

BRENT SPENCE

BRIDGE CORRIDOR



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SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

KYTC PROJECT ITEM NO. 6-17 | ODOT PID 89068
JANUARY 12, 2024



HNTB

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KYTC PROJECT ITEM NO. 6-17
ODOT PID 89068

Kenton County, Kentucky
Hamilton County, Ohio

Submitted Pursuant to the National Environmental Policy Act 42 USC § 4332(2)(c) by
The U.S. Department of Transportation, Federal Highway Administration,
The Kentucky Transportation Cabinet, and
The Ohio Department of Transportation

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Appendix A: Project Refinements

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SUPPORTING PLANS, DOCUMENTS, AND REPORTS

The supporting plans, documents, and reports listed below are incorporated by reference throughout this supplemental EA. Those documents can be viewed on the Brent Spence Bridge Corridor Project website: <https://brentspencebridgecorridor.com/documents/>.

*Hard copies may also be requested by contacting:
Keith Smith – ODOT | (513) 933-6590 | Keith.Smith@dot.ohio.gov
Stacey Hans | KYTC | (859) 341-2700 | Stacey.hans@ky.gov*

Please allow two weeks for processing of hard copy requests.

- [North South Transportation Initiative](#) (February 2004)
- [Purpose and Need Statement](#) (May 2006)
- [Conceptual Alternatives Study](#) (April 2009)
- [Queensgate Playground and Ball Field MOA](#) (May 2011)
- [Environmental Assessment](#) (March 2012)
- [Longworth Hall MOA](#) (June 2012)
- [Finding of No Significant Impact](#) (August 2012)
- [Draft Practical Design/Value Engineering Workshop Report](#) (October 2012)
- [ESA Screening: 2201 and 2229 Spring Grove Avenue](#) (January 2014)
- [Phase I ESA: Harrison Terminal](#) (January 2014)
- [Potential Cost Savings Estimate](#) (February 2014)
- [Phase I ESA: 2229 Spring Grove Avenue](#) (April 2014)
- [Phase II ESA: Seven Sites Associated with the BSB Project](#) (April 2014)
- [Cost Savings Study](#) (March 2015)
- [Phase I Property Assessment: Duke Energy Site 646 & 655 Mehring Way](#) (February 2017)
- [Analysis of Design Concepts](#) (May 2020)
- [2022 Project Summary with Associated Costs](#) (April 2022)
- [ESA Screening 2022 Reevaluation \(KY\)](#) (July 2022)
- [Phase I History/Architecture Reevaluation Survey](#) (July 2022)
- [Design Summary Report](#) (August 2022)



-
- *Phase I Cultural Resources Investigation (KY) (September 2022) – Not publicly available due to sensitivity of resources*
 - [Biological Assessment](#) (October 2022)
 - [Cultural Historic Survey Report](#) (October 2022)
 - [Level 1 Ecological Survey Report \(OH\)](#) (October 2022)
 - [Noise Analysis Technical Memorandum Kentucky – Northern Section](#) (November 2022)
 - [Willow Run Storm Water Separation Feasibility Study Report](#) (December 2022)
 - [Technical Memo: PID 114161 – Selection of the Preferred Alternative at the I-75 and WHV Interchange](#) (January 2023)
 - [Technical Memorandum: Additional Traffic Noise Assessment Kentucky Southern Section](#) (February 2023)
 - [Stream and Wetland Summary Memorandum \(KY\)](#) (May 2023)
 - [Cultural Historic Survey Report Addendum](#) (May 2023)
 - [Quantitative MSAT Analysis Report](#) (August 2023)
 - [Traffic Noise Impact Analysis: Brent Spence Bridge Corridor Project Kentucky – Northern Section](#) (August 2023)
 - [Traffic Noise Assessment: Brent Spence Bridge Corridor Project Kentucky Southern Section](#) (August 2023)
 - [Noise Analysis Report \(OH\)](#) (October 2023)
 - [Interchange Modification Study Addendum](#) (December 2023)
 - [Draft Individual Section 4\(f\) Evaluation](#) (January 2024)
 - [Environmental Justice Analysis Report](#) (January 2024)
 - [Public Involvement Summary](#) (January 2024)
 - [Socioeconomic Technical Report](#) (January 2024)



ACRONYMS

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
API	Asian or Pacific Island
B&O	Baltimore & Ohio
BMP	Best Management Practices
BSB	Brent Spence Bridge
C-D	Collector-Distributor
CAD	Computer-Aided Design
CBD	Central Business District
CEJST	Climate and Economic Justice Screening tool
CFR	Code of Federal Regulations
CLOMR	Conditional Letter of Map Revision
CMS	Construction and Material Specifications
CRC	Cincinnati Recreation Commission
dBA	A-Weighted Sound Level in Decibels
DBE	Disadvantaged Business Enterprise
DEP	Department for Environmental Protection (Kentucky)
DLG	Department for Local Government
DOI	United States Department of the Interior
DOT	Department of Transportation and Engineering
DVD-R	Digital Versatile Disc Recordable
EA	Environmental Assessment
EB	Eastbound
EJ	Environmental Justice
ES	Executive Summary
ESA	Environmental Site Assessment
FAST	Fixing America's Surface Transportation Act
FEMA	Federal Emergency Management Agency



FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FR	Federal Register
FTA	Federal Transit Administration
HAM	Hamilton County
HEP	Human Environment Policy
HUD	United States Department of Housing and Urban Development
IBCF	Imperiled Bat Conservation Fund
ID	Identification
INT	Intermittent
JD	Jurisdictional Ditch
KDFWR	Kentucky Department of Fish and Wildlife Resources
KDOW	Kentucky Division of Water
KE	Kenton County
KHC	Kentucky Heritage Council
KPDES	Kentucky Pollutant Discharge Elimination System
KY	Kentucky
KYDAQ	Kentucky Division for Air Quality
KYTC	Kentucky Transportation Cabinet
LEP	Limited English Proficiency
LOMR	Letter of Map Revision
LOS	Level of Service
LTAA	May affect, likely to adversely affect
LWCF	Land and Water Conservation Fund
MAP-21	Moving Ahead for Progress in the 21 st Century Act
MLK	Martin Luther King
MOA	Memorandum of Agreement
MOT	Maintenance of Traffic
MOVES3	Motor Vehicle Emission Simulator (latest model)
MSAT	Mobile Source Air Toxics



MSD	Metropolitan Sewer District of Greater Cincinnati
Mt	Metric Tons
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NB	Northbound
NEPA	National Environmental Policy Act
NLEB	Northern long-eared bat
NLTAA	May affect, not likely to adversely affect
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
NSA	Noise Sensitive Area
ODNR	Ohio Department of Natural Resources
ODOT	Ohio Department of Transportation
OEPA	Ohio Environmental Protection Agency
OH	Ohio
OKI	Ohio-Kentucky-Indiana Regional Council of Governments
OKNP	Office of Kentucky Nature Preserves
PCS	Petroleum Contaminated Soil
PID	Project Identification
PDP	Project Development Process
PER	Perennial
PM	Particulate Matter
PM2.5	Particulate Matter (diameter of 2.5 micrometers and smaller)
POM	Polycyclic Organic Matter
PPV	Peak Particle Velocity
RAW	Raw Image Format
ROW	Right-of-Way
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SB	Southbound



SD1	Sanitation District No. 1 of Northern Kentucky
SFC	Sergeant First Class
SFN	Structure File Number
SHPO	State Historic Preservation Officer
SORTA	Southwest Ohio Regional Transit Authority
SR	State Route
SS	Supplemental Specification
TANK	Transit Authority of Northern Kentucky
TIFF	Tag Image File Format
TIP	Transportation Improvement Plan
TV	Television
U.S.	United States
US	United States
USA	United States of America
USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
VMT	Vehicle Miles of Travel
VOC	Volatile Organic Compound
WB	Westbound
WHV	Western Hills Viaduct



EXECUTIVE SUMMARY

An [Environmental Assessment](#) (EA) was prepared for the Brent Spence Bridge (BSB) Corridor Project in March 2012, and the Federal Highway Administration (FHWA) approved a [Finding of No Significant Impact](#) (FONSI) on August 9, 2012. Reevaluations completed in 2015 and 2018 concluded that the 2012 FONSI remained valid. This supplemental EA has been prepared by FHWA, the Kentucky Transportation Cabinet (KYTC), and the Ohio Department of Transportation (ODOT). It assesses updated regulatory requirements, changed site conditions, design refinements to the previously selected alternative, impact changes (mostly reductions), further developed environmental commitments (enhancements and mitigation), and additional National Environmental Policy Act (NEPA) reevaluation and coordination efforts that have occurred since the 2012 EA/FONSI. This supplemental EA is intended to provide an analysis of potential impacts of refined project activities that were not expressly included in the approved 2012 EA/FONSI.

Project Description

The BSB corridor consists of 7.8 total miles of I-71 and I-75 from south of Dixie Highway (US-25) in Kentucky to north of the Western Hills Viaduct in Ohio. The primary features of the project include:

- Reconstructing I-71/I-75 and adding one lane in each direction;
- Rebuilding the overpass bridges and interchanges in the corridor and adding a new exit at Ezzard Charles Drive in Ohio;
- Constructing a collector-distributor (C-D) roadway system between West 12th Street/Martin Luther King (MLK) Jr. Boulevard in Kentucky and Ezzard Charles Drive in Ohio;
- Extending frontage roads connecting Pike Street to West 4th Street and West 5th Street in Kentucky;
- Adding C-D lanes between Dixie Highway (US-25) and Kyles Lane (KY-1072) in Kentucky;
- Rehabilitating and reconfiguring the existing double-decker BSB to carry three lanes of local traffic on each deck as part of the C-D roadway system; and
- Building a new double-decker companion bridge west of the existing BSB to carry five lanes of through (interstate) traffic on each deck.

A **Collector-Distributor (C-D) Roadway System** is a network of roads alongside a highway that streamlines traffic flow as it enters and exits the highway. The purpose is to reduce the number of exit and entrance points on the highway while providing access to and from local roads.

As the name implies, the system “collects” traffic exiting from a highway and “distributes” it to local roadways. Similarly, it “collects” traffic from local roadways and “distributes” it onto the highway.

Collector-distributor roads can be one or more lanes. They can be built as separate roadways next to the highway, or they can be extra lanes separated from the main highway with a barrier.

The project will also add sidewalks and shared-use paths on local streets that are parallel to or cross the interstate and incorporate aesthetic treatments throughout the corridor.



The project will be delivered in three, nonsequential construction phases:

- Phase I (ODOT PID 114161) stretches for 0.8 miles from Findlay Street to just south of Marshall Avenue at the northern end of the BSB corridor in Ohio. Phase I is following a design-bid-build procurement process. The estimated contract cost is \$173.3 million¹ with construction anticipated to begin in 2029 and be completed in 2032.
- Phase II (ODOT PID 113361) stretches for 0.9 miles from north of the Linn Street overpass to the northern limits of the bridge over Findlay Street in Ohio. Phase II is following a design-bid-build procurement process. The estimated contract cost is \$301.7 million¹ with construction anticipated to begin in 2026 and be completed in 2031.
- Phase III (ODOT PID 116649 / KYTC Project Item No. 6-17) stretches for approximately 6 miles from south of the Dixie Highway (US-25) interchange in Kentucky to Linn Street in Ohio. Phase III is following a progressive design-build procurement process. The estimated total contract cost is \$3.1 billion.¹ The construction of Phase III is anticipated to begin in 2025, although some limited construction activities may begin in 2024. Construction of Phase III is anticipated to be substantially complete in 2030.

The total estimated cost for the project is \$3.6 billion¹, which includes all costs required to deliver the project, including but not limited to planning, design, right-of-way acquisition, construction, construction management services, and agency labor.

Purpose and Need

The purpose and need for the BSB Corridor Project is unchanged from what was presented in the approved 2012 EA/FONSI:

- Improve traffic flow and level of service;
- Improve safety;
- Correct geometric deficiencies; and
- Maintain connections to key regional and national transportation corridors.

Alternatives

The 2012 EA/FONSI identified Alternative I as the selected alternative for the BSB Corridor Project. Since the 2012 EA/FONSI, the project's design has been refined to incorporate value engineering and practical design features, to accommodate changed site conditions, to reflect updated design criteria, and to respond to feedback from the public and local agencies. The refinements incorporated into the project, designated collectively as Refined Alternative I (Concept I-W), reduce the project footprint, improve the project's

¹ Contract costs are for the year of expenditure.



functionality, create no new impacts, and do not substantially change the following key design components included in the 2012 EA/FONSI:

- The mainline layout from Dixie Highway (US-25) (Kentucky) to Linn Street (Ohio);
- The number of interstate and C-D lanes;
- The C-D roadway concept between West 12th Street/MLK Jr. Boulevard (Kentucky) and Ezzard Charles Drive (Ohio); and
- The C-D roadway system between Dixie Highway (US-25) and Kyles Lane (KY-1072) in Kentucky.

The refinements incorporated into the project include:

- Substantially reducing the project footprint by reconfiguring the Ohio River crossing to accommodate all interstate traffic on the new companion bridge and all local traffic on the existing BSB as part of the C-D roadway system;
- Opening up approximately 10 acres of land for potential redevelopment and/or public use by incorporating minor reconfigurations to the 2nd Street, 3rd Street, 4th Street, 5th Street, 6th Street, and 7th Street ramps in downtown Cincinnati;¹
- Reconfiguring the I-75 interchange to connect to the realigned Western Hills Viaduct, which is a separate City of Cincinnati project with independent utility and completed NEPA review;
- Reconfiguring Ezzard Charles Drive to provide one, two-way bridge over I-75 to reduce wrong-way crashes and to provide an additional 50 feet of green space on each side to support potential future civic space or retail development by the City of Cincinnati;
- Improving access in the West End neighborhood by moving the entrance ramp to northbound I-75 from Freeman Avenue to Ezzard Charles Drive (about 1,000 feet north) and adding an auxiliary lane on northbound I-75 between Ezzard Charles Drive and the Western Hills Viaduct to provide adequate capacity between the ramps;²
- Decreasing the project footprint by reducing the number of lanes on the northbound and southbound frontage roads between West 12th Street/MLK Jr. Boulevard and Pike Street in Covington;¹
- Improving access and connectivity by extending the northbound frontage road to the next major intersection (5th Street) in Covington;
- Allowing for more flexibility, innovation, and potential cost-savings by incorporating a minor refinement to the companion bridge type;
- Reducing the project footprint by updating the horizontal and vertical alignments, cross sections, and retaining walls to reflect detailed engineering design and right-of-way plan development; and
- Updating the project design to match current generally applicable design standards.

¹ Preliminary design refinements were developed using planning-level traffic projections for the year 2050. The refinements were vetted, confirmed, and finalized using certified traffic for the years 2029 and 2049.

² Preliminary design refinements were developed using design-level certified traffic projections for the year 2048. The refinements were vetted, confirmed, and finalized using certified traffic for the years 2029 and 2049.



Environmental Resources, Impacts, Mitigation, and Enhancements

ES-Table I summarizes the environmental resources evaluated in this supplemental EA and compares the impacts for Selected Alternative I (from the 2012 EA/FONSI) to those for Refined Alternative I (Concept I-W). A brief, high-level summary of mitigation and enhancement measures related to each resource area is also provided. Detailed mitigation and enhancement measures and other environmental commitments incorporated into the project are provided in ES-Table II.

