffic analysis to determine the best alternative to carry forward.

Along with previously identified projects and the widening of I-265, additional projects to improve system performance were identified (i.e. ramp improvements, arterial projects, and ITS improvements). Several methods were undertaken to identify additional potential future projects, including meetings with KYTC, field reviews, and a variety of analyses such as safety, crash data, and traffic. Based on these analyses, the list of potential projects was compiled. Each project was shown on a map and displayed at the public meetings to collect feedback on prioritization. Cost estimates were developed for each project and included on the ranking sheet.

Several additional improvements developed during the course of the study were not included on the ranking sheet brought to the public meeting. These included Intelligent Transportation Systems (ITS) improvements and freeway ramp acceleration and deceleration length improvements. The ITS projects were not presented to the public for prioritization because they were of a different scope than traditional construction projects. Instead, all of the desired ITS improvements were included in the system improvement section, and were ranked by TRIMARC, the Louisville region’s ITS operator. The acceleration and deceleration lane improvements were not included with the public ranking sheets because I-265 will be widened in sections and some of these improvements will occur when the freeway is widened, while a large portion of the study area will not receive freeway capacity improvements for many years. Lengthening the deficient acceleration and deceleration lanes is a lower cost, nearer term solution that can be completed on sections of the freeway that will not be widened for many years.

¹ These documents can be found on the KYTC website:
www.transportation.ky.gov/Planning/Pages/Planning-Studies-and-Reports.

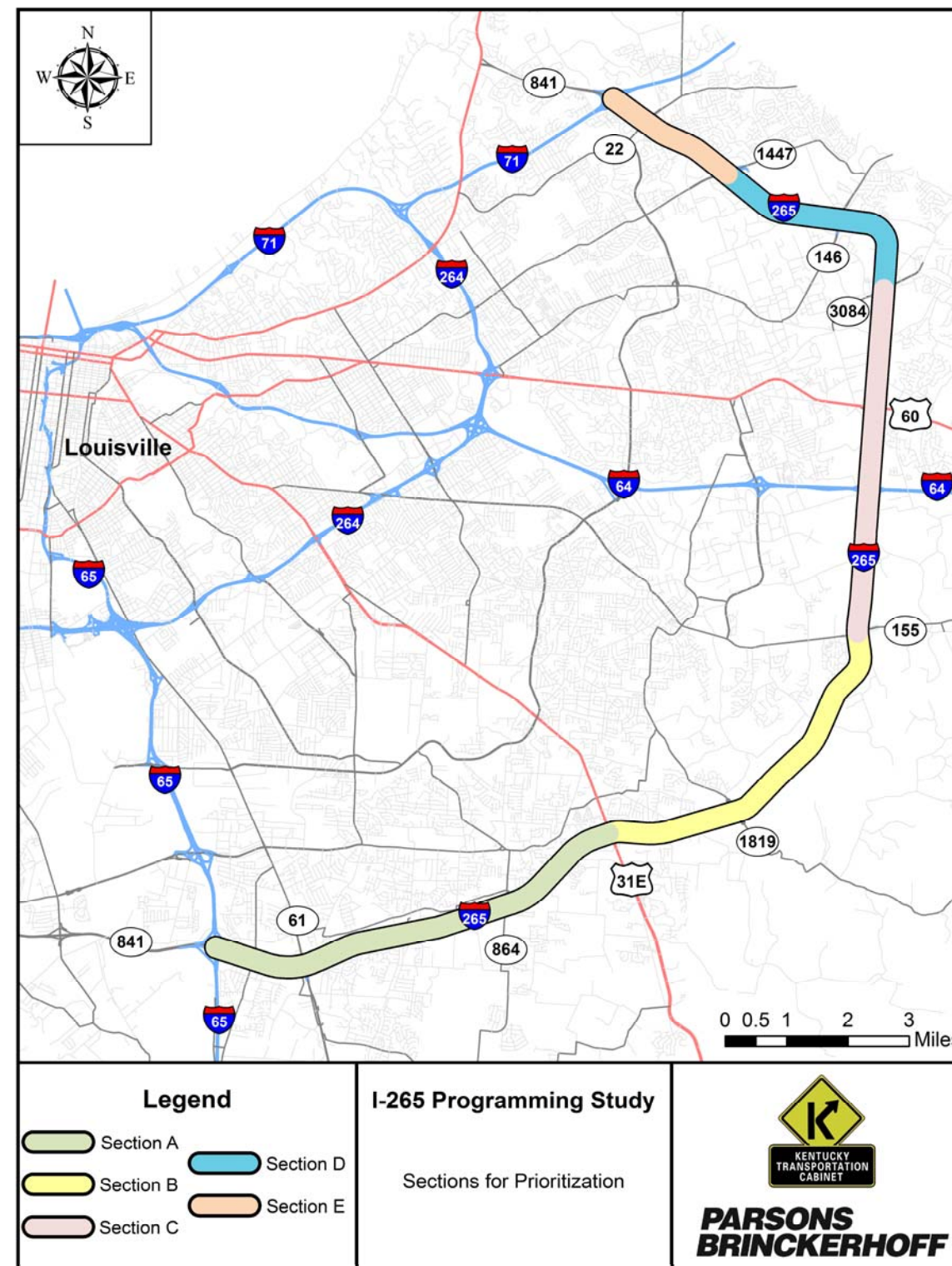
IMPROVEMENTS EVALUATION

Both mainline widening of I-265 and study area system improvements were evaluated as part of this study.

Mainline Widening

The project to widen I-265 received a medium to high priority ranking from the public (depending on which section they were ranking). The Freeway Evaluation (FREEVAL) and the Highway Capacity Software (HCS) were software tools that were used to identify areas where capacity failures may have spillback impacts to the system. A basic capacity analysis was also performed to determine the future year in which the traffic volumes on each segment would result in unacceptable levels of congestion. This analysis helped divide I-265 into phases for widening based on estimated dates that the existing capacity would no longer support the expected traffic. It also assisted in identifying segments where additional widening beyond three lanes or the addition of a collector-distributor (C-D) roadway system would be useful. The study area was divided into different phases for construction based on year of traffic congestion failure. **Figure ES-2** shows I-265 divided into five sections for widening.

Figure ES-2: I-265 Widening Phasing





System Improvements

System improvements include all projects not associated with mainline widening (i.e. ramp improvements, arterial projects, and ITS improvements). These improvement projects were divided into the five mainline sections shown in **Figure ES-2**. The projects located at the interchanges between the sections were listed with the section that had fewer projects, to balance the number of projects in each section. A technical analysis was completed for every project to evaluate impacts to right-of-way, traffic operations, the environment, project, cost, purpose and need, and the structural sufficiency of the study area bridges. Several new projects were added to the list of projects that the public reviewed. These additional projects include the ITS improvements recommended by TRIMARC, acceleration and deceleration lane improvements, and several other projects that were recommended by the public.

The complete evaluation matrices were sent to KYTC to prioritize the projects. KYTC sent the ITS matrix to TRIMARC to prioritize. KYTC considered the complete technical analysis as well as the public input to determine its final ranking of projects.

PROJECT PRIORITIZATION

The evaluation matrices were given to KYTC to provide the final prioritization. KYTC held a meeting including KIPDA representatives and various staff from multiple departments to discuss the evaluation matrices and reach a consensus on the final prioritization of projects. The mainline widening prioritization was based on the evaluation matrix (cost, meets purpose and need, and technical analysis) and the mainline capacity analysis, as well as KYTC staff knowledge of the mainline sections. The system improvements prioritization was based on the evaluation matrix (cost, meets purpose and need, technical analysis, and public rankings) and KYTC staff knowledge of the project locations. The ITS ranking sheet was sent to TRIMARC to prioritize. **Table ES-1** shows the final prioritization of the mainline widening segments, **Table ES-2** shows the final prioritization of the system improvements, and **Table ES-3** shows the final prioritization of the ITS improvements. **Figures ES-3 through ES-7** provide a summary of projects by section. It should be noted that all costs are shown in the year 2014 dollars.

Table ES-1: Prioritization of I-265 Mainline Widening

Group	Project	Description	Milepoint(s)	KYTC Item Number	Construction Cost	KYTC Ranking
Section A: I-65 to US 31E	I-265 Widening	I-265 Widening: I-65 to US 31E (Bardstown Road)	MP 10.25 - MP 17.30	--	\$65,000,000	3
Section B: US 31E to KY 155	I-265 Widening	I-265 Widening: US 31E (Bardstown) to KY 155 (Taylorsville Road)	MP 17.30 - MP 23.10	--	\$75,000,000	5
Section C: KY 155 to KY 3084	I-265 Widening	I-265 Widening: KY 155 (Taylorsville) to KY 3084 (Old Henry Road)	MP 23.10 - MP 28.78	--	\$70,000,000	1
Section D: KY 3084 to KY 1447	I-265 Widening	I-265 Widening: KY 3084 (Old Henry Road) to KY 1447 (Westport Road)	MP 28.78 - MP 32.50	--	\$45,000,000	4
Section E: KY 1447 to I-71	I-265 Widening	I-265 Widening: KY 1447 (Westport Road) to I-71	MP 32.50 - MP 34.73	--	\$25,000,000	2