ES-Table I: Environmental Resources, Impacts, Mitigation, and Enhancement Summary

Environmental Resource	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Mitigation and Enhancement Measures
Land Use	53.38 ac. of land permanently converted to transportation use. ¹	51.18 ac. of land permanently converted to transportation use. ²	None.
Neighborhood and Community Cohesion	<ul style="list-style-type: none"> Minor impacts due to residential displacements in Kentucky. Impacts due to commercial displacements not addressed. 	<p>Net improvements to community cohesion:</p> <ul style="list-style-type: none"> No anticipated impacts from limited residential displacements. No anticipated impacts from commercial displacements. Benefits due to aesthetic enhancements, multimodal facilities, noise reduction measures, and drainage improvements. 	<ul style="list-style-type: none"> Aesthetic enhancements. Pedestrian and bicycle facilities on local roads parallel to and across I-71/I-75. Proposed noise barriers and noise/visual screening barriers.³ Separation of highway stormwater runoff. Measures to address surcharging in the Peaselburg neighborhood.
Community Facilities	<ul style="list-style-type: none"> Minor right-of-way acquisition from 2 schools, 1 church, and 1 hospital. 2.59 ac. impact to Goebel Park Complex. 0.9 ac. impact to Queensgate Playground and Ball Field. 	<ul style="list-style-type: none"> Minor strip right-of-way acquisition from 2 schools, 1 church, and 1 hospital. 2.84 ac. impact to Goebel Park Complex.⁴ 0.72 ac. impact to Queensgate Playground and Ball Field. Temporary impacts to the Firefighters Memorial and Ezzard Charles Park.⁵ 	No mitigation or enhancement measures beyond those noted below for Section 4(f) properties, which include the Goebel Park Complex, Queensgate Playground and Ball Field, the Firefighters Memorial, and Ezzard Charles Park.

- Total includes 22.01 acres of property owned by the City of Cincinnati that was impacted by Selected Alternative I but was not quantified in the 2012 EA/FONSI and does not include easements.*
- Total does not reflect approximately 10 acres to be returned to the City of Cincinnati for potential redevelopment and/or public use and does not include easements.*
- Noise barriers have been determined to be reasonable and feasible per Title 23 of the Code of Federal Regulations (CFR) part 772 and the applicable state noise policy and are proposed mitigation for noise impacts. Noise/visual screening barriers do not meet one or more of the reasonability criteria but are proposed enhancements to provide noise reduction above and beyond the requirements of 23 CFR part 772 and the applicable state noise policy.*
- Minor increased impacts due to the extension of Simon Kenton Way and the construction of new stormwater facilities.*
- Additional publicly owned parks have been identified since the 2012 EA/FONSI.*



Environmental Resource	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Mitigation and Enhancement Measures
<i>ES-Table I (cont.)</i>			
Travel Patterns and Access	<ul style="list-style-type: none"> • Minor impacts to vehicular access. • Pedestrian, bicycle, and transit access and mobility not addressed. 	<ul style="list-style-type: none"> • Minor impacts to vehicular access and travel patterns due to rerouting. • Additional resilience in the local and regional transportation network. • New and improved pedestrian, bicycle, and transit access and mobility. 	<ul style="list-style-type: none"> • Pedestrian and bicycle facilities on local roads parallel to and across I-71/I-75. • Coordination with Kentucky first responders to ensure emergency response access for completed project.
Relocations	<ul style="list-style-type: none"> • 40 residential relocations.⁶ • 14 commercial relocations.⁷ 	Minor impacts due to: <ul style="list-style-type: none"> • 4 residential relocations. • 24 full commercial relocations.⁷ • 1 partial commercial relocation. 	None.
Economy and Employment	<ul style="list-style-type: none"> • Minor impacts due to loss of residential and commercial property, reduced property/rental value close to the corridor, and lost rental properties. • Improved infrastructure to support national freight movement. 	<ul style="list-style-type: none"> • Minimal effects on revenues from property taxes or property owner income from rental properties. • No expected impacts on property values or the attractiveness of rental properties. • Net benefits to workforce development and employment. • Improved infrastructure to support national freight movement. 	<ul style="list-style-type: none"> • Aesthetic enhancements. • Proposed noise barriers and noise/visual screening barriers. • Disadvantaged business enterprise participation, on-the-job training, and workforce development. • Diversity & Inclusion Outreach Committee.
Environmental Justice	<ul style="list-style-type: none"> • No disproportionately high and adverse effects on relocations, community facilities, neighborhood and community cohesion, access/travel patterns, or noise for minority and/or low-income populations (environmental justice populations). <p><i>(continued on next page)</i></p>	<ul style="list-style-type: none"> • No adverse effects on community resources, access and mobility, safety, air quality, greenhouse gas emissions and climate change, stormwater, visual setting, and workforce development for environmental justice populations. <p><i>(continued on next page)</i></p>	<ul style="list-style-type: none"> • Mitigation for impacts to the Goebel Park Complex, Longworth Hall, and the Queensgate Playground and Ball Field. • Proposed noise barriers and noise/visual screening barriers. <p><i>(continued on next page)</i></p>

6. Residential total in the 2012 EA/FONSI counted apartment buildings as one unit and would have relocated closer to 80 households.

7. Selected Alternative I (from the 2012 EA/FONSI) counted the removal of 204 feet of Longworth Hall as one commercial relocation and would have relocated 14 commercial tenants within that structure. The commercial relocations for Refined Alternative I (Concept I-W) include 14 tenants that will be displaced by the removal of 204 feet of Longworth Hall.



Environmental Resource	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Mitigation and Enhancement Measures
<p><i>ES-Table I (cont.)</i></p> <p>Environmental Justice <i>(cont.)</i></p>	<p><i>(cont.)</i></p> <ul style="list-style-type: none"> • Benefits for environmental justice populations due to improved safety, regional connections, traffic flow, and corrected geometric deficiencies. 	<p><i>(cont.)</i></p> <ul style="list-style-type: none"> • No adverse indirect and cumulative effects on environmental justice populations. • No disproportionately high and adverse relocation, noise, or temporary construction effects on environmental justice populations. • Benefits for environmental justice populations due to mitigation and enhancements for parks and Longworth Hall; improved access, mobility, and safety for all modes of travel; reduced vehicle and greenhouse gas emissions; reduced noise; reduced flooding and combined sewer overflows; improved aesthetics; direct and indirect and workforce enhancements; and interpretive display in the West End neighborhood. 	<p><i>(cont.)</i></p> <ul style="list-style-type: none"> • Pedestrian and bicycle facilities on local roads parallel to and across I-71/I-75. • Separation of highway stormwater runoff. • Measures to address surcharging in the Peaselburg neighborhood. • Aesthetic enhancements. • Disadvantaged business enterprise participation, on-the-job training, and workforce development. • Approximately 10 ac. of land for potential redevelopment and/or public use. • Interpretive display in West End neighborhood. • Minimization and mitigation measures for temporary construction impacts.
<p>Socioeconomic Groups</p>	<ul style="list-style-type: none"> • Consideration of impacts on older adults, persons with disabilities, and zero-car households. • No impacts to identified socioeconomic populations and groups based on a brief qualitative discussion of access and mobility. 	<ul style="list-style-type: none"> • Consideration of impacts on older adults, individuals with limited English proficiency, adults with disabilities, and zero-car households. • No impacts to community resources; pedestrian, bicycle, and transit access and mobility; safety; air quality; stormwater; and workforce development. • No indirect impacts. • No substantial noise impacts. • Minimal relocation and greenhouses gases and climate change impacts. • Minor vehicular access and mobility; visual setting; cumulative; and temporary construction impacts. <p><i>(continued on next page)</i></p>	<ul style="list-style-type: none"> • Mitigation for impacts to the Goebel Park Complex, the Lewisburg Historic District, Longworth Hall, and the Queensgate Playground and Ball Field. • Proposed noise barriers and noise/visual screening barriers. • Pedestrian and bicycle facilities on local roads parallel to and across I-71/I-75. • Separation of highway stormwater runoff. • Measures to address surcharging in the Peaselburg neighborhood. • Aesthetic enhancements. <p><i>(continued on next page)</i></p>



Environmental Resource	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Mitigation and Enhancement Measures
<i>ES-Table I (cont.)</i> Socioeconomic Groups <i>(cont.)</i>	<i>(cont.)</i>	<i>(cont.)</i> <ul style="list-style-type: none"> Benefits due to mitigation and enhancements for parks and historic properties; improved access, mobility, and safety for all modes of travel; reduced vehicle emissions; reduced noise; reduced flooding and combined sewer overflows; improved aesthetics and visual character; and direct and indirect workforce enhancements. 	<i>(cont.)</i> <ul style="list-style-type: none"> Disadvantaged business enterprise participation, on-the-job training, and workforce development. Approximately 10 ac. of land for potential redevelopment and/or public use. Minimization and mitigation measures for temporary construction impacts.
Disadvantaged Communities	Not evaluated.	<ul style="list-style-type: none"> No additional contribution to climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, or workforce development burdens for disadvantaged communities. Features that will help to address existing burdens for disadvantaged communities. 	Same as mitigation and enhancement measures for socioeconomic groups in addition to: <ul style="list-style-type: none"> Plan notes for removal, handling, and disposal of regulated materials.
Children	Not addressed.	<ul style="list-style-type: none"> No permanent impacts. Temporary construction impacts minimized to the greatest extent practicable. 	<ul style="list-style-type: none"> Proposed noise barriers and noise/visual screening barriers. Outdoor ambient air quality monitoring program during construction. Measures to minimize noise during construction.
Wetlands	1.38 ac. permanent wetland impacts.	2.38 ac. permanent wetland impacts. ⁸	<ul style="list-style-type: none"> Wetland mitigation via KYTC Bath County/Ova Arnett advanced mitigation site or Kentucky Department of Fish and Wildlife Resources in-lieu fee mitigation program to be finalized during permitting process. Best management practices for sediment and erosion control.

8. Increased reported impacts due to increase in the acreage of wetlands present in the project area since 2012 and due to reconstruction of existing stormwater retention basins (classified as wetlands), which were not specifically considered in the 2012 EA/FONSI.



Environmental Resource	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Mitigation and Enhancement Measures
<p><i>ES-Table I (cont.)</i></p> <p>Streams and Rivers</p>	<ul style="list-style-type: none"> • 3,340 ft. permanent intermittent stream impacts (area of impacts not provided). • 3.8 ac. permanent perennial stream impacts (Ohio River only, length of impacts not provided). • 2 new piers, geotechnical borings, and temporary access in the Ohio River. • Ohio River traffic maintained with temporary restrictions during construction. 	<ul style="list-style-type: none"> • 0.015 ac. permanent jurisdictional ditch impacts. • 820 ft. / 0.107 ac. permanent intermittent stream impacts. • 548 ft. / 1.983 ac. permanent perennial stream impacts, including 350 ft / 1.940 ac. in the Ohio River. • 283 ft. / 1.854 ac. temporary perennial stream impacts (Ohio River only). • 2 new piers, geotechnical borings, and temporary access in the Ohio River. • Ohio River traffic maintained with temporary restrictions during construction. 	<ul style="list-style-type: none"> • Stream mitigation via Licking River Mitigation Bank, including for impacts to the Ohio River, to be finalized during permitting process. • Best management practices for sediment and erosion control (KY and OH). • Separation of highway stormwater runoff (KY and OH). • Best management practices for water quality treatment (OH).
Terrestrial Habitat	52 ac. wooded habitat impacts, including potential foraging and/or maternity areas for threatened or endangered bat species.	90 ac. forested habitat impacts: ⁹ <ul style="list-style-type: none"> • 74.20 ac. in Kentucky (69.82 ac. upland and 4.38 ac. riparian). • 15.80 ac. in Ohio (upland). • Includes potential foraging and/or maternity areas for threatened or endangered bat species. 	<ul style="list-style-type: none"> • Tree clearing minimization and seasonal clearing restrictions. • Contribution to Imperiled Bat Conservation Fund (KY).
<p>Threatened or Endangered Species¹⁰</p> <p>Federally Listed Species</p> <p>State Listed Species</p> <p>Migratory Birds</p>	<ul style="list-style-type: none"> • Running buffalo clover (NLTAA). • Indiana bat (to be determined). • Mussels (to be determined). • Potential nesting peregrine falcons on existing BSB. • State listed species not addressed. 	<ul style="list-style-type: none"> • Indiana bat (LTAA-KY; NLTAA-OH). • NLEB (NLTAA). • Gray bat (NLTAA-KY). • Tricolored bat (no jeopardy) • Mussels (NLTAA). • No impact or not likely to impact 9 endangered, 3 threatened, and 1 potentially threatened OH state listed species. • Potential nesting peregrine falcons on existing BSB. 	<ul style="list-style-type: none"> • Tree clearing minimization and seasonal clearing restrictions.¹¹ • Contribution to Imperiled Bat Conservation Fund (KY). • Best management practices for sediment and erosion control.¹¹ • Mussel salvage (relocation). • Inspection of existing BSB for peregrine falcons. • Avoidance, minimization, and mitigation of wetland and stream impacts (see Wetlands and Streams and Rivers).

9. Overall project footprint is reduced. The difference in estimated impacts to forested areas for Refined Alternative I (Concept I-W) is due to the application of the most recent KYTC and ODOT ecological survey guidance, which have been updated since the 2012 EA/FONSI.

10. The running buffalo clover was delisted in 2021. Additional potentially affected species have been identified since the 2012 EA/FONSI. LTAA – May affect, likely to adversely affect; NLTAA – May affect, not likely to adversely affect; No jeopardy – May affect but is not likely to jeopardize the continued existence.

11. Tree clearing restrictions and best management practices will be provided in accordance with the generally applicable standards and procedures specific to each state agreement.



Environmental Resource	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Mitigation and Enhancement Measures
<i>ES-Table I (cont.)</i>			
Floodplains	<ul style="list-style-type: none"> • Impacts due to pier construction for the new companion bridge. • No permanent impacts expected to Ohio River levee, floodwall, and pump station. 	<ul style="list-style-type: none"> • Impacts due to pier construction for the new companion bridge. • No permanent impacts expected to Ohio River floodwall. • Potential impacts to Ohio River levee due to pier construction and/or geotechnical borings. • Potential modifications to pump station due to new drainage infrastructure. 	None.
Geological	No impacts.	No impacts.	None.
Drinking Water	Not addressed.	No impacts.	<ul style="list-style-type: none"> • Best management practices for sediment and erosion control. • Spill Prevention Control and Countermeasures Plan. • Groundwater protection plan.
Farmland	No impacts.	No impacts.	None.
Regulated Materials	<ul style="list-style-type: none"> • Phase I ESA (1 site) (OH). • Phase II ESA (2 sites) (KY). • Phase II ESA (9 sites) (OH) • Petroleum contaminated soil and groundwater (3 sites) (OH). 	<ul style="list-style-type: none"> • Phase II ESA (2 sites) (KY). • Petroleum contaminated soil and groundwater (3 sites) (OH). • Underground storage tanks (2 sites) (OH). • Solid waste (2 sites) (OH). • Monitoring wells abandonment (1 site) (OH). 	Plan notes for underground storage tank removal, petroleum contaminated soil and groundwater, solid waste, and abandonment of existing groundwater monitoring wells.