Table ES-2: Prioritization of System Improvements

Group	Project	Description	Milepoint(s)	KYTC Item Number	Construction Cost	KYTC Ranking (per section)
Section A: I-65 to US 31E	Scoping Study for Interchange Improvement @ I-65	Interchange Reconstruction: Scoping study to analyze improvements to the I-265 / I-65 interchange.	MP 9.60 - MP 10.75	--	\$500,000	1
	Interchange Improvement @ I-65	Improvements to I-265 / I-65 interchange (pending results of Interchange Scoping Study)	MP 9.60 - MP 10.75	--	\$90,000,000	2
	Add Capacity @ KY 864	Add SB left turn onto I-265 EB entrance ramp and additional EB left turn lane on I-265 EB exit ramp at the KY 864 (Beulah Church Road) and I-265 EB Ramp intersection, add NB through lane through the I-265 intersection	MP 3.37	--	\$1,200,000	3
	Ramp Improvement @ Smyrna Parkway	Increase Acceleration Lane Length from Smyrna Parkway to I-265 WB	MP 13.54	--	\$500,000	4
	Ramp Improvement @ Smyrna Parkway	Increase Acceleration Lane Length from Smyrna Parkway to I-265 EB	MP 13.54	--	\$500,000	5
	Improve Traffic Control @ KY 864	If warrants are met, signalize the KY 864 (Beulah Church Road) and I-265 WB Ramp interchange.	MP 3.37	--	\$100,000	6
Section B: US 31E to KY 155	Scoping Study for Spot Improvements	Scoping Study to analyze spot improvements to I-265 from US 31E (Bardstown Road)	MP 16.90 - MP 19.90	--	\$250,000	1
	Interchange Improvement @ US 31E	Reconstruction of the I-265 / US 31E (Bardstown Road) Interchange	MP 16.30 - MP 17.65	--	\$40,000,000	2
	Add Capacity @ KY 1819	Add SB and EB left turn capacity, and a NB thru lane at the KY 1819 (Billtown Road) and I-265 EB Ramp intersection	MP 5.18	--	\$1,500,000	3
	Add Capacity @ KY 155	Add EB thru and NB left turn at KY 155 (Taylorsville Road) and I-265 NB Ramp intersection	MP 6.06	--	\$2,410,000	4
	Interchange Improvement @ KY 155	Reconstruction of the I-265 and KY 155 (Taylorsville Road) Interchange	MP 22.72 - MP 23.45	--	\$25,000,000	5
	Improve Traffic Control @ KY 1819	If warrants are met, signalize KY 1819 (Billtown Road) at I-265 WB and EB Ramp intersections.	MP 5.18	--	\$200,000	6
	Interchange Improvement @ KY 155	Add lighting at the I-265 and KY 155 (Taylorsville Road) Interchange	MP 23.10	--	\$200,000	7
Section C: KY 155 to KY 3084	Interchange Improvement @ I-64 (Phase 1)	Interchange Reconstruction: Reconstruct I-265 interchange at I-64, including: NB to WB 2 lane flyover, SB to WB 2 lane ramp and auxiliary lane; also includes WB auxiliary lane on I-65 from I-265 to Blankenbaker Parkway	MP 25.30 - MP 25.60	Item 5-21.00	\$51,750,000	1
	Interchange Improvement @ I-64 (Phase 2)	Phased completion of I-265 / I-64 Interchange Improvements	MP 25.30 - MP 25.60	Item 5-21.10	\$48,040,000	2
	Interchange Improvement @ I-64 (Phase 3)	Complete construction of the I-265 / I-64 Interchange with fully directional ramps.	MP 25.30 - MP 25.60	Item 5-21.20	\$92,520,000	3
	Ramp Improvement @ I-64	Increase Deceleration Lane Length from I-265 EB to I-64 EB	MP 25.45	--	\$500,000	4
	Ramp Improvement @ I-64	Increase Acceleration Lane Length from I-64 WB to I-265 EB	MP 25.45	--	\$500,000	5
	New Interchange @ Rehl Road	New Interchange: Rehl Road	MP 24.30	--	\$31,600,000	6
Section D: KY 3084 to KY 1447	Interchange Improvement @ KY 3084	Reduce congestion and improve safety at the KY 3084 (Old Henry Road) interchange	MP 28.28 - MP 29.10	Item 5-474.00	\$5,090,000	1
	Add Capacity @ KY 146	At the I-265 SB Ramp and KY 146 (LaGrange Road) intersection, add a second SB left turn lane onto I-265 entrance ramp, a second WB right turn lane on the I-265 exit ramp, and a third NB thru lane from Nelson Miller Pkwy through the intersection	MP 7.28	--	\$1,200,000	2
	Ramp Improvement @ KY 146	Increase Acceleration Lane Length from KY 146 (LaGrange Road) to I-265 WB	MP 30.42	--	\$500,000	3
Section E: KY 1447 to I-71	Interchange Improvement @ I-71 (Phase 1)	Reconstruction of the I-265 / I-71 interchange including a possible flyover ramp from I-265 NB to I-71 SB	I-265: MP 34.30 - MP 35.20 I-71: MP 7.50 - MP 9.80	Item 5-48.3	\$13,500,000	1
	Interchange Improvements @ I-71 (Additional Phases)	Phased completion of I-265 / I-71 Interchange Improvements - Revisit recommendations from the 5-68.00 Study.	I-265: MP 34.30 - MP 35.20 I-71: MP 7.50 - MP 9.80	Item 5-68.00	Alt. 5A - \$70,000,000 Alt. 8A - \$100,000,000 Alt. 10A - \$65,000,000	2
	Add Capacity @ KY 1447	Add EB left turn at KY 1447 (Westport Road) and I-265 NB Ramp intersection	MP 6.93	--	\$200,000	3