Environmental Resource	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Mitigation and Enhancement Measures
<p><i>ES-Table I (cont.)</i></p> <p>Cultural Resources</p>	<ul style="list-style-type: none"> • Adverse effect for Lewisburg Historic District (KY) and Longworth Hall (OH). • No adverse effect for Western Hills Viaduct (OH).¹² • No effect for 20 history/architecture properties (KY). • No effect for 14 history/architecture properties (OH). • Additional archaeological studies and/or construction monitoring for 46 sites (KY). 	<ul style="list-style-type: none"> • Adverse effect for Lewisburg Historic District (KY) and Longworth Hall (OH). • No adverse effect for 13 history/architecture properties (KY).¹³ • No effect for 9 history/architecture properties (KY).¹³ • No effect for 13 history/architecture properties. (OH).¹³ • Additional archaeological studies for 1 site (KY).¹⁴ 	<ul style="list-style-type: none"> • Lewisburg Historic District: Recordation of removed structures; \$1.2 million grant program to improve and rehabilitate the façades of residential and commercial properties in the district; and the protection, monitoring, and repair of historic structures from vibration during construction. • Longworth Hall: Repairs, upgrades, restoration work, enhancements, and refurbishment on the portions of the building impacted by construction and the portions of the building to remain. • Proposed noise barriers.
<p>Air Quality</p>	<ul style="list-style-type: none"> • Carbon monoxide <ul style="list-style-type: none"> - No exceedance of National Ambient Air Quality Standards. • Ozone <ul style="list-style-type: none"> - Hamilton County in nonattainment. - Kenton County in attainment with maintenance plan. - Addressed through Ohio-Kentucky-Indiana Regional Council of Governments air quality conformity process and plans. • PM2.5 <ul style="list-style-type: none"> - No new violation of PM2.5 standards. • MSAT <ul style="list-style-type: none"> - No significant increase based on quantitative analysis. • Emissions burdens <ul style="list-style-type: none"> - Not evaluated. 	<ul style="list-style-type: none"> • Carbon monoxide <ul style="list-style-type: none"> - All areas in attainment. • Ozone <ul style="list-style-type: none"> - Hamilton County in maintenance (2015 standard). - Kenton County in nonattainment (2015 standard). - Addressed through Ohio-Kentucky-Indiana Regional Council of Governments air quality conformity process and plans. • PM2.5 <ul style="list-style-type: none"> - All areas in attainment. • MSAT <ul style="list-style-type: none"> - No appreciable impact based on quantitative analysis. • Emissions burdens <ul style="list-style-type: none"> - No significant emissions increase. 	<p>None.</p>

12. Resource scheduled to be removed in conjunction with a separate City of Cincinnati project with independent utility and completed NEPA review. Therefore, effects were not assessed for Refined Alternative I (Concept I-W).

13. Historic properties have been removed, modified, or newly identified since the 2012 EA/FONSI. The project's effects on historic properties were also updated in 2022.

14. Footprint reductions incorporated into Refined Alternative I (Concept I-W) reduced the number of required studies, and additional archaeological surveys and testing were performed in 2022.



Environmental Resource	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Mitigation and Enhancement Measures
<p><i>ES-Table I (cont.)</i></p> <p>Greenhouse Gases and Climate Change</p>	<p>Not evaluated in detail.</p>	<ul style="list-style-type: none"> Minimal effects due to increased vehicle miles of travel. Reduced overall greenhouse gas emissions due to implementation of latest federal emissions standards coupled with fleet turnover. Improved climate resilience due to reduced combined sewer overflows and flooding. Issues related to climate change addressed on a statewide level through KYTC and ODOT <i>Transportation Asset Management Plans</i>. 	<ul style="list-style-type: none"> Separation of highway stormwater runoff. Measures to address surcharging in the Peasenburg neighborhood. Project implemented in accordance with KYTC and ODOT <i>Transportation Asset Plans</i>.
<p>Noise</p>	<ul style="list-style-type: none"> Noise impacts at 565 receivers east/west of I-71/I-75 from Dixie Highway to the existing BSB (KY). Noise impacts at 283 receivers east/west of I-75 from the existing BSB to north of the Western Hills Viaduct (OH). No proposed noise barriers west of I-71/I-75 (KY and OH). 3 proposed noise barriers east of I-71/I-75 from Beechwood Rd. to W. 12th St. (KY). 5 proposed noise barriers east of I-75 from the Queensgate Playground and Ball Field to Bank St. (OH). 	<ul style="list-style-type: none"> Noise impacts at 748 receivers east/west of I-71/I-75 from south of Dixie Hwy. to the existing BSB (KY). Isolated noise impacts at 4 receivers west of I-75 from US-50 to Marshall Ave. (OH). Noise impacts at 140 receivers east of I-75 from I-71 to Marshall Ave. (OH). 7 proposed noise and 2 proposed noise/visual screening barriers east/west of I-71/I-75 generally from south of Dixie Hwy to W. 3rd St. (KY). No proposed noise barriers west of I-75 (OH). 5 proposed noise barriers and 57-inch parapet walls on bridges east of I-75 from the Queensgate Playground and Ball Field to Bank St. (OH). 	<ul style="list-style-type: none"> 7 proposed noise barriers (KY).¹⁵ 2 proposed noise/visual screening barriers (KY).¹⁵ 5 proposed noise barriers (OH).¹⁶ 57-inch walls on Liberty, Findlay, and Bank Street bridge parapets (OH).

15. In accordance with the KYTC Noise Analysis and Abatement Policy, a noise abatement public meeting and surveys will be conducted with benefited receptors at each location where noise and noise/visual screening barriers are proposed in Kentucky. During detailed design, KYTC has committed to coordinating with the City of Covington to evaluate the use of transparent noise barriers in some locations to preserve views of Goebel Park from the highway and to preserve views of the skyline and across I-71/I-75 from surrounding neighborhoods.

16. In accordance with the ODOT Analysis and Abatement of Highway Traffic Noise Policy Statement, ODOT will conduct noise abatement public involvement with benefited receptors where noise abatement has been determined to be feasible and reasonable.



Environmental Resource	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Mitigation and Enhancement Measures
<p><i>ES-Table I (cont.)</i></p> <p>Visual Resources</p>	<ul style="list-style-type: none"> • Minor impacts due to changes in interstate width and height, changes to the existing BSB, and construction of the new companion bridge. • Two alternatives for the new companion bridge: arch bridge (simply supported arch with inclined arch ribs) and cable-stayed bridge (two towers, vertical legs/tower). 	<ul style="list-style-type: none"> • Minor impacts due to changes in interstate width and height, changes to the existing BSB, and construction of the new companion bridge (roadway widths minimized by reducing the width of the companion bridge). • More flexibility in alternatives for the new companion bridge: arch bridge and cable-stayed bridge. • Additional aesthetic features such as landscaping; streetscapes; gateways; treatments for piers, abutments, parapets, retaining walls, noise barriers, noise/visual screening barriers; and translucent screen walls on Ohio bridges. 	<ul style="list-style-type: none"> • Aesthetic enhancements. • Coordination with the Aesthetics Committee and Aesthetics Subcommittees.
<p>Indirect and Cumulative Effects</p>	<ul style="list-style-type: none"> • Minor indirect effects to businesses, stormwater runoff, and cultural resources. • Short-term increase in employment opportunities and business revenue. • Minor contribution to cumulative residential and business displacements; stormwater runoff; and loss of parkland, cultural resources, wetlands, streams, and threatened and endangered species habitat. 	<ul style="list-style-type: none"> • Net beneficial indirect effects. • Minor indirect effects to businesses, stormwater runoff, and cultural resources. • Short-term increase in employment opportunities and business revenue. • Additional indirect community benefits due to potential redevelopment/public use and long-term enhancements in workforce diversity, employment, and income. • Minor contribution to cumulative business displacements; stormwater runoff; and loss of parkland, wetlands, streams, and threatened and endangered species habitat. • Fewer cumulative effects due to reduced residential and historic properties impacts and mitigation and enhancements for parks and historic properties. 	<ul style="list-style-type: none"> • 10 ac. of land for potential redevelopment and/or public use. • Disadvantaged business enterprise participation, on-the-job training, and workforce development. • Mitigation for impacts to public parks, historic properties, wetlands, streams, and threatened and endangered species habitat. • Best management practices for sediment and erosion control. • Separation of highway stormwater runoff to reduce flooding and combined sewer overflows. • Interpretive display in West End neighborhood.



Environmental Resource	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Mitigation and Enhancement Measures
<i>ES-Table I (cont.)</i> Construction Impacts	<ul style="list-style-type: none"> • Temporary impacts for all transportation modes due to increased traffic on local roads, access restrictions, and detours. • Temporary utility impacts. • Temporary economic and employment benefits. • Temporary air quality effects. • Temporary noise increases. • Temporary erosion and sediment increases. 	Same as Selected Alternative I with additional measures to minimize and mitigate temporary impacts.	<ul style="list-style-type: none"> • Development of traffic management, MOT, and incident management plans. • Coordination with local cities, transit agencies, and the regional incident management task force. • Notifications/outreach to public and trucking companies. • Dust control plan. • Measures to monitor and protect air quality. • Measures to manage construction noise. • Best management practices for erosion and sediment control.
Utilities	<ul style="list-style-type: none"> • Impacts to public and private aerial and underground utilities. • Increased stormwater runoff. 	<ul style="list-style-type: none"> • Impacts to public and private aerial and underground utilities. • Increased stormwater runoff. 	<ul style="list-style-type: none"> • Separation of highway stormwater runoff (KY and OH). • Measures to address surcharging in the Peaselsburg neighborhood (KY). • Best management practices for water quality treatment (OH).
Railroads	<ul style="list-style-type: none"> • 7 bridges over railroad property. • Aerial easements over CSX property, including 2 active tracks. • Access to CSX property. 	<ul style="list-style-type: none"> • 8 bridges over railroad property. • Aerial easements over CSX property, including 2 active tracks. • Access to CSX property. 	None.
Section 4(f) Properties	<ul style="list-style-type: none"> • Individual Section 4(f) determination for Lewisburg Historic District and Longworth Hall. • <i>De minimis</i> impacts to Goebel Park Complex, Queensgate Playground and Ball Field, and Western Hills Viaduct. 	<ul style="list-style-type: none"> • Individual Section 4(f) determination for Lewisburg Historic District and Longworth Hall. • <i>De minimis</i> impacts to Hillsdale Subdivision Historic District, Elberta Apartments Historic District, Goebel Park Complex, and Queensgate Playground and Ball Field.¹⁷ • Section 4(f) exception for Firefighters Memorial, Ezzard Charles Park, Lewis and Clark National Historic Trail, and existing BSB.¹⁷ 	<ul style="list-style-type: none"> • Lewisburg Historic District: Recordation of removed structures; \$1.2 million grant program to improve and rehabilitate the façades of residential and commercial properties in the district; and protection, monitoring, and repair of historic structures from vibration during construction. • Longworth Hall: Repairs, upgrades, restoration work, enhancements, and refurbishment on the portions of the building impacted by construction and the portions of the building to remain. <p>(continued on next page)</p>

17. Additional Section 4(f) properties have been identified since the 2012 EA/FONSI. The Western Hills Viaduct is scheduled to be removed in conjunction with a separate City of Cincinnati project with independent utility and completed NEPA review; therefore, a Section 4(f) use will not occur for Refined Alternative I (Concept I-W).



Environmental Resource	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Mitigation and Enhancement Measures
<p><i>ES-Table I (cont.)</i></p> <p>Section 4(f) Properties <i>(cont.)</i></p>	<p><i>(cont.)</i></p>	<p><i>(cont.)</i></p>	<p><i>(cont.)</i></p> <ul style="list-style-type: none"> • Longworth Hall (cont.): Maintenance of building and its historic integrity. Storage of removed and reconstructed materials that retain historic integrity. • Queensgate Playgrounds and Ball Field: Compensation for land, relocation of recreational facilities, construction plans for ball field reconfiguration, and construction monitoring of mitigation. Construction of noise barrier or fence. • Firefighters Memorial and Ezzard Charles Park: Maintenance of access, construction fencing and signing, and site restoration. • Lewis and Clark National Historic Trail: Notification to the National Park Service and signing for project-related activities and access restrictions. • Coordination with officials with jurisdiction. • Proposed noise barriers and noise/visual screening barriers. • Separation of highway runoff to reduce flooding and combined sewer overflows. • Dust control plan, measures to monitor and protect air quality, and measures to manage construction noise.



Environmental Resource	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Mitigation and Enhancement Measures
<p><i>ES-Table I (cont.)</i></p> <p>Section 6(f) Properties</p>	<ul style="list-style-type: none"> • 2.59 acres permanent right-of-way from Goebel Park/Kenney Shields Park, including impacts to walking trail and basketball courts. • Potential proximity impacts to Goebel Park pool. 	<ul style="list-style-type: none"> • 2.84 acres permanent right-of-way from the Goebel Park Complex, including impacts to walking trail, basketball courts, and associated resources.¹⁸ • Proximity impacts to pool. 	<ul style="list-style-type: none"> • 2.23 acres replacement land. • Reconstruction of walking trail within the complex. • Funding for a new Goebel Park Complex Master Plan, replacement and enhancement of the basketball courts or other outdoor recreation facilities within the park, and relocated outdoor pool and associated facilities or other comparable aquatic facility serving the same purpose within the park. • Proposed noise/visual screening barriers. • Separation of highway runoff to reduce flooding and combined sewer overflows. • Dust control plan, measures to monitor and protect air quality, and measures to manage construction noise.
Permits	<ul style="list-style-type: none"> • KDOW KPDES permit. • OEPA NPDES permit. • USACE Section 404 permit. • KDOW and OEPA Section 401 Water Quality Certifications. • USCG Section 9 permit. 	<p>Same as Selected Alternative I, in addition to:¹⁹</p> <ul style="list-style-type: none"> • USACE Section 10 permit (as applicable for Ohio River work and/or structures not under the purview of the USCG bridge program). • Cincinnati and Covington floodplain permits. • FEMA approval. • USACE Section 408 permission. 	<ul style="list-style-type: none"> • Wetland mitigation via KYTC Bath County/Ova Arnett advanced mitigation site or Kentucky Department of Fish and Wildlife Resources in-lieu fee mitigation program to be finalized during permitting process. • Stream mitigation via Licking River Mitigation Bank to be finalized during permitting process.

18. Minor increased reported impacts due to the extension of Simon Kenton Way and construction of new stormwater facilities.

19. These permits also would have been required for Selected Alternative I but were not expressly identified in the 2012 EA/FONSI.



Public Involvement and Agency Coordination

Public involvement and agency coordination have continued since the approval of the 2012 EA/FONSI. Efforts have included:

- A project website that received major updates in 2014 and 2022 and will be maintained through the construction of the project;
- Social media accounts that were established in 2022 and 2023 and will continue through the construction of the project;
- E-newsletters and press releases that were distributed three times in 2013 and with regular frequency since 2022;
- Two Project Advisory Committee meetings in June 2022 and August 2023;
- One Aesthetics Committee and eight Aesthetics Subcommittee meetings in 2022 and 2023;
- Twelve small-scale and four broad-scale targeted environmental justice/neighborhood outreach meetings in November and December 2022;
- Two open-house style project update meetings in August 2023;
- Coordination with consulting parties regarding the project's effects on historic properties in 2022 and 2023;
- Coordination with federal cooperating and participating agencies on a monthly basis during 2023; and
- Coordination with local and state agencies.

FHWA, KYTC, and ODOT have evaluated and responded to all comments received during the project's development. The design of Refined Alternative I (Concept I-W) has been refined in several locations in direct response to public comments, including:

- Reducing the project footprint;
- Reconfiguring highway ramps and opening up approximately 10 acres of land for potential redevelopment and/or public use directly adjacent to the Cincinnati Central Business District;
- Incorporating measures to reduce flooding and combined sewer overflows;
- Building new and improved multimodal facilities on local streets that are parallel to or cross the interstate;
- Incorporating aesthetic features throughout the project corridor;
- Implementing measures to improve safety for pedestrians and school-age children who cross the northbound entrance ramp from Dixie Highway to I-71/I-75;
- Incorporating noise/visual screening barriers above and beyond the requirements of KYTC's noise policy;
- Working with the City of Cincinnati to conduct before/after surveys of other roadways impacted by increased traffic during construction and to restore those roadways to pre-construction conditions once the project is complete; and
- Building a wider bridge on Ezzard Charles Drive over I-75 to provide an additional 50 feet of green space on each side that could support potential future civic space or retail development by the City of Cincinnati.



Based on preliminary investigations, several additional refinements suggested during public involvement activities may be feasible and will be evaluated during the proof-of-concept phase of the Phase III progressive design-build contract. Refinements that improve project quality, reduce costs, shorten schedule, support the project goals and objectives, and have support at the local level may be incorporated into the project.

Agencies and the public will have the opportunity to review the supplemental EA and other project information and provide comments to KYTC and ODOT for 30 days after it is made publicly available. During that time, in-person public hearings will be scheduled in Kentucky and Ohio. In addition, there will be a virtual public hearing. The public hearings will provide opportunities for attendees to review exhibits and other project information. Members of the project team will also be available to answer questions. Verbal and written comments will be accepted at the hearings, as well. The comment period for the supplemental EA will last for 15 days after the public hearings.

Public and stakeholder outreach will continue throughout the design and construction of the project. As detailed in the project *Public Engagement Plan*¹, future opportunities for public and stakeholder involvement include:

- Coordinating with key stakeholders to allow the opportunity to review and comment on emergency response access, proposed innovation concepts, the traffic management plan, the maintenance of traffic plan, and the incident management plan;
- Coordinating with the BSB Corridor Diversity & Inclusion Outreach Committee during the Phase III progressive design-build contract;
- Coordinating with the City of Covington and the Cincinnati Preservation Association during the implementation of measures to mitigate adverse effects to historic resources;
- Coordinating with Section 106 consulting parties during design and construction;
- Conducting noise abatement public engagement;
- Coordinating with the Aesthetics Committee and the Aesthetics Subcommittees to finalize and confirm aesthetic treatments;
- Conducting utility coordination;
- Coordinating design and construction activities with officials with jurisdiction over public parks;
- Coordinating with the Project Advisory Committee to provide project updates and gather feedback; and
- Sharing information about design decisions, innovations incorporated into the project, ongoing project activities, construction sequencing, project highlights, project milestones, and construction schedules with the public.

Environmental Commitments

The environmental commitments outlined in this supplemental EA (including mitigation and enhancements) are captured in ES-Table II.

¹ The *Public Engagement Plan* is included in Appendix Q of the [Public Involvement Summary](#) (January 2024).



ES-Table II: Environmental Commitments

No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
1.	Future Design Refinements <i>Public Inv. and Agency Coord.</i>	KYTC and ODOT will conduct the following coordination when innovations are proposed for the Phase III progressive design-build contract: a. When innovations are proposed, KYTC and ODOT will share recommendations with key stakeholders such as the City of Cincinnati, the City of Covington, the City of Park Hills, the City of Fort Wright, the City of Fort Mitchell, Hamilton County, and Kenton County and will gather feedback from local agencies that may be affected by any changes. Each local entity will be responsible for soliciting public feedback on innovations as part of their review and comment process. b. When KYTC, ODOT, and FHWA determine that an innovation will be incorporated into the project, the public will be informed of the decision. Information provided to the public will include a description of the innovation, an explanation of the expected benefits, and the rationale for the decision. c. If an innovation requires additional coordination or reevaluation to meet National Environmental Policy Act (NEPA) requirements, KYTC, ODOT, and FHWA will conduct those activities in accordance with all federal requirements.	KYTC, ODOT	Design	III	3.7, 5.6
2.	Travel Patterns and Access <i>Neighborhood and Com. Cohesion</i> <i>Env. Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Section 6(f)</i>	In support of the Kentucky Transportation Cabinet (KYTC) <i>Complete Streets, Roads, and Highways Policy</i> , the Ohio Department of Transportation (ODOT) <i>Multimodal Design Guide</i> , and the Ohio-Kentucky-Indiana Regional Council of Governments (OKI) <i>Regional Complete Streets Policy</i> , the project will implement the following: a. Measures will be implemented to improve safety for pedestrians and school-age children who cross the northbound entrance ramp from Dixie Highway to I-71/I-75. Measures will include reducing length of the crosswalk, installing warning signs, enhancing the pavement markings to better define the crosswalk for pedestrians and vehicles.	KYTC	Construction	III	4.1.4



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
2. (cont.)	Travel Patterns and Access <i>Neighborhood and Community Cohesion</i> <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Section 6(f)</i>	b. A new shared-use path will be built along the outside lanes on Simon Kenton Way. New/rebuilt sidewalks will be constructed along the outside lanes of Bullock Street.	KYTC	Construction	III	4.1.2, 4.1.4, 4.1.7, 4.1.8, 4.1.9, 4.14.3, Figure 10
		c. Rebuilt sidewalks will be constructed along Pike Street west of I-71/ I-75. A switchback accessible ramp will be constructed to replace steep stairs between Pike Street and Lewis Street. New and rebuilt sidewalks will be constructed under the West 12 th Street/MLK Jr. Boulevard, Pike Street, West 9 th Street, West 5 th Street, and West 3 rd Street bridges.	KYTC	Construction	III	4.1.2, 4.1.4, 4.1.7, 4.1.8, 4.1.9, 4.14.3, Figure 10
		d. A new shared-use path, which will tie into the shared-use paths in the Goebel Park Complex, will be built under the West 5 th Street bridge. The shared-use path will be extended along Crescent Avenue to connect to an existing shared-use path along the Ohio River.	KYTC	Construction	III	4.1.2, 4.1.4, 4.1.7, 4.1.8, 4.1.9, 4.14.3, Figure 10
		e. Shared-use paths will be built across I-75 on 6 th Street, 7 th Street, 9 th Street, Linn Street, and Ezzard Charles Drive.	ODOT	Construction	I, II, and III	4.1.2, 4.1.4, 4.1.7, 4.1.8, 4.1.9, Figure 10
		f. A new shared-use path will be constructed along Winchell Avenue between 9 th Street and Ezzard Charles Drive.	ODOT	Construction	II and III	4.1.2, 4.1.4, 4.1.7, 4.1.8, 4.1.9, Figure 10
		g. New and rebuilt sidewalks will be constructed across I-75 on Linn Street, Freeman Avenue, Ezzard Charles Drive, Liberty Street, Findlay Street, Bank Street, and Harrison Avenue.	ODOT	Construction	I and II	4.1.2, 4.1.4, 4.1.7, 4.1.8, 4.1.9, Figure 10
		h. New sidewalk will be installed along West Court Street, including a pedestrian bridge connection to Freeman Avenue.	ODOT	Construction	II	4.1.2, 4.1.4, 4.1.7, 4.1.8, 4.1.9, Figure 10
		i. New and rebuilt bike lanes will be constructed across I-75 on Liberty Street, Findlay Street, Bank Street, and Harrison Avenue.	ODOT	Construction	I and II	4.1.2, 4.1.4, 4.1.7, 4.1.8, 4.1.9, Figure 10



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
3.	Travel Patterns and Access <i>Public Inv. and Agency Coord.</i>	During final design, KYTC will coordinate with the Northern Kentucky cities along the corridor, including Fort Mitchell, Fort Wright, Park Hills, and Covington, and Kentucky first responders, including police, fire, and emergency services, to ensure the completed project accommodates emergency response access to the collector-distributor and mainline roadways.	KYTC	Design	III	4.1.4, 5.6
4.	Relocations <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Indirect and Cumulative</i>	If project-related activities result in impacts beyond those identified in the supplemental EA to tenants in Longworth Hall, then ODOT will conduct additional coordination in order for FHWA to determine if reevaluation to meet NEPA requirements is necessary.	ODOT	Design, Construction	III	4.1.5, 4.1.7, 4.1.8, 4.10.1
5.	Economy and Employment <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Indirect and Cumulative</i>	During Phase III of the Brent Spence Bridge (BSB) Corridor Project, KYTC and ODOT will conduct the following activities to support business and workforce development: a. Establish separate goals for disadvantaged business enterprise (DBE) participation in both the design and construction portions of the Phase III contract. b. Develop an on-the-job training program to offer equal opportunity for the training of minorities, women, and disadvantaged persons to advance their skills toward journeyman status in the highway construction trades. The project's contract documents will include a 15 percent on-the-job training target that will be finalized during the preconstruction phase of the progressive design-build contract. c. Create a workforce development plan to assist candidates seeking employment in the transportation industry or on related infrastructure projects.	KYTC, ODOT KYTC, ODOT KYTC, ODOT	Design, Construction Design, Construction Design, Construction	III III III	4.1.6, 4.1.7, 4.1.8, 4.1.9, 4.10.1 4.1.6, 4.1.7, 4.1.8, 4.1.9, 4.10.1 4.1.6, 4.1.7, 4.1.8, 4.1.9, 4.10.1



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
6.	Economy and Employment <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Indirect and Cumulative</i> <i>Public Inv. and Agency Coord.</i>	For the Phase III contract, KYTC, ODOT, and the design-build team will regularly engage with the Brent Spence Bridge Corridor Diversity & Inclusion Outreach Committee to provide updates on the Diversity, Inclusion, and Outreach Plan, with a specific focus on contract requirements such as commercially useful function and wages; goal attainment for DBE participation and on-the-job training opportunities; and workforce diversity requirements.	KYTC, ODOT	Design, Construction	III	4.1.6, 4.1.7, 4.1.8, 4.1.9, 4.10.1, 5.6
7.	Threatened or Endangered Species	Coordination with the Kentucky Department of Fish and Wildlife Resources (KDFWR) will occur in the spring prior to the rehabilitation of the existing Brent Spence Bridge or the demolition of the bridge approaches to address potential nesting of peregrine falcons.	KYTC	Construction	III	4.2.4
8.	Threatened or Endangered Species <i>Wetlands</i> <i>Streams</i> <i>Terrestrial Habitat</i> <i>Drinking Water</i> <i>Construction</i>	Measures will be implemented to minimize and mitigate effects to mussels, the federally listed Indiana bat, gray bat, and northern long-eared bat and Ohio state listed little brown bat and tricolored bat as outlined in the project's Biological Assessment (October 2022):				
		a. Mussel salvage (relocation) within areas of direct impact and appropriate salvage zone buffers will be conducted per the Ohio Mussel Survey Protocol no more than one year prior to the start of construction in the Ohio River.	KYTC, ODOT	Design, Construction	III	4.2.4
		b. Potential incidental take for the Indiana bat in Kentucky will be mitigated through a contribution to the Imperiled Bat Conservation Fund (IBCF) in accordance with the <i>Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat</i> .	KYTC	Construction	III	4.2.3, 4.2.4
		c. No tree removal will occur in Kentucky from June 1 to July 31.	KYTC	Construction	III	4.2.4



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
8. (cont.)	Threatened or Endangered Species <i>Wetlands</i> <i>Streams</i> <i>Terrestrial Habitat</i> <i>Drinking Water</i> <i>Construction</i>	<p>d. As required under Section 213 of the KYTC <i>Standard Specifications</i>, a site-specific erosion control plan, including best management practices (BMPs), will be developed by the resident engineer and contractor prior to onsite activities to ensure continuous erosion control throughout the construction and post-construction period. The plan will identify individual disturbed drainage areas where stormwater from the construction area will be discharged off-site or into waters of the Commonwealth of Kentucky. The location of the individual erosion prevention/sediment control measures will be identified by the resident engineer and contractor.</p> <p>e. During grade and drain activities in Kentucky, mulch will be placed across all areas where no work will be conducted for a period of 14 consecutive days.</p> <p>f. Tree clearing within riparian areas will be minimized. Trees to be removed will be determined by the resident engineer and the contractor prior to disturbance.</p> <p>g. In Kentucky, silt fence, or other approved method, will be installed at the edge waters within the project corridors to eliminate the deposition of rock and debris in the stream during construction activities. In the unforeseen event that unintended debris does enter the stream, the resident engineer will halt the contributing activity until appropriate remedial actions have been implemented.</p> <p>h. To the maximum extent practicable, construction activities in streams will take place during low-flow periods.</p> <p>i. Equipment staging and cleaning areas will be located to eliminate direct inputs to the waters of the Commonwealth of Kentucky. These areas will be located such that effluent will be filtered through vegetated areas and appropriate sediment controls prior to discharge offsite.</p>	KYTC	Design, Construction	III	4.2.1, 4.2.2, 4.2.4, 4.2.7, 4.11.7
			KYTC	Construction	III	4.2.4, 4.11.7
			KYTC	Construction	III	4.2.3, 4.2.4
			KYTC	Construction	III	4.2.4, 4.11.7
			KYTC, ODOT	Construction	III	4.2.4
			KYTC	Construction	III	4.2.4, 4.11.7



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
8. (cont.)	Threatened or Endangered Species <i>Wetlands</i> <i>Streams</i> <i>Terrestrial Habitat</i> <i>Drinking Water</i> <i>Construction</i>	<p>j. Concrete will be poured in a manner to avoid spills into streams. In the unforeseen event that a spill does occur, the U.S. Fish and Wildlife Service (USFWS) will be notified, and the resident engineer will immediately halt the activity until remedial measures have been implemented.</p> <p>k. Areas disturbed during construction activities in Kentucky will be stabilized through vegetation establishment and placement of riprap and geotextile fabric.</p> <p>l. Areas disturbed during construction in Kentucky and not stabilized with riprap and erosion blanket will be seeded using a standard seed mix. Depending on project slope and project location, application rates will vary and will utilize current and appropriate seed mixes as specified in the KYTC <i>Standard Specifications</i>.</p> <p>m. No tree removal will occur in Ohio from April 1 through September 30.</p> <p>n. All phases/aspects of the project (e.g., temporary work areas, alignments) in Ohio will be modified to avoid tree removal in excess of what is required to implement the project safely.</p> <p>o. Tree removal in Ohio will be limited to that specified in project plans by clearly marking clearing limits. Contractors will be made aware of clearing limits in Ohio and how they are marked in the field.</p> <p>p. ODOT's <i>Construction and Material Specifications</i> (CMS) and ODOT <i>Supplemental Specification</i> (SS) 813, SS 832, and SS 913 will be followed as applicable to address the following bat avoidance and minimization measures in Ohio: lighting (SS 813); dust control (CMS 616); water quality, wetland and stream protection (CMS 601, CMS 659, CMS 671, SS 832, and ODOT's <i>Location and Design Manual, Volume 2</i>).</p>	KYTC, ODOT	Construction	III	4.2.4
			KYTC	Construction	III	4.2.4, 4.11.7
			KYTC	Construction	III	4.2.4, 4.11.7
			ODOT	Construction	I, II, and III	4.2.4
			ODOT	Design, Construction	I, II, and III	4.2.3, 4.2.4
			ODOT	Construction	I, II, and III	4.2.3, 4.2.4
			ODOT	Design, Construction	I, II, and III	4.2.4, 4.11.7