I-265 PROGRAMMING STUDY – EXECUTIVE SUMMARY

Table ES-3: Prioritization of ITS Improvements

Type	TRIMARC Project ID	Project Description	Roadway	Milepoint(s)	Location Description	Total Cost	Ranking
CCTV	C4	Proposed CCTV	I-265	19.0	I-265 at KY 1819 (Billtown Road)	\$75,000	1
	C8	Proposed CCTV	I-265	34.4	I-265 at KY 22 (Brownsboro Road)	\$75,000	1
	C3	Proposed CCTV	I-265	15.0	I-265 at KY 864 (Beulah Church Road)	\$75,000	2
	C5	Proposed CCTV	I-265	21.6	I-265 at Old Heady Road	\$75,000	2
	C6	Proposed CCTV	I-265	22.8	I-265 South of KY 155 (Taylorsville Rd)	\$75,000	2
	C7	Proposed CCTV	I-265	24.5	I-265 at S Pope Lick Road East of I-64	\$75,000	2
	C1	Proposed CCTV	KY 841	8.0	KY 841 at KY 1020 (National Turnpike)	\$75,000	3
	C2	Proposed CCTV	KY 841	10.0	KY 841 at I-65	\$75,000	3
DMS	D1	Proposed DMS	I-65	12.5	I-65 (SB) North of Fern Valley Road	\$250,000	1
	D2	Proposed DMS	I-65	120.7	I-65 (NB) South of KY 1526 (John Harper Highway / Exit 121)	\$250,000	1
	D3	Proposed DMS	I-64	16.0	I-64 (EB) East of KY 1747 (S Hurstbourne Parkway)	\$250,000	1
	DMS019 ³	Proposed DMS	I-265	27.9	I-265 (SB) South of KY 3084 (Old Henry Road)	\$250,000	N/A ⁴
	DMS020 ³	Proposed DMS	I-265	24.3	I-265 (EB) East of I-64	\$250,000	N/A ⁴
	DMS021 ³	Proposed DMS	I-265	12.8	I-265 (WB) West of Smyrna Parkway	\$250,000	N/A ⁴
	DMS022 ³	Proposed DMS	I-265	6.8	KY 841 (EB) East of KY 1020 (National Turnpike)	\$250,000	N/A ⁴
Communication Hut	H2	Proposed Communication Hut	I-265	25.0	I-265 at I-64	\$250,000	2
	H1	Proposed Communication Hut	KY 841	10.0	I-265 at I-65	\$250,000	3
EMM	--	Proposed Enhanced Mile Markers	I-265	10.2 - 34.7	I-265 from I-71 to I-65 (25 miles)	\$40,000	1
HAR	HX1	Proposed HAR XMTR	US 31E	--	Fern Creek Fire Dept. #4 off Billtown Road	\$60,000	1
WBR ¹	--	Wide Beam Radar detectors placed approximately every 1/2 mile	I-265	25.5 - 34.7	Every 1/2 mile along the 10 mile corridor from I-71 to I-64	\$350,000	2
	--	Wide Beam Radar detectors placed approximately every 1/2 mile	I-265	10.2 - 25.5	Every 1/2 mile along the 15 mile corridor from I-64 to I-65	\$525,000	3
Fiber	--	Fiber optic cable, conduit and infrastructure (96 strand, minimum)	I-265	25.5 - 34.7	Approximately 10 road miles between I-71 and I-64	\$1,000,000	2
	--	Fiber optic cable, conduit and infrastructure (96 strand, minimum)	I-265	10.2 - 25.5	Approximately 15 road miles of fiber optic cable along the 15 mile corridor from I-64 to I-65	\$1,500,000	3
Misc	--	TRIMARC improvements on I-71 (Item 5-48.9)	I-71	--	I-71 from near Kennedy Interchange to I-265	\$6,730,000	1
Arterial DMS ²	--	Arterial DMS	KY 1447	--	KY 1447 (Westport) Road Southbound approaching I-265	\$110,000	1
	--	Arterial DMS	KY 1447	--	KY 1747 (Westport Road) Northbound approaching I-265	\$110,000	1
	--	Arterial DMS	US 60	--	US 60 (Shelbyville Road) Westbound approaching I-265	\$110,000	1
	--	Arterial DMS	US 60	--	US 60 (Shelbyville Road) Eastbound approaching I-265	\$110,000	1
	--	Arterial DMS	US 31E	--	US 31E (Bardstown Road) Southbound approaching I-265	\$110,000	1
	--	Arterial DMS	US 31E	--	US 31E (Bardstown Road) Northbound approaching I-265	\$110,000	1
	--	Arterial DMS	KY 146	--	KY 146 (LaGrange Road) Southbound approaching I-265	\$110,000	2
	--	Arterial DMS	KY 146	--	KY 146 (LaGrange Road) Northbound approaching I-265	\$110,000	2
	--	Arterial DMS	KY 3084	--	KY 3084 (Old Henry Road) Southbound approaching I-265	\$110,000	2
	--	Arterial DMS	KY 3084	--	KY 3084 (Old Henry Road) Northbound approaching I-265	\$110,000	2
	--	Arterial DMS	KY 61	--	KY 61 (Preston Highway) Southbound approaching I-265	\$110,000	2
	--	Arterial DMS	KY 61	--	KY 61 (Preston Highway) Northbound approaching I-265	\$110,000	2
	--	Arterial DMS	KY 155	--	KY 155 (Taylorsville Road) Southbound approaching I-265	\$110,000	3
	--	Arterial DMS	KY 155	--	KY 155 (Taylorsville Road) Northbound approaching I-265	\$110,000	3
	--	Arterial DMS	KY 1819	--	KY 1819 (Billtown Road) Southbound approaching I-265	\$110,000	3
	--	Arterial DMS	KY 1819	--	KY 1819 (Billtown Road) Northbound approaching I-265	\$110,000	3
	--	Arterial DMS	KY 2030	--	KY 1020 (National Turnpike) Southbound approaching I-265	\$110,000	3
	--	Arterial DMS	KY 2030	--	KY 1020 (National Turnpike) Northbound approaching I-265	\$110,000	3
	--	Arterial DMS	KY 864	--	KY 864 (Beulah Church Road) Southbound approaching I-265	\$110,000	3
	--	Arterial DMS	KY 864	--	KY 864 (Beulah Church Road) Northbound approaching I-265	\$110,000	3
	--	Arterial DMS	--	--	Smyrna Parkway Southbound approaching I-265	\$110,000	3
	--	Arterial DMS	--	--	Smyrna Parkway Northbound approaching I-265	\$110,000	3
	--	Arterial DMS	KY 1865	--	KY 1865 (New Cut Road) Southbound approaching I-265	\$110,000	4
	--	Arterial DMS	KY 1865	--	KY 1865 (New Cut Road) Northbound approaching I-265	\$110,000	4
--	Arterial DMS	--	--	Stonestreet Road Southbound approaching I-265	\$110,000	4	
--	Arterial DMS	--	--	Stonestreet Road Northbound approaching I-265	\$110,000	4	
--	Arterial DMS	US 60	--	US 60 (Dixie Highway) Westbound approaching I-265	\$110,000	4	
--	Arterial DMS	US 60	--	US 60 (Dixie Highway) Eastbound approaching I-265	\$110,000	4	