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
9.	Drinking Water <i>Section 6(f)</i>	A Spill Prevention Control and Countermeasures Plan that is acceptable to KYTC, ODOT, and the Kentucky Department for Environmental Protection will be prepared for the project. This plan will define, at minimum, protocols for the managing, handling, and disposing of oil spills, including contact with emergency response personnel, safety data sheets, and copies of agreements with agencies that would be part of a spill-response effort. The plan will also outline communication protocols to ensure proper and timely notification of nearby public drinking water supplies in the event of a spill, including the source water protection zones for the Louisville Water Company (KY0560258) and the Northern Kentucky Water District (KY0590220).	KYTC, ODOT	Design, Construction	I, II, and III	4.2.7, 4.14.3
10.	Drinking Water <i>Section 6(f)</i>	A groundwater protection plan for the protection of groundwater will be developed in accordance with Title 401 of the Kentucky Administrative Regulations, Chapter 5, Regulation 37 (401 KAR 5:037). The plan will include the installation, construction, operation or abandonment of wells, bore holes or core holes, and other applicable project activities, as defined in 401 KAR 5:037. If groundwater monitoring wells are constructed, modified, or abandoned in Kentucky, the work will be conducted in accordance with 401 KAR 6:350.	KYTC	Design, Construction	III	4.2.7, 4.14.3
11.	Regulated Materials <i>Disadvantaged Communities</i>	The following Environmental Site Assessment (ESA) work will be completed: <ul style="list-style-type: none"> a. Phase II ESAs will be conducted at 666 West 3rd Street and 550 Pike Street in Covington, Kentucky as required by the Comprehensive, Environmental Response, Compensation and Liability Act (1980) as amended by the Superfund Amendments and Reauthorization Act (1986). Only areas of construction/utility disturbances of 3 feet or greater in depth will be assessed. b. If dewatering is necessary for construction purposes, plan notes for petroleum contaminated soil (PCS) and contaminated groundwater will be developed for the following sites and placed into the plans: 351 John Street, 514 West 3rd Street, and 302-304 Central Avenue in Cincinnati, Ohio. 	KYTC ODOT	Design Design	III III	4.4.1 4.1.9, 4.4.2



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
11. (cont.)	Regulated Materials <i>Disadvantaged Communities</i>	c. Plan notes for the removal of underground storage tanks (USTs) will be developed for the following sites and placed in the plans: 508 West 3 rd Street (1 UST) and 605 West 3 rd Street (4 USTs) in Cincinnati, Ohio.	ODOT	Design	III	4.1.9, 4.4.2
		d. Plan notes for solid waste will be developed for the following sites and placed in the plans: 205 Central Avenue and 612 Mehring Way in Cincinnati, Ohio.	ODOT	Design	III	4.1.9, 4.4.2
		e. The project's construction documents will include a plan note to abandon the existing monitoring wells on property to be acquired from the Duke Energy West End Substation (646/655 Mehring Way in Cincinnati, Ohio).	ODOT	Design	III	4.4.2
12.	History/ Architecture Resources <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Section 4(f) Properties</i> <i>Public Inv. and Agency Coord.</i>	Measures to mitigate the adverse effect to the Lewisburg Historic District will comply with the <i>Programmatic Agreement Among FHWA, ODOT, KYTC, the Ohio SHPO, the Kentucky SHPO, and the City of Covington Implementing Section 106 of the National Historic Preservation Act for the BSB Corridor Project</i> (Section 106 Programmatic Agreement):				
		A. Recordation 1. In order to preserve a record of its history and appearance, the structures within the Lewisburg Historic District to be demolished as a part of this project will be recorded. Recordation will take place as soon as the properties have been acquired and well in advance of construction in this area; documentation of these structures, barring unforeseen circumstance, will take less than four months to complete. State Level I Documentation is specified and will include the following per the Kentucky State Historic Preservation Officer's (SHPO's) February 12, 2020 Memorandum - Update to State Level Documentation:	KYTC	Design	III	4.1.8, 4.5.2, 4.13.4
		a. A Kentucky Historic Resource Individual Survey form (KHC 2017-1 or current version of form), completed or updated as appropriate.	KYTC	Design	III	4.1.8, 4.5.2, 4.13.4



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
12. (cont.)	History/ Architecture Resources <i>Socioeconomic Groups Disadvantaged Communities Section 4(f) Properties Public Inv. and Agency Coord.</i>	<p>b. A historic context, a synthesis of both archival research and current information, presented both as part of the documentation package as well as included in the “Historical Information” section of the Kentucky SHPO survey form in order to facilitate the separate archiving of these documents. Archival research, thorough but less intensive than a stand-alone historic context, shall be conducted to gather specific historical information about the property and its context with sources cited. If historic archival images are located, a representative sample or link to that resource will be included.</p> <p>c. Digital photographs showing all exterior elevations as well as close-ups of significant, character-defining features (i.e., brackets, hood moldings, decorative millwork, log notching/chinking, traditional timber frame joinery/truss systems, mantels, historic hardware/lighting, interior finishes, and/or stair details). Image resolution shall be no less than 6 megapixels (2000 x 3000-pixel image). Images should be in Tag Image File format (TIFF) or raw image format (RAW).</p> <p>The electronic files of the digital images should be included on an archival DVD-R disk and a flash drive submitted with the documentation package. Electronic files shall be labeled with the name and address of the building (if applicable), the Kentucky Heritage Council (KHC) survey number, view, and date of capture. In addition, all digital photographs will be included in the KHC survey form. A selection of images shall be printed on archival quality, acid-free paper (rather than as true photographic prints) at a minimum size of 5” x 7” (maximum size of 8” x 10”). These images shall be presented in the documentation package along with an index of photographs keyed to numbered photos. The photography index shall include the name and address of building (if applicable), view, and any explanatory notes necessary for review.</p>	KYTC	Design	III	4.1.8, 4.5.2, 4.13.4
			KYTC	Design	III	4.1.8, 4.5.2, 4.13.4



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
12. (cont.)	History/ Architecture Resources <i>Socioeconomic Groups Disadvantaged Communities Section 4(f) Properties Public Inv. and Agency Coord.</i>	<p>d. Measured floor plans of each floor of the building will be prepared by a preservation professional. Existing professional scaled drawings/building plans will be utilized whenever possible and presented in a .pdf format along with a hard copy of the existing plans. If existing drawings/plans are not available, will not meet the format recommended below, or parties otherwise agree that drawings/plans need to be prepared, drawings shall be created at a scale of 1/4" per 1'-0" and shall be analytical in nature, labeling construction details, alterations, and additions. If applicable, drawings of building details (windows, moldings, mantels, etc.) shall be created at a scale of 1/2" per 1'-0". Hand drawings shall be in pencil on archival-quality, acid-free vellum; however, if other formats are used (i.e., 3-dimensional laser scanning/photogrammetry or Computer-Aided Design/CAD) the scale shall be comparable to that of the hand drawings. The latter native digital plans shall be presented in .pdf format along with a hard copy set of plans. Each drawing/image file shall be labeled as described in 12.A.1.c above and shall be accompanied by a written description of the building(s) as well as an explanation of construction details.</p> <p>e. One complete digital copy of the completed documentation will be submitted by KYTC to the Kentucky SHPO for review and acceptance. Upon notification of Kentucky SHPO acceptance, KYTC will provide one complete hard copy to the Kenton County Public Library. One complete digital copy will also be provided to the Kentucky Department for Libraries and Archives by KYTC.</p> <p>2. Upon completion of the project, KYTC shall prepare and provide to Kentucky SHPO documentation of appropriate boundaries for the Lewisburg Historic District. Once agreement is reached on appropriate boundaries, KYTC shall prepare a revised nomination form reflecting the newly established boundaries and submit it to Kentucky SHPO for coordination with the Keeper of the National Register of Historic Places.</p>	KYTC	Design	III	4.1.8, 4.5.2, 4.13.4
			KYTC	Design	III	4.1.8, 4.5.2, 4.13.4
			KYTC	Post-Construction	III	4.1.8, 4.5.2, 4.13.4



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
12. (cont.)	History/ Architecture Resources <i>Socioeconomic Groups Disadvantaged Communities Section 4(f) Properties Public Inv. and Agency Coord.</i>	<p>3. Upon completion of construction of the project, KYTC shall prepare a Kentucky Historic Resource Individual Survey form (KHC 2017-1 or current version of form) for each of the properties located within the Lewisburg Historic District. A new survey form is required if more than 5 years have lapsed since the survey form was updated. These survey forms will be submitted to the Kentucky SHPO in .pdf format.</p> <p>B. Façade Grant Program</p> <p>1. A Façade Grant Program administered by the City of Covington will be developed and implemented to improve and rehabilitate the façade of residential and commercial properties within the Lewisburg Historic District. Specific details of the program, including additional funding sources, review authority, owner matching funds, program marketing, and timeframes for approval and completion of projects will be determined through consultation between KYTC, the City of Covington, the Kentucky SHPO, and FHWA. Consultation between these listed parties will take place after the Section 106 Programmatic Agreement has been signed and after project funds have been released by FHWA. Details for administering the program, including oversight, selection criteria, monitoring, and tracking and reporting of completions and expenditures will be delineated in a separate memorandum of agreement developed for this purpose and agreed upon between the parties listed above.</p> <p>2. The Façade Grant Program will be provided with project funding in an amount not to exceed \$1,200,000.00 for property improvements. FHWA participation will terminate ten years from the date of program implementation.</p>	KYTC	Post-Construction	III	4.1.8, 4.5.2, 4.13.4
			KYTC	Post-Construction	III	4.1.8, 4.1.9, 4.5.2, 4.13.4, 5.6
			KYTC	Post-Construction	III	4.1.8, 4.1.9, 4.5.2, 4.13.4, 5.6



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference						
<i>ES-Table II (cont.)</i>												
12. (cont.)	History/ Architecture Resources <i>Socioeconomic Groups Disadvantaged Communities Section 4(f) Properties Public Inv. and Agency Coord.</i>	C. Vibration Testing 1. To avoid damage to historic properties, KYTC shall ensure that construction blasting/vibration plans and bridge pier construction plans shall be developed by their contractor(s) prior to beginning any construction activities that would require blasting or result in vibration. These construction blasting/vibration plans shall be implemented during appropriate construction activities. Maximum threshold values for historic properties that the plan must meet are shown in the table below. The values are presented in terms of peak particle velocity (PPV), the accepted method of evaluating the potential for damage. The vibration criteria shall apply for pile driving, vibratory compaction, and blasting activities.	KYTC	Design, Construction	III	4.1.8, 4.1.9, 4.5.2, 4.13.4						
<hr/> PPV Thresholds <hr/> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Type of Structure</th> <th>Ground-borne Vibration Impact Level (PPV)</th> </tr> </thead> <tbody> <tr> <td>Fragile</td> <td>0.20 inch/second</td> </tr> <tr> <td>Extremely Fragile Historic</td> <td>0.12 inch/second</td> </tr> </tbody> </table> <hr/>							Type of Structure	Ground-borne Vibration Impact Level (PPV)	Fragile	0.20 inch/second	Extremely Fragile Historic	0.12 inch/second
Type of Structure	Ground-borne Vibration Impact Level (PPV)											
Fragile	0.20 inch/second											
Extremely Fragile Historic	0.12 inch/second											
		2. KYTC shall discuss with the Kentucky SHPO the protective measures to be used by the contractor to protect historic resources from vibration damage. KYTC shall seek the recommendations of the Kentucky SHPO regarding any additional properties not identified by the contractor that should be considered extremely fragile.	KYTC	Design	III	4.1.8, 4.1.9, 4.5.2, 4.13.4						
		a. These plans shall be developed, as directed by the contract documents, for all areas within 100 feet of the potential disturb limits that contain historic structures.	KYTC	Design	III	4.1.8, 4.1.9, 4.5.2, 4.13.4						



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
12. (cont.)	History/ Architecture Resources <i>Socioeconomic Groups Disadvantaged Communities Section 4(f) Properties Public Inv. and Agency Coord.</i>	<p>b. Existing conditions of historic structures and current levels of vibration within the selected areas will be obtained first as a baseline for later comparison. Structural engineers will focus on identifying fragile and extremely fragile historic structures. In areas where historic structures are identified but they are not considered either fragile or extremely fragile, vibration levels will be limited to 0.20 inch/second. An initial report of baseline conditions, including structures selected for monitoring and existing vibration levels, will be compiled and coordinated with Kentucky SHPO for review.</p> <p>c. Construction methods adjacent to selected areas will be assessed to determine the potential to create vibration levels that may exceed the threshold limits. In areas where construction methods may exceed vibration threshold limits, alternate methods will be required.</p> <p>d. A third-party contractor will be retained to monitor vibrations and report results on site to the contractor and the KYTC resident engineer. If continuous vibration levels exceed the 0.20 inch/second threshold, the vibration equipment monitor shall notify the resident engineer and the construction contractor so that methods can be adjusted to reduce the vibration. If continuous vibration levels exceed 0.20 inch/second after adjustments have been made, work will need to cease in the area until different methods can be put in place to lessen vibration impacts.</p> <p>e. As construction activities will be continuously monitored to ensure that vibration limits remain below the threshold noted above, the need for daily inspection of adjacent buildings is not anticipated. However, if any transient event occurs that is in excess of 0.50 inch/second, a cursory examination of buildings in the area will be made to check for potential damages.</p> <p>f. Monitoring will occur when active construction activities are adjacent to selected areas. As construction activities are expected to move from location to location or may occur adjacent to multiple areas at once, all selected areas will not be continuously monitored, especially if no construction activities are occurring adjacent.</p>	KYTC	Design	III	4.1.8, 4.1.9, 4.5.2, 4.13.4
			KYTC	Design	III	4.1.8, 4.1.9, 4.5.2, 4.13.4
			KYTC	Construction	III	4.1.8, 4.1.9, 4.5.2, 4.13.4
			KYTC	Construction	III	4.1.8, 4.1.9, 4.5.2, 4.13.4
			KYTC	Construction	III	4.1.8, 4.1.9, 4.5.2, 4.13.4



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
12. (cont.)	History/ Architecture Resources <i>Socioeconomic Groups Disadvantaged Communities Section 4(f) Properties Public Inv. and Agency Coord.</i>	<p>g. At least one examination of structures in each area selected for vibration monitoring will be made during construction, and a post-construction final inspection will be made of each area to determine if there have been any changes to the condition of the buildings. A comparison of pre-, mid-, and post-construction building condition assessments will be compiled in a report and submitted to the Kentucky SHPO for review.</p> <p>h. KYTC, in consultation with Kentucky SHPO, will make the determination whether damage has occurred to historic properties identified in the Section 106 process as a result of project activities.</p> <p>i. KYTC shall be responsible for repair of any blast and vibration damage to historic properties. Any repairs shall be coordinated in advance with the Kentucky SHPO to ensure they are carried out in accordance with the <i>Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings</i> (Secretary's Standards).</p> <p>j. Where access to privately owned property is necessary for monitoring or damage repair, consent shall be obtained prior to entry.</p>	KYTC KYTC KYTC KYTC	Construction Post- Construction Post- Construction Construction, Post- Construction	III III III III	4.1.8, 4.1.9, 4.5.2, 4.13.4 4.1.8, 4.1.9, 4.5.2, 4.13.4 4.1.8, 4.1.9, 4.5.2, 4.13.4 4.1.8, 4.1.9, 4.5.2, 4.13.4
13.	History/ Architecture Resources <i>Environmental Justice Socioeconomic Groups Section 4(f) Properties Public Inv. and Agency Coord.</i>	<p>Measures to mitigate the adverse effect to the B&O Freight and Storage Building/Longworth Hall will comply with the <i>Programmatic Agreement Among FHWA, ODOT, KYTC, the Ohio SHPO, the Kentucky SHPO, and the City of Covington Implementing Section 106 of the National Historic Preservation Act for the BSB Corridor Project</i> (Section 106 Programmatic Agreement):</p> <p>a. <u>Treatment Plans</u>. The treatment plans shall be developed in accordance with Title 36 of the Code of Federal Regulations (CFR) part 68, <i>The Secretary of the Interior's Standards for the Treatment of Historic Properties</i>. The plans will be developed during Phase 1: Preconstruction Phase of the Progressive Design Build Contract currently estimated for completion by April 2025. The Ohio State Historic Preservation Officer (SHPO), the building owner, and the Cincinnati Preservation Association shall be provided the treatment plans for a 30-day review and comment period.</p>	ODOT	Design	III	4.1.7, 4.1.8, 4.5.2, 4.13.5, 5.6



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
13. (cont.)	History/ Architecture Resources <i>Environmental Justice Socioeconomic Groups Section 4(f) Properties Public Inv. and Agency Coord.</i>	<p>i. <u>Exterior Storm Windows</u>. Storm windows will be installed on the exterior of the building. The storm windows will be installed on the entire exterior of the building, including areas not impacted by construction of the project.</p> <p>ii. <u>Restoration of the East Wall</u>. Restoration of the east wall will be to an approximation of its original appearance and will include materials salvaged during demolition.</p> <p>iii. <u>Windows Removed to Accommodate the New Roadway Construction</u>. Windows removed to accommodate the new roadway construction will be restored and used in the east wall reconstruction. Windows removed and not used in the east wall reconstruction will be restored and returned to the owner.</p> <p>iv. <u>Commemorative Cornerstone</u>. A cornerstone commemorating the date of construction (1904) on one side and the date of the renovation on the other side will be included in the east wall reconstruction design.</p> <p>v. <u>Masonry Repairs</u>. Masonry repairs will include repair or replacement of bricks as warranted; tuck-pointing; and brick cleaning of the west, north, and south walls. The listed masonry repairs will be completed on the entire building, including portions not impacted by construction of the project.</p> <p>vi. <u>Original Lettering</u>. The original lettering across the top of the building will be refurbished.</p> <p>vii. <u>All Materials Removed</u>. All materials removed that retain historic integrity and nature will be returned to the building owner to be used in future repairs or expansion.</p>	ODOT	Construction	III	4.1.7, 4.1.8, 4.5.2, 4.13.5
			ODOT	Construction	III	4.1.7, 4.1.8, 4.5.2, 4.13.5
			ODOT	Construction	III	4.1.7, 4.1.8, 4.5.2, 4.13.5
			ODOT	Post- Construction	III	4.1.7, 4.1.8, 4.5.2, 4.13.5
			ODOT	Construction	III	4.1.7, 4.1.8, 4.5.2, 4.13.5
			ODOT	Construction	III	4.1.7, 4.1.8, 4.5.2, 4.13.5
			ODOT	Post- Construction	III	4.1.7, 4.1.8, 4.5.2, 4.13.5



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
13. (cont.)	History/ Architecture Resources <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Section 4(f) Properties</i> <i>Public Inv. and Agency Coord.</i>	<p>b. <u>Interpretive Plaque or Signage</u>. An interpretive plaque or signage will be constructed.</p> <p>i. The original location of the east wall prior to construction of the Brent Spence Bridge will be outlined by bricks and stonework.</p> <p>ii. An interpretive plaque describing changes to the property that have occurred over time will be placed near the original location of the east end wall. ODOT will work with the Ohio SHPO and the Ohio consulting parties on the plaque design and text. The Ohio SHPO and the Ohio consulting parties will have an opportunity to review the final version prior to production.</p> <p>c. <u>Contracting Methods</u>. ODOT will hold and manage the contract(s) for all work conducted in 13.a-b. The demolition and reconstruction of Longworth Hall will be performed in accordance with Section 13.3 of Exhibit E: Technical Requirements of the Progressive Design-Build Contract, as described in Appendix C of the Section 106 Programmatic Agreement. The interpretive plaque or signage will be constructed in accordance with Section 7.1 of Exhibit E: Technical Requirements of the Progressive Design-Build Contract, as described in Appendix C of the Section 106 Programmatic Agreement.</p> <p>d. <u>Acquisition</u>. ODOT is in the process of acquiring the full property at a mutually agreed upon price and from a willing seller. Because the full property is to be acquired by ODOT, the following additional stipulations apply.</p> <p>i. The building will remain occupied. ODOT may use interior space or the exterior grounds surrounding the building during project construction. No additional adverse effects are anticipated as a result of ODOT's use of the building and exterior grounds; however, if any activities on the property are anticipated to have potential adverse effects, they shall be permitted only after consultation between ODOT, the Cincinnati Preservation Association, and the Ohio SHPO pursuant to Stipulation V of the Section 106 Programmatic Agreement;</p>	<p>ODOT</p> <p>ODOT</p> <p>ODOT</p> <p>ODOT</p> <p>ODOT</p>	<p>Post-Construction</p> <p>Post-Construction</p> <p>Construction</p> <p>Right-of-Way Acquisition</p>	<p>III</p> <p>III</p> <p>III</p> <p>III</p>	<p>4.1.7, 4.1.8, 4.5.2, 4.13.5</p> <p>4.1.7, 4.1.8, 4.5.2, 4.13.5</p> <p>4.1.7, 4.1.8, 4.5.2, 4.13.5</p> <p>4.1.7, 4.1.8, 4.5.2, 4.13.5</p>



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
13. (cont.)	History/ Architecture Resources <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Section 4(f) Properties</i> <i>Public Inv. and Agency Coord.</i>	<p>ii. The existing Deed of Gift and Agreement for the Architectural Façade and Preservation Easement, dated December 30, 1986, granting Miami Purchase Association for Historic Preservation (now known as Cincinnati Preservation Association) an architectural façade and preservation easement of the B&O Freight and Storage Building/Longworth Hall, 700 Pete Rose Way (Second Street) (NRHP 86003521), will remain with the deed as part of the purchase by ODOT and for any future sale of the property by ODOT and thus transferred to future potential owners in perpetuity.</p> <p>The following measures to minimize and mitigate impacts to Longworth Hall will be implemented pursuant to Section 4(f) of the U.S. Department of Transportation Act of 1966 to ensure the preservation of the property:</p> <p>a. While in ODOT's ownership, ODOT will be responsible for maintaining Longworth Hall and its historic integrity.</p> <p>b. Since ODOT will own the building at the time of restoration, all materials removed that retain historic integrity, including the unused reconstructed windows, will be appropriately stored onsite and will remain with the building for later reuse.</p>	ODOT	Right-of-Way Acquisition	III	4.1.7, 4.1.8, 4.5.2, 4.13.5
			ODOT	Design, Construction, Post-Construction	III	4.13.5
			ODOT	Design, Construction, Post-Construction	III	4.13.5
14.	History/ Architecture Resources <i>Section 4(f) Properties</i>	If previously unidentified historic properties, or unanticipated effects on known historic properties, are discovered after completion of the Section 106 process, ODOT and KYTC shall follow the unanticipated discovery plans for their respective states, as described in Appendix A of the <i>Programmatic Agreement Among FHWA, ODOT, KYTC, the Ohio SHPO, the Kentucky SHPO, and the City of Covington Implementing Section 106 of the National Historic Preservation Act for the Brent Spence Bridge Corridor Project.</i>	KYTC, ODOT	Design, Construction	I, II, and III	4.5.2, 4.13.12
15.	History/ Architecture Resources	If project-related construction adjoining the Goebel Park Complex, including the transfer of replacement land, has not yet been completed by 2029, the Goebel Park Complex and associated elements (including the Carroll Chimes Clock Tower) will be reevaluated for NRHP eligibility.	KYTC	Construction	III	4.5.2



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
16.	Archaeological Resources	A Phased Archaeological Survey will be conducted on one parcel (Exhibit 1 in the <i>Programmatic Agreement Among FHWA, ODOT, KYTC, the Ohio SHPO, the Kentucky SHPO, and the City of Covington Implementing Section 106 of the National Historic Preservation Act for the BSB Corridor Project</i>). This parcel is occupied by parking lots for the adjacent Kenton County Administration Building. Once this parcel is acquired, a Phase I archaeological survey shall be conducted prior to the initiation of any ground disturbing activities, such as utility relocation or construction, to determine if the parcel contains archaeological sites that are eligible for listing in the National Register of Historic Places (NRHP). All work must comply with the most recent version of the Kentucky SHPO's <i>Specifications for Archaeological Field Work and Assessment Reports</i> (Kentucky SHPO Specifications). Upon completion of the survey, a report shall be prepared in accordance with the Kentucky SHPO Specifications and shall be submitted by the FHWA, with KYTC as its agent, to the Kentucky SHPO and interested Federally Recognized Tribes for review and comment.	KYTC	Design, Construction	III	4.5.3
17.	Archaeological Resources	If any sites are determined to be eligible for the NRHP through Phase II testing, and these sites cannot be avoided or will be impacted by the project, then FHWA will consult with the Kentucky SHPO and other parties whom the FHWA deems appropriate and develop a research design and recovery plan (Plan) in conformance with the Kentucky SHPO's <i>Specifications for Archaeological Field Work and Assessment Reports</i> . The Plan will be submitted to the Kentucky SHPO for review and comment. Unless the Kentucky SHPO comments or objects within thirty (30) days of receiving the Plan, the FHWA shall ensure that the Plan is implemented.	KYTC	Design, Construction	III	4.5.3
18.	Archaeological Resources	A plan note to avoid the 1920s Cincinnati subway tunnels (below-ground) and the Western Hills Viaduct subway tunnel portals (above-ground) will be included in the construction plans for the project.	ODOT	Design	I	4.5.3



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
19.	Archaeological Resources	Soil and geotechnical borings conducted during the design phase in the Ohio portion of the Ohio River bottom area will be monitored and/or reviewed by an archaeologist or geoarchaeologist for evidence of buried archaeological deposits and/or undisturbed original landforms. If either are determined to be present, an archaeological testing strategy will be designed and implemented for the horizontal and vertical footprint of the bridge supports and construction work limits.	ODOT	Design	III	4.5.3
20.	Section 106 Consulting Parties <i>Public Inv. and Agency Coord.</i>	Once the structures to be demolished in the Lewisburg Historic District are acquired and a demolition contractor has been selected, KYTC will notify the Kenton County Historical Society and the City of Covington Historic Preservation Office of the name and contact information of the contractor to allow the interested parties to discuss the possibility of material recovery and salvage directly with the demolition contractor.	KYTC	Construction	III	4.5.4, 5.6
21.	Section 106 Consulting Parties <i>Public Inv. and Agency Coord.</i>	The Ohio State Historic Preservation Officer (SHPO) and Ohio Section 106 consulting parties will be given an opportunity to review and comment on final design plans.	ODOT	Design	I, II, and III	4.5.4, 5.6
22.	Noise <i>Socioeconomic Groups</i>	The existing berm between West Maple Avenue and I-71/I-75 shall be marked "not to be disturbed" during construction.	KYTC	Construction	III	4.1.8, 4.8.1
23.	Noise <i>Env. Justice Socio. Groups Disadvantaged Communities Children Section 4(f) Prop. Public Inv. and Agency Coord.</i>	In accordance with the KYTC <i>Noise Analysis and Abatement Policy</i> , a noise abatement public meeting and surveys will be conducted with benefited receptors at the following locations where noise and noise/visual screening barriers are proposed in Kentucky: a. Northbound (NB) I-71/I-75 from Beechwood Road to Dixie Highway. b. NB I-71/I-75 from Dixie Highway to Kyles Lane.	KYTC KYTC	Design Design	III III	4.1.10, 4.8.1, 5.6, Fig. 8 & 22 4.1.10, 4.8.1, 4.13.1, 5.6, Fig. 8 & 22



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
23. (cont.)	Noise <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Children</i> <i>Section 4(f) Properties</i> <i>Public Inv. and Agency Coord.</i>	c. NB I-71/I-75 from Kyles Lane to the Ivy Knoll Senior Living Community.	KYTC	Design	III	4.1.7, 4.1.8, 4.1.9, 4.8.1, 5.6, Fig. 8 & 22
		d. NB I-71/I-75 from south of Edgecliff Road to Pike Street.	KYTC	Design	III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.1, 5.6, Fig. 8 & 22
		e. NB I-71/I-75 from Pike Street to West 4 th Street.	KYTC	Design	III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.1, 4.13.3, 5.6, Fig. 8 & 22
		f. Southbound (SB) I-71/I-75 from West 3 rd Street to south of Hermes Avenue.	KYTC	Design	III	4.1.8, 4.1.10, 4.8.1, 4.13.4, 5.6, Fig. 8 & 22
		g. SB I-71/I-75 from north of St. Joseph Lane to Kyles Lane.	KYTC	Design	III	4.1.7, 4.1.8, 4.1.10, 4.8.1, 4.13.2, 5.6, Fig. 8 & 22
		h. SB I-71/I-75 north of Dixie Highway.	KYTC	Design	III	4.1.8, 4.8.1, 5.6, Fig. 8 & 22
		i. SB I-71/I-75 from Dixie Highway to south of West Maple Avenue.	KYTC	Design	III	4.1.8, 4.8.1, 5.6, Fig. 8 & 22
24.	Noise <i>Env. Justice</i> <i>Socio. Groups</i> <i>Disadvantaged Communities</i> <i>Cultural Resources</i> <i>Visual Resources</i> <i>Section 4(f) Prop.</i> <i>Section 6(f) Prop.</i> <i>Public Inv. and Agency Coord.</i>	KYTC will coordinate with the City of Covington to evaluate the use of transparent noise barriers in some locations to preserve views of Goebel Park from the highway and to preserve views of the skyline and across I-71/I-75 from surrounding neighborhoods.	KYTC	Design	III	4.1.7, 4.1.8, 4.1.9, 4.5.2, 4.8.1, 4.9, 4.13.3, 4.13.4, 4.14.3, 5.1.2, 5.6



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
25.	Noise <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Children</i> <i>Section 4(f) Prop.</i> <i>Public Inv. and Agency Coord.</i>	In accordance with the ODOT <i>Analysis and Abatement of Highway Traffic Noise Policy Statement</i> , ODOT will conduct noise abatement public involvement with benefited receptors where noise abatement has been determined to be feasible and reasonable: a. Northbound (NB) I-75 in front of the Queensgate Playground and Ball Field. b. NB I-75 from West Court Street to Ezzard Charles Drive. c. NB I-75 from Ezzard Charles Drive to Liberty Street. d. NB I-75 from Liberty Street to Findlay Street. e. NB I-75 from York Street to Bank Street.	ODOT ODOT ODOT ODOT ODOT	Design Design Design Design Design	II II II II I	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.2, 4.13.7, 5.6, Fig. 8 & 22 4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.2, 5.6, Fig. 8 & 22 4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.2, 5.6, Fig. 8 & 22 4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.2, 5.6, Fig. 8 & 22 4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.2, 5.6, Fig. 8 & 22 4.1.7, 4.1.8, 4.1.9, 4.8.2, 5.6, Fig. 8 & 22
26.	Noise <i>Env. Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Children</i>	ODOT will construct 57-inch barriers on the Liberty Street, Findlay Street, and Bank Street bridge parapets to reduce tire pavement noise.	ODOT	Construction	I and II	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.2