Notes:

- 1) Placement of detectors will affect the cost. The detectors can be co-located on camera poles or other devices for \$5,000. Stand alone detectors with a pole \$30,000. A detector can span 250 feet and provide information for both directions when properly located. Cost is based on half pole mounted and half stand alone.
- 2) The costs for the Arterial Digital Message Sign (ADMS) include a verification camera.
- 3) Replacing existing roadside DMS with an Overhead DMS due to lane expansions.
- 4) Ranking not provided as timeline of widening is not known.

Figure ES-3: Section A (I-65 to US 31E) Project Identification Map

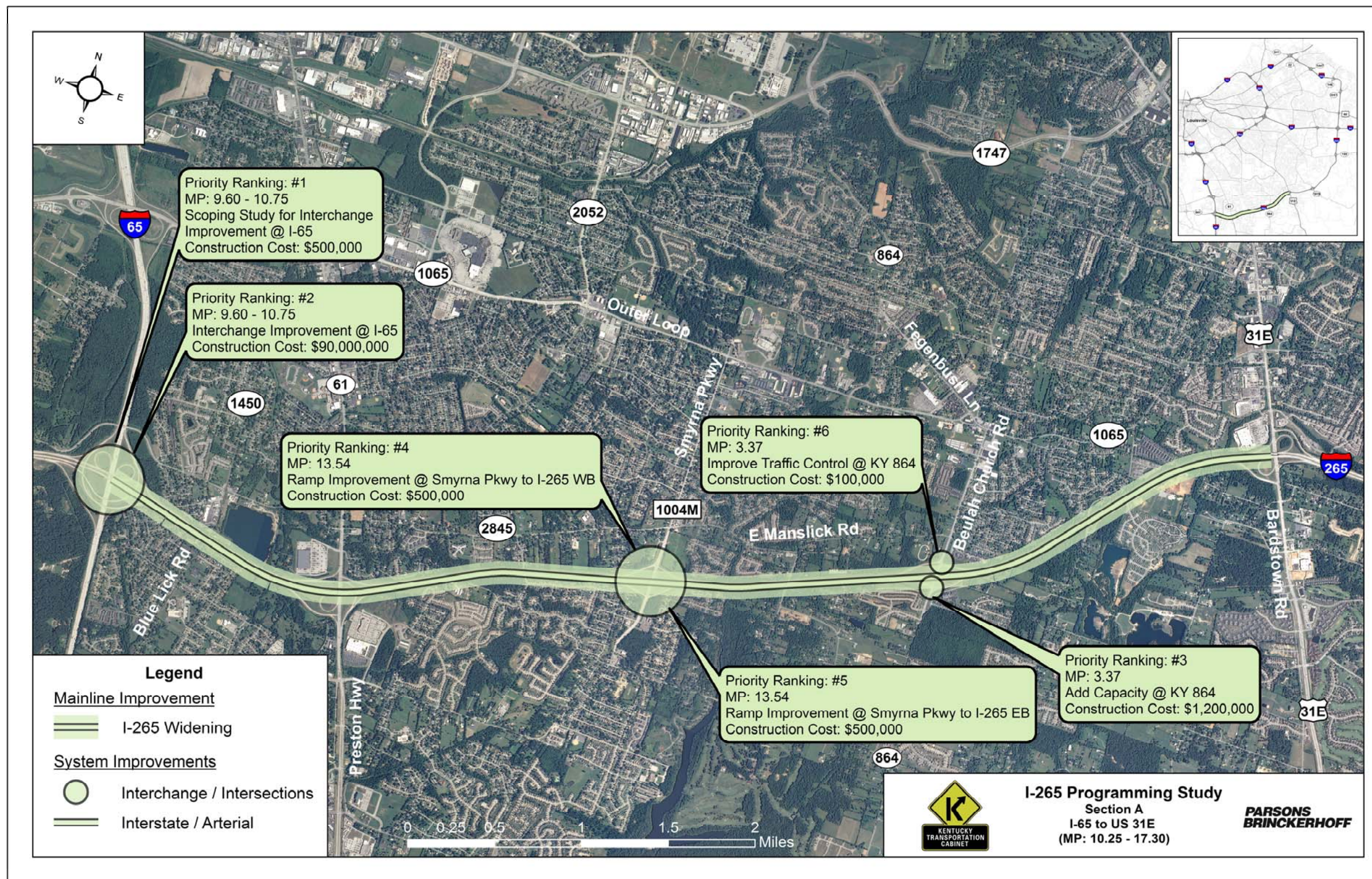


Figure ES-4: Section B (US 31E to KY 155) Project Identification Map