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
27.	Visual Resources <i>Neighborhood and Com. Cohesion</i> <i>Env. Justice</i> <i>Socio. Groups</i> <i>Cultural Resources</i> <i>Section 4(f) Prop.</i> <i>Section 6(f) Prop.</i> <i>Public Inv. and Agency Coord.</i>	KYTC will continue to coordinate with the Covington and Fort Wright/ Fort Mitchell Aesthetics Subcommittees to finalize aesthetic treatments in those cities.	KYTC	Design	III	4.1.2, 4.1.7, 4.1.8, 4.5.2, 4.9, 4.13.1, 4.13.2, 4.13.3, 4.13.4, 4.14.3, 5.6
28.	Visual Resources <i>Neighborhood and Com. Cohesion</i> <i>Env. Justice</i> <i>Socio. Groups</i> <i>Section 4(f) Prop.</i> <i>Public Inv. and Agency Coord.</i>	In coordination with the City of Cincinnati and the Ohio Aesthetics Subcommittee, ODOT has established an Aesthetic Design Checklist for Phases I and II of the project. Potential changes to aesthetic features will be coordinated and confirmed with the City of Cincinnati and the Ohio Aesthetics Subcommittee at the completion of each design stage review in accordance with ODOT's <i>Aesthetic Design Guidelines</i> .	ODOT	Design	I and II	4.1.2, 4.1.7, 4.1.8, 4.9, 4.13.6, 4.13.7, 4.13.8, 5.6
29.	Visual Resources <i>Neighborhood and Com. Cohesion</i> <i>Env. Justice</i> <i>Socio. Groups</i> <i>Public Inv. and Agency Coord.</i>	KYTC and ODOT will continue to engage the project Aesthetics Committee as described in the <i>Brent Spence Bridge Project Aesthetic Committee Charter</i> for final confirmation of the aesthetic treatments included in Phase III of the project.	KYTC, ODOT	Design	III	4.1.2, 4.1.7, 4.1.8, 4.9, 5.6



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
30.	Visual Resources <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Public Inv. and Agency Coord.</i>	The approved bridge types for the new companion bridge include an arch bridge and a cable-stayed bridge. The approved top elevation is no less than 300 feet and no more than 420 feet above the normal pool elevation of the Ohio River. KYTC and ODOT will determine the final bridge type for the new companion bridge based on a technical evaluation performed by the design-build team. Once the bridge type is determined, the project Aesthetics Committee will be engaged to provide initial feedback on the aesthetic elements of the new companion bridge and the existing Brent Spence Bridge.	KYTC, ODOT	Design	III	4.1.7, 4.1.8, 4.9, 5.6
31.	Indirect and Cumulative <i>Environmental Justice</i>	In recognition of the history of city-sponsored urban renewal and the original Mill Creek Expressway (I-75) construction and as an enhancement in the West End neighborhood, ODOT will work with the City of Cincinnati, which includes the West End Community Council, to develop content for an interpretive display describing the West End community in relation to historic city urban renewal and the Millcreek Expressway construction and to identify a location in proximity to the I-75 corridor to install the display.	ODOT	Construction	II	4.1.7, 4.10.2
32.	Construction <i>Env. Justice</i> <i>Socio. Groups</i> <i>Disadvantaged Communities</i> <i>Children</i> <i>Eco. Resources</i> <i>Air Quality</i> <i>Noise</i> <i>Indirect & Cumulative</i> <i>Utilities & RRs</i> <i>Section 4(f) Prop.</i> <i>Section 6(f) Prop.</i> <i>Permits</i> <i>Public Inv. and Agency Coord.</i>	The following measures will be implemented to minimize and mitigate temporary construction impacts: a. During construction, vehicular, bicycle, and Americans with Disabilities Act-compliant pedestrian access to neighborhoods and community facilities will be maintained through provision of alternate routes of entry. Where sidewalks, walkways, or shoulders must be temporarily closed to facilitate construction, safe pedestrian passage will always be maintained on one side of the roadway, unless other temporary pedestrian accommodations are provided. Construction zone pedestrian access will be maintained in accordance with the <i>Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way as published in Federal Register Volume 88 page 53604 (88 FR 53604)</i> . A maintenance of traffic (MOT) plan will be developed and implemented to maintain traffic operation through the corridor and minimize disruption to the surrounding communities. The MOT plan will be coordinated with the Regional Incident Management Task Force.	KYTC, ODOT	Construction	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.11.7, 4.14.3



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
32. (cont.)	Construction <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Children</i> <i>Ecological Resources</i> <i>Air Quality</i> <i>Noise</i> <i>Indirect and Cumulative</i> <i>Utilities and Railroads</i> <i>Section 4(f) Properties</i> <i>Section 6(f) Properties</i> <i>Permits</i> <i>Public Inv. and Agency Coord</i>	<p>b. Improvements to the intersections of West 4th Street and Main Street and West 5th Street and Main Street will be evaluated to ensure satisfactory levels of service during project construction and operation.</p> <p>c. An MOT plan will be created to meet the access requirements of communities in the City of Covington and the City of Cincinnati to minimize impacts to local businesses during project construction to the extent practicable. The contractor will be directed to maintain access to businesses for vehicles, pedestrians, and bicyclists. If access cannot be maintained, the contractor will notify the business and provide alternative access. If alternative access cannot be provided, the contractor must conduct work when the business is not operational and must restore access during business hours. In addition, temporary business signs to identify entrances will be provided by the contractor.</p> <p>d. Impacts of the MOT plan on public transportation will be evaluated. The design-build team will develop measures to maintain existing services to provide safe, reasonable, and efficient access to goods and services unless other temporary accommodations are provided.</p> <p>e. During design development, in addition to evaluating parameters such as cost, schedule, access, traffic impacts, safety, risk, etc., KYTC and ODOT will also consider construction noise abatement in areas where noise sensitive receptors are present, including:</p> <p>i. Foundation type selection: Different foundation types have varying effects on the intensity and duration of construction noise (e.g., piling versus cast-in-place concrete shafts).</p> <p>ii. Installation methodology: The same feature of work can be achieved in a variety of ways and planned for in the design phase. This could involve using mechanical or chemical splitting as means of demolition versus the use of explosives or drilling and setting a retaining wall versus driving soldier piles.</p>	KYTC	Design	III	4.11.7
			KYTC, ODOT	Design	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.11.7
			KYTC, ODOT	Design	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.11.7
			KYTC, ODOT	Design	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14
			KYTC, ODOT	Design	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
32. (cont.)	Construction <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Children</i> <i>Ecological Resources</i> <i>Air Quality</i> <i>Noise</i> <i>Indirect and Cumulative</i> <i>Utilities and Railroads</i> <i>Section 4(f) Properties</i> <i>Section 6(f) Properties</i> <i>Permits</i> <i>Public Inv. and Agency Coord.</i>	<p>iii. Storage and staging areas: Identification or acquisition of locations/properties that provide separation from sensitive receptors. This could be by proximity or by the use of existing barriers.</p> <p>iv. Phasing of work: Consideration of how work is phased can have a prominent impact on the duration for which a noise sensitive receptor is exposed to construction noise from a particular feature of work. This concept is especially evident when dealing with a receptor like a school that is out of session during the summer. Phasing the project to allow/facilitate all high decibel work to be completed at once and during this window not only reduces, but eliminates, this impact.</p> <p>v. Permanent noise barriers: Consideration will be given to the feasibility of constructing permanent noise barriers that are needed for noise abatement of the project's final configuration earlier in the project to help mitigate temporary construction noise.</p> <p>vi. Incentives: There are provisions to establish schedule-based incentives. These incentives could be used to help minimize the duration of overall construction noise.</p> <p>vii. Temporary construction detours and haul routes will be evaluated in a way to limit the impact created by redirected traffic through community sensitive areas and near noise sensitive receptors to the extent practicable. In addition to official routes, alternate routes that may also be used will also be evaluated to minimize heavy truck traffic on residential streets.</p> <p>viii. The availability of night-time and weekend work will be evaluated in conjunction with permitted lane closure maps during the development of the MOT plan.</p>	<p>KYTC, ODOT</p> <p>KYTC, ODOT</p> <p>KYTC, ODOT</p> <p>KYTC, ODOT</p> <p>KYTC, ODOT</p> <p>KYTC, ODOT</p>	<p>Design</p> <p>Design</p> <p>Design</p> <p>Design</p> <p>Design</p> <p>Design</p>	<p>I, II, and III</p> <p>I, II, and III</p> <p>I, II, and III</p> <p>I, II, and III</p> <p>I, II, and III</p> <p>I, II, and III</p>	<p>4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14</p> <p>4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14</p> <p>4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14</p> <p>4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14</p> <p>4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14</p> <p>4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14</p> <p>4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14</p>



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
32. (cont.)	Construction <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Children</i> <i>Ecological Resources</i> <i>Air Quality</i> <i>Noise</i> <i>Indirect and Cumulative</i> <i>Utilities and Railroads</i> <i>Section 4(f) Properties</i> <i>Section 6(f) Properties</i> <i>Permits</i> <i>Public Inv. and Agency Coord.</i>	<p>f. The MOT plan and the project communications plan will include provisions for communicating with trucking companies and mapping services to notify them of detours and delay information related to the project.</p> <p>g. The MOT plan will evaluate available travel lanes on the mainline interstate during construction to reduce the potential that the project will induce traffic diversion similar to that experienced during recent closures and restrictions on the existing Brent Spence Bridge.</p> <p>h. A project incident management plan will be developed to minimize diversion resulting from incidents occurring within the project limits during construction to the extent practicable. The City of Cincinnati and the Northern Kentucky cities along the corridor, including Fort Mitchell, Fort Wright, Park Hills, and Covington, will be given the opportunity to participate actively in the development of the incident management plan.</p> <p>i. The Northern Kentucky cities along the corridor, including Fort Mitchell, Fort Wright, Park Hills, and Covington will be provided an opportunity to review and comment on the MOT plan as it is developed. KYTC will work directly with the appropriate point person for each city to ensure that all relevant agencies and first responders, including police, fire, and emergency services, have an opportunity to review and provide input into all aspects of MOT planning, MOT and incident management plan development, and construction period operations affecting their respective cities.</p> <p>j. ODOT will provide the City of Cincinnati an opportunity to review and comment on the project MOT plan and incident management plan as they are developed. ODOT will work directly with the City of Cincinnati Department of Transportation and Engineering (DOTE) to ensure that all relevant agencies within the City have an opportunity to review and provide input into all aspects of MOT planning, MOT and incident management plan development, and construction period operations affecting the City.</p>	<p>KYTC, ODOT</p> <p>KYTC, ODOT</p> <p>KYTC, ODOT</p> <p>KYTC</p> <p>ODOT</p>	<p>Design</p> <p>Design</p> <p>Design</p> <p>Design, Construction</p> <p>Design, Construction</p>	<p>I, II, and III</p> <p>I, II, and III</p> <p>I, II, and III</p> <p>III</p> <p>I, II, and III</p>	<p>4.11.7, 5.6</p> <p>4.1.7, 4.1.8, 4.1.9, 4.11.7</p> <p>4.1.7, 4.1.8, 4.1.9, 4.11.7, 4.14.3, 5.6</p> <p>4.1.7, 4.1.8, 4.1.9, 4.11.7, 5.6</p> <p>4.1.7, 4.1.8, 4.1.9, 4.11.7, 5.6</p>



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
32. (cont.)	Construction <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Children</i> <i>Ecological Resources</i> <i>Air Quality</i> <i>Noise</i> <i>Indirect and Cumulative</i> <i>Utilities and Railroads</i> <i>Section 4(f) Properties</i> <i>Section 6(f) Properties</i> <i>Permits</i> <i>Public Inv. and Agency Coord.</i>	<p>k. The construction documents, in concert with the MOT plan, will include appropriate provisions for the design-build team/contractor to install and utilize variable electronic message boards at key locations within the City of Covington (e.g., Pike and Russell, Eighth and Russell, Seventeenth and Scott) and the City of Cincinnati, as needed, during construction.</p> <p>l. KYTC will work to ensure that the construction documents require the contractor, working through KYTC's project manager and the Covington project director, to coordinate with the City's traffic control officers regarding the location and placement of variable electronic message boards.</p> <p>m. ODOT will work to ensure that the construction documents require the contractor, working through ODOT's project manager and the Cincinnati DOTE, to coordinate the location and placement of variable electronic message boards. The construction documents also may contain other means of informing and notifying the public of traffic changes, as appropriate.</p> <p>n. During construction, a project website will provide regular project updates regarding maintenance of traffic plans, current traffic patterns, upcoming changes, etc. The website will provide an email address and phone number for the public to contact the contractor's designated representative with questions, concerns, or complaints regarding ongoing or planned construction activities. Information about construction sequencing, project highlights, and construction schedules will also be shared with the public through social media, e-newsletters, local media, presentations to local groups, and virtual project updates. All complaints will be investigated by project personnel. KYTC and ODOT will develop reporting protocols to ensure that the contractor responds to the inquiries in a timely manner and keeps KYTC and ODOT informed of community questions and concerns.</p>	<p>KYTC, ODOT</p> <p>KYTC</p> <p>ODOT</p> <p>KYTC, ODOT</p>	<p>Design</p> <p>Design</p> <p>Design</p> <p>Construction</p>	<p>I, II, and III</p> <p>III</p> <p>I, II, and III</p> <p>I, II, and III</p>	<p>4.11.7</p> <p>4.11.7, 5.6</p> <p>4.11.7, 5.6</p> <p>4.1.7, 4.1.8, 4.1.9, 4.8.3, 4.11.7, 5.6</p>



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
32. (cont.)	Construction <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Children</i> <i>Ecological Resources</i> <i>Air Quality</i> <i>Noise</i> <i>Indirect and Cumulative</i> <i>Utilities and Railroads</i> <i>Section 4(f) Properties</i> <i>Section 6(f) Properties</i> <i>Permits</i> <i>Public Inv. and Agency Coord.</i>	<p>o. The project communications team, working through the KYTC project manager, will make best efforts to provide timely notice to the Covington project director prior to the public release of any information related to any portion of the project located in or likely to have a substantial effect on the City of Covington.</p> <p>p. The project plans shall contain requirements to ensure compliance with all applicable state noise standards and local noise ordinances. The contractor, working through the KYTC and ODOT project managers, shall be required to communicate and coordinate with the Covington project director regarding noise abatement measures within the City of Covington and the Cincinnati DOTE regarding noise abatement measures within the City of Cincinnati. Such measures may include limiting construction activities and crews and construction noise during specific times of day, days of the week, number of consecutive hours or days, and special events and limiting activities that create high levels of construction noise, such as pile driving and blasting, to certain times of day to the extent practicable.</p> <p>q. The project plans shall contain requirements that the contractor shall comply with all state and local requirements for maintaining air quality during construction.</p> <p>r. ODOT will work with the City of Cincinnati to conduct before/after surveys of other roadways impacted by increased traffic during construction. ODOT will restore those roadways to pre-construction conditions once the project is complete.</p> <p>s. BMPs from ODOT's <i>Construction and Material Specifications</i>, including <i>Supplemental Specification 832 Temporary Sediment and Erosion Control</i> will be used during and after construction to control erosion and sediment and protect water quality.</p>	<p>KYTC</p> <p>KYTC, ODOT</p> <p>KYTC, ODOT</p> <p>ODOT</p> <p>ODOT</p>	<p>Construction</p> <p>Construction</p> <p>Construction</p> <p>Construction, Post-Construction</p> <p>Construction, Post-Construction</p>	<p>III</p> <p>I, II, and III</p> <p>III</p> <p>I, II, and III</p> <p>I, II, and III</p>	<p>4.11.7, 5.6</p> <p>4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14</p> <p>4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.6.6, 4.11.7, 4.13, 4.14</p> <p>4.1.7, 4.1.8, 4.1.9, 4.11.7, 5.6</p> <p>4.2.1, 4.2.2, 4.2.4, 4.2.7, 4.10.2, 4.11.7, 4.12.1, 4.14.3, 4.15</p>