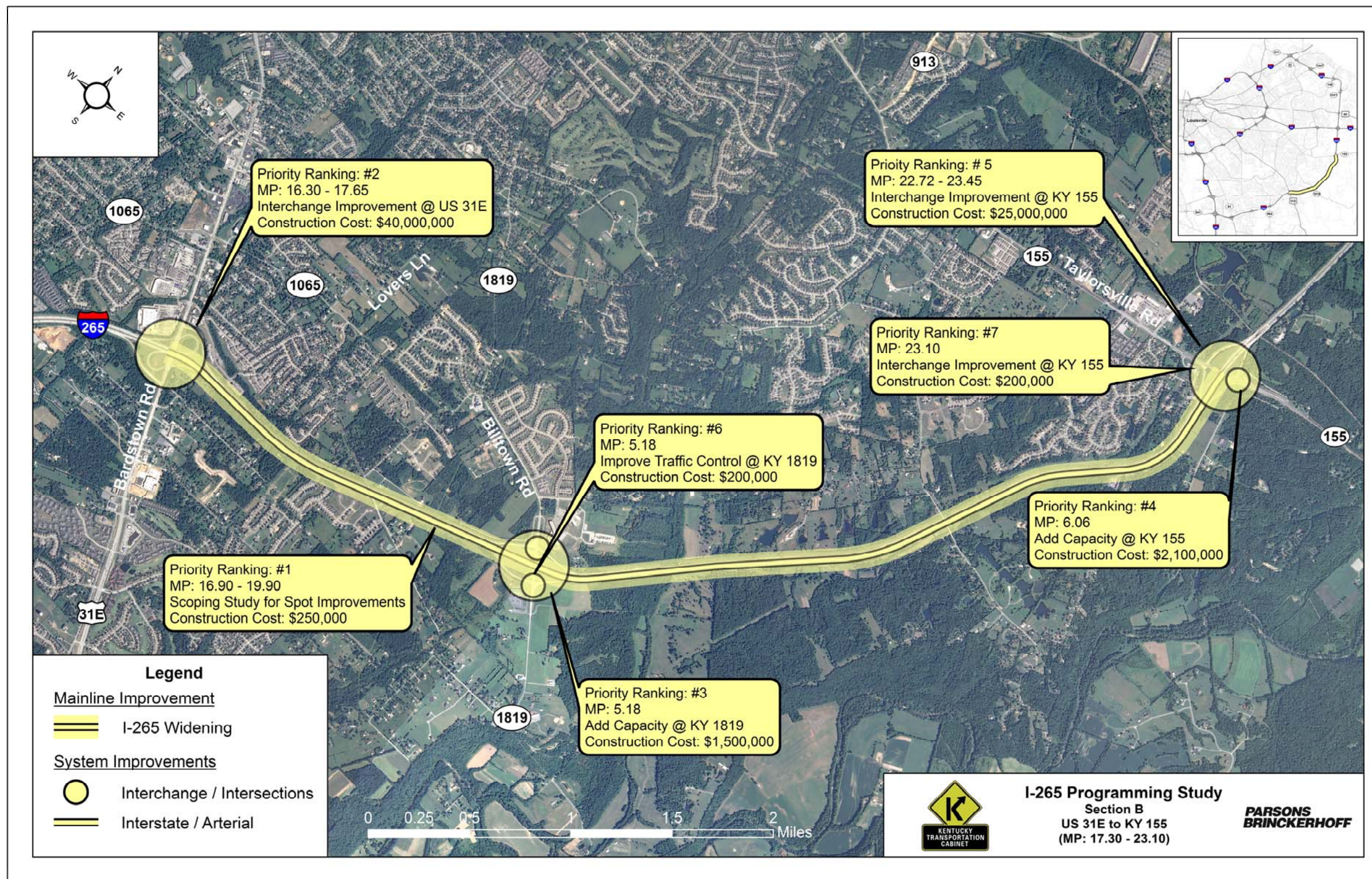


Figure ES-5: Section C (KY 155 to KY 3084) Project Identification Map

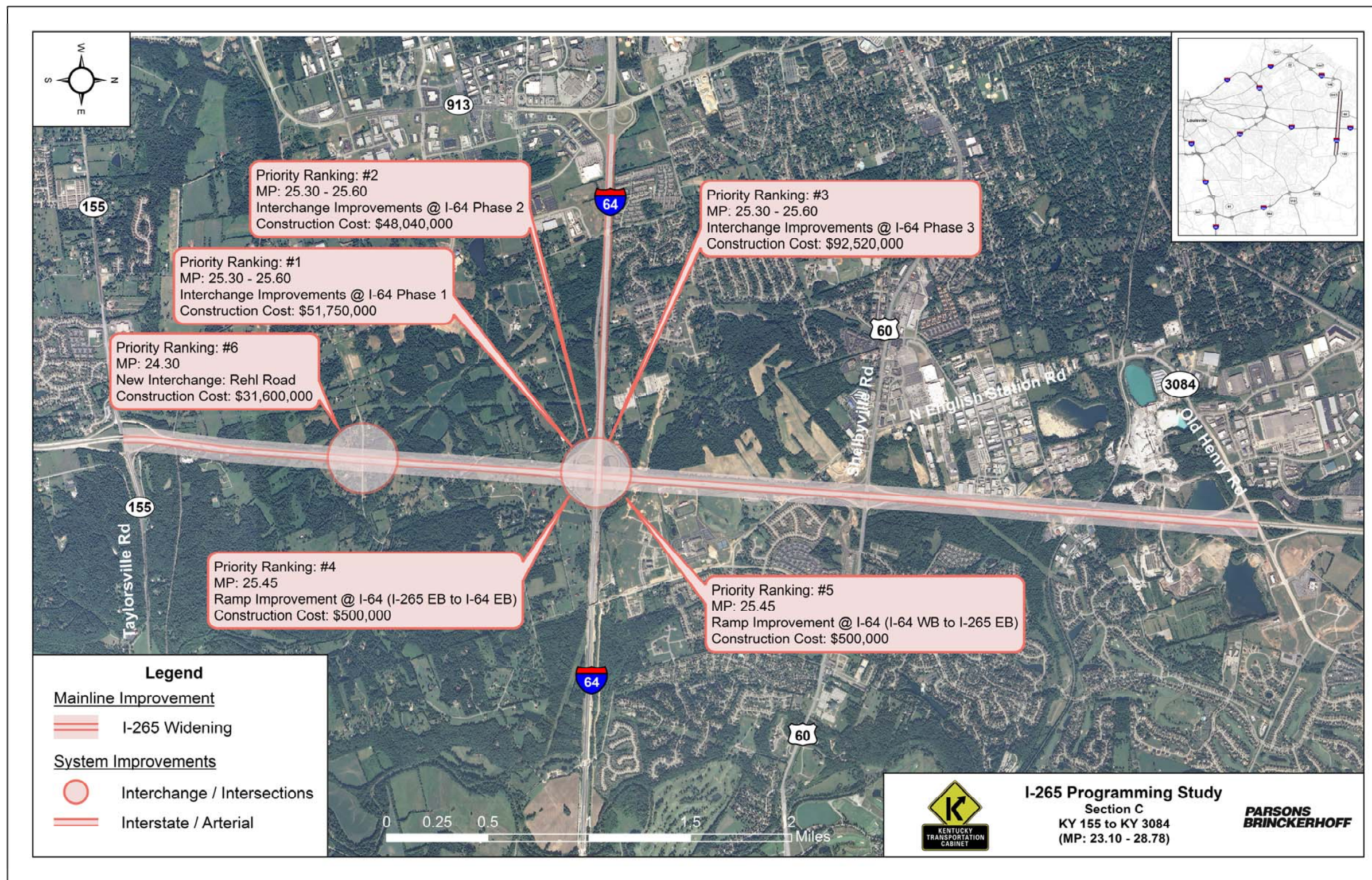


Figure ES-6: Section D (KY 3084 to KY 1447) Project Identification Map

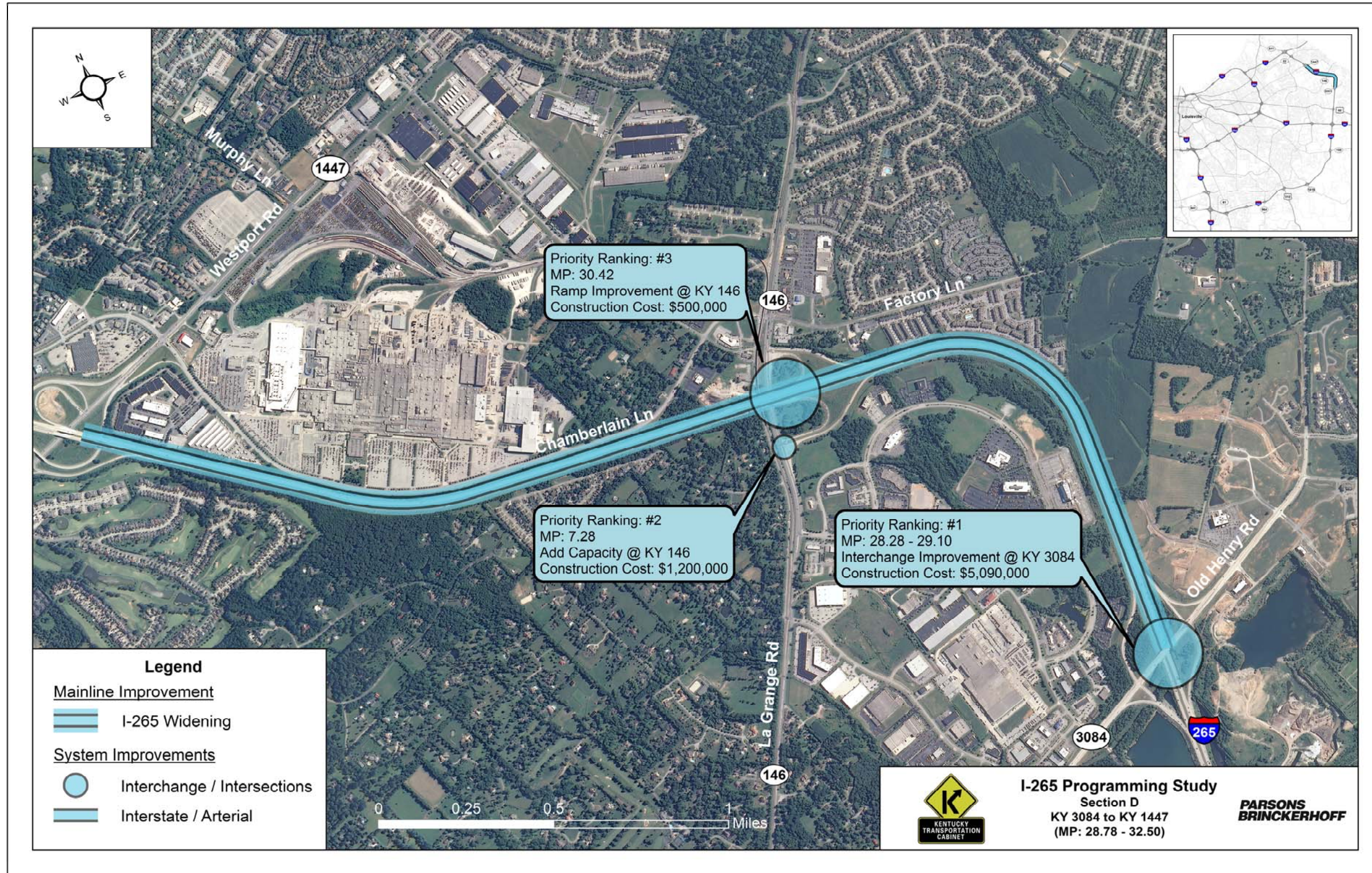


Figure ES-7: Section E (KY 1447 to KY I-71) Project Identification Map