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
32. (cont.)	Construction <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Children</i> <i>Ecological Resources</i> <i>Air Quality</i> <i>Noise</i> <i>Indirect and Cumulative</i> <i>Utilities and Railroads</i> <i>Section 4(f) Properties</i> <i>Section 6(f) Properties</i> <i>Permits</i> <i>Public Inv. and Agency Coord.</i>	<p>t. Contractors shall comply with all applicable U.S. Environmental Protection Agency (USEPA) diesel emission requirements. Contractors will utilize construction equipment that meets USEPA Tier 4 diesel engine standards to the greatest extent practicable.</p> <p>u. All diesel-powered construction equipment will use ultra-low sulfur diesel fuel.</p> <p>v. Contractors will schedule and conduct activities and employ appropriate protection techniques to minimize impacts to air quality and prevent hazardous or objectionable air quality conditions, particularly for drilling, cutting, grinding, abrasive blasting, or similar activities to the extent practicable.</p> <p>w. The burning of any materials will not be permitted on the construction site.</p> <p>x. Contractors will develop and implement a dust control plan that includes proactive measures to prevent discharge of dust into the atmosphere. The plan will be approved by KYTC and ODOT and will define roles and responsibilities for implementation and monitoring for compliance. Expectations and timelines established in the dust control plan will be in accordance with KYTC's <i>Standard Specifications</i> and ODOT's <i>Construction and Material Specifications Item 616, Dust Control</i>.</p>	KYTC, ODOT	Construction	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.6.6, 4.11.7, 4.13, 4.14
			KYTC, ODOT	Construction	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.6.6, 4.11.7, 4.13, 4.14
			KYTC, ODOT	Construction	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.6.6, 4.11.7, 4.13, 4.14
			KYTC, ODOT	Construction	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.6.6, 4.11.7, 4.13, 4.14
			KYTC, ODOT	Design, Construction	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.2.4, 4.6.6, 4.11.7, 4.13, 4.14



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
32. (cont.)	Construction <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Children</i> <i>Ecological Resources</i> <i>Air Quality</i> <i>Noise</i> <i>Indirect and Cumulative</i> <i>Utilities and Railroads</i> <i>Section 4(f) Properties</i> <i>Section 6(f) Properties</i> <i>Permits</i> <i>Public Inv. and Agency Coord.</i>	<p>y. The following measures will be employed to protect sensitive receptors such as parks, hospitals, schools, day care facilities, building fresh air or ventilation intakes, older adult housing, and convalescent facilities from impacts of diesel exhaust fumes:</p> <p>i. Diesel-powered engines will be located away from building air conditioners and windows to the greatest extent practicable.</p> <p>ii. Exposure to diesel exhaust within 50 feet of sensitive receptors will be minimized in terms of concentration and time to the greatest extent practicable.</p> <p>iii. Idling time for diesel-powered equipment will be minimized to the greatest extent practicable.</p> <p>z. Digital signs such as arrow panels and variable electronic message boards will use solar power to the greatest extent practicable.</p>	KYTC, ODOT	Construction	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.6.6, 4.11.7, 4.13.3, 4.13.6, 4.13.7, 4.13.8, 4.14
			KYTC, ODOT	Construction	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.6.6, 4.11.7, 4.13.3, 4.13.6, 4.14.7, 4.13.8, 4.14
			KYTC, ODOT	Construction	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.6.6, 4.11.7, 4.13.3, 4.13.6, 4.13.7, 4.13.8, 4.14
			KYTC, ODOT	Construction	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.6.6, 4.11.7, 4.13.3, 4.13.6, 4.13.7, 4.13.8, 4.14



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
32. (cont.)	Construction <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Children</i> <i>Ecological Resources</i> <i>Air Quality</i> <i>Noise</i> <i>Indirect and Cumulative</i> <i>Utilities and Railroads</i> <i>Section 4(f) Properties</i> <i>Section 6(f) Properties</i> <i>Permits</i> <i>Public Inv. and Agency Coord.</i>	aa. Contractors will develop and implement an outdoor ambient air quality monitoring program during construction for the following sensitive areas: <ol style="list-style-type: none"> i. In the vicinity of Beechwood Elementary and High School in Fort Mitchell, Kentucky. ii. In the vicinity of Notre Dame Academy in Fort Wright and Park Hills, Kentucky. iii. East and west of I-71/I-75 between Edgecliff Road and West 5th Street in Covington, Kentucky. iv. East and west of I-75 between 9th Street and Findlay Street in Cincinnati, Ohio. <p>The program will be overseen by KYTC and ODOT. Contractors will develop and implement a plan to be approved by KYTC and ODOT that identifies locations, times, and durations of air quality monitoring and protocols to address any exceedances of the National Ambient Air Quality Standards (NAAQS) should they be observed, including procedures for determining whether any exceedances are caused by project-created emissions or other emission sources. Locations, times, and durations for air quality monitoring will be determined during final design; in consideration of land uses, non-project sources of emissions, and construction phasing; and in consultation with the city in which the monitoring will occur. The plan will define a program for background particulate monitoring to establish and routinely verify baseline levels prior to the commencement of active construction in the vicinity of any monitoring location. During active construction in the vicinity of any monitoring location, real-time particulate matter data will be collected at an interval to be established in the ambient air quality monitoring plan (for example, measures every 10 seconds and logged in 15-minute periods).</p>	KYTC, ODOT	Design, Construction	II and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.6.6, 4.11.7, 4.13.3, 4.13.7, 4.13.8, 4.14.3



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
32. (cont.)	Construction <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Children</i> <i>Ecological Resources</i> <i>Air Quality</i> <i>Noise</i> <i>Indirect and Cumulative</i> <i>Utilities and Railroads</i> <i>Section 4(f) Properties</i> <i>Section 6(f) Properties</i> <i>Permits</i> <i>Public Inv. and Agency Coord.</i>	<p>aa. (cont.)</p> <p>Particulate matter data will be time-weighted over 24 hours for comparison to the NAAQS. If the data show that air quality levels are approaching a concern level (to be established in the monitoring plan) that may result in an exceedance of the 24-hour NAAQS for PM2.5, the 1-hour NAAQS for nitrogen dioxide, or the 8-hour NAAQS for carbon monoxide, then project-related operational and/or mechanical deficiencies will be identified and corrected, as required, if they are determined to be contributing factors. If the data result in any air quality levels that exceed the above-stated NAAQS for PM2.5, nitrogen dioxide, or carbon monoxide that are caused by project-related emissions, then the applicable construction activities will be suspended until the deficiencies are identified and corrected.</p> <p>bb. The project staff will be educated on the noise sensitive receptors. This will include not only their location, but also the type (resident, school, business, etc.), hours of operation, and any prior concerns communicated.</p> <p>cc. Motorized construction equipment will be equipped with an appropriate, well-maintained muffler and will include silencers on both air intakes and air exhaust when reasonable. Contractors will have an established maintenance program for their equipment fleet and will ensure that necessary maintenance/repairs are performed before putting equipment into service. Equipment will also be pulled out of service to address deficiencies identified during operation. When noise sensitive receptors are present, specific attention will be given to the muffler systems on all combustion engines, as that is often a primary source of construction noise.</p>	<p>KYTC, ODOT</p> <p>KYTC, ODOT</p>	<p>Design, Construction</p> <p>Construction</p>	<p>I, II, and III</p> <p>I, II, and III</p>	<p>4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14</p> <p>4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14</p>



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
32. (cont.)	Construction <i>Env. Justice</i> <i>Socio. Groups</i> <i>Disadvantaged Communities</i> <i>Children</i> <i>Eco. Resources</i> <i>Air Quality</i> <i>Noise</i> <i>Indirect and Cumulative</i> <i>Utilities and RRs</i> <i>Section 4(f) Prop.</i> <i>Section 6(f) Prop.</i> <i>Permits</i> <i>Public Inv. and Agency Coord.</i>	dd. To the greatest extent practicable, construction equipment and vehicles carrying rock, concrete, or other materials will utilize designated routes that will cause the least disturbance to noise sensitive receptors.	KYTC, ODOT	Construction	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14
		ee. Where practicable, existing features will be utilized to minimize the impacts of construction noise on noise sensitive receptors. Such features will include bridges, berms, retaining walls, and buildings. Temporary features already necessary for performing the work, such as stockpiles and tool trailers, may also be strategically utilized to assist in this effort. Where necessary, temporary features, such as hay bales, will be constructed specifically to minimize construction noise where noise sensitive receptors are present.	KYTC, ODOT	Construction	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14
		ff. Where noise sensitive receptors are present, specific consideration will be given to the selection of equipment to be utilized. This may include the age of the equipment as newer equipment typically employs new technology with respect to emissions and noise, if shielding or engine enclosures are standard, size appropriateness, and power source (gas/diesel, electric/solar, pneumatic, hydraulic).	KYTC, ODOT	Construction	I, II, and III	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.8.3, 4.11.7, 4.13, 4.14
33.	Utilities <i>Construction</i> <i>Public Inv. and Agency Coord.</i>	Coordination with utilities will continue through the design and construction phases to minimize project-related impacts to their infrastructure.	KYTC, ODOT	Design, Construction	I, II, and III	4.11.2, 4.12.1, 5.6



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
34.	Utilities <i>Neighborhood and Com. Cohesion</i> <i>Env. Justice</i> <i>Socio. Groups</i> <i>Disadvantaged Communities</i> <i>Ecological Res.</i> <i>Greenhouse Gases and Climate Change</i> <i>Indirect & Cumulative</i> <i>Section 4(f) Prop.</i> <i>Section 6(f) Prop.</i> <i>Public Inv. and Agency Coord.</i>	KYTC, the City of Covington, and Kentucky Sanitation District 1 (SD1) will act cooperatively on water quality issues within the Ohio River and Willow Run watersheds. KYTC will participate with City and SD1 efforts to bring applicable agencies together to discuss, investigate, and evaluate mutually beneficial arrangements. KYTC will separate all interstate runoff from the Brent Spence Bridge corridor from the existing combined sewer system. In addition, KYTC will work with the City of Covington and SD1 to address surcharging in the Peaselburg neighborhood based on the local design criteria for a 25-year storm.	KYTC	Design, Construction	III	4.1.2, 4.1.7, 4.1.8, 4.1.9, 4.2.2, 4.7, 4.10.2, 4.12.1, 4.13.3, 4.14.3, 5.2, 5.6
35.	Utilities <i>Neighborhood and Com. Cohesion</i> <i>Env. Justice</i> <i>Socio Groups</i> <i>Disadvantaged Communities</i> <i>Ecological Res.</i> <i>Greenhouse Gases & Climate Change</i> <i>Public Inv. and Agency Coord.</i>	The project will separate highway drainage from the existing combined sewer system in Ohio, and ODOT will partner with the Metropolitan Sewer District of Greater Cincinnati to build infrastructure to drain directly to Mill Creek and/or the Ohio River. Vegetated options for stormwater best management practices (BMPs) will be utilized to the maximum extent practicable. Given the dense urban land use in the project area, the majority of the stormwater BMP treatment requirements will be addressed via off-site mitigation. ODOT will continue to coordinate off-site mitigation measures with the Ohio Environmental Protection Agency (OEPA) as each project phase progresses through detailed design.	ODOT	Design, Construction	I, II, and III	4.1.2, 4.1.7, 4.1.8, 4.1.9, 4.2.2, 4.2.7, 4.7, 4.12.1, 5.6



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
36.	Section 4(f) Properties <i>Community Facilities</i> <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Section 6(f) Properties</i> <i>Public Inv. and Agency Coord.</i>	The following mitigation measures for the Section 4(f) use of the Goebel Park Complex will be implemented:				
		a. Development of a new Goebel Park Complex Master Plan. Approximately \$100,000 of project funds will be utilized for the development of a new Goebel Park Complex Master Plan. The City of Covington will engage community members and key stakeholders in the new master planning process, which will assess existing conditions and community priorities for the Goebel Park Complex, establish a broad vision for how the complex can meet identified goals and needs, develop a list of recommended actions, and outline an implementation plan for a minimum 10 year planning period. The final Master Plan will document the future plans, uses, and locations of facilities in the Goebel Park Complex. The new Goebel Park Complex Master Plan process will begin within six months after NEPA approval and must be completed within one year of initiation of the planning process.	KYTC	Right-of-Way Acquisition, Post-Construction	III	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.3, 4.14.3, 5.2, 5.6
		b. The use of an estimated 2.84 acres of flood-prone park property from the southwest corner of the Goebel Park Complex (2.34 acres in Goebel Park and 0.50 acre in Kenney Shields Park) will be mitigated and replaced with an estimated 2.23 acres of currently state-owned property that is at a higher elevation, not prone to flooding, and adjacent to the northwest corner of the Goebel Park Complex.	KYTC	Right-of-Way Acquisition, Post-Construction	III	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.3, 4.14.6, 5.2, 5.6
		c. The taking of approximately 360 feet of walking trail will be mitigated by reconstructing the walking trail within the complex at a location to be determined in coordination with the City of Covington during the project's final design phase.	KYTC	Design, Construction	III	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.3, 4.14.3, 5.2, 5.6



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
36. (cont.)	Section 4(f) Properties <i>Com. Facilities</i> <i>Env. Justice</i> <i>Socio. Groups</i> <i>Disadvantaged Communities</i> <i>Section 6(f) Prop.</i> <i>Public Inv. and Agency Coord.</i>	d. The taking of the basketball courts and associated resources (in Kenney Shields Park) will be mitigated by allocating approximately \$94,500 of project funds for the replacement and enhancement of the basketball courts or for other outdoor recreation facilities within the park to be established during the new master planning process facilitated by the City of Covington.	KYTC	Design	III	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.3, 4.14.3, 5.2, 5.6
		e. Building a new outdoor pool and associated facilities within the Goebel Park Complex. This will be mitigated by funding approximately \$1,337,400 of project funds for the construction of a new outdoor pool and associated facilities or other comparable aquatic facility serving the same recreational purpose within the Goebel Park Complex to be established during the new master planning process facilitated by the City of Covington.	KYTC	Design	III	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.3, 4.14.3, 5.2, 5.6
		f. In the event that project phasing requires the basketball courts to be impacted prior to replacement facilities being constructed, up to \$75,000 of additional project funds will be allocated to construction of a temporary facility within a portion of the Goebel Park Complex not impacted by the project.	KYTC	Construction	III	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.3, 4.14.3, 5.2, 5.6
37.	Section 4(f) Properties <i>Community Facilities</i> <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Public Inv. and Agency Coord.</i>	The following measures will be implemented to minimize harm during construction activities affecting the Firefighters Memorial:				
		a. Access to the resource shall be maintained at all times, except for the time needed to temporarily occupy the property, which shall be less than the time needed for construction of the project.	ODOT	Construction	III	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.6, 5.2, 5.6
		b. Temporary construction fencing shall be installed along proposed construction limits prior to the start of construction activities to protect the resource and the public.	ODOT	Construction	III	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.6, 5.2, 5.6
		c. Appropriate signage shall be installed to alert users of the resource of construction activities, access restrictions or closures, and to direct users to secondary access points.	ODOT	Construction	III	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.6, 5.2, 5.6



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
37. (cont.)	Section 4(f) Properties <i>Com. Facilities</i> <i>Env. Justice</i> <i>Socio. Groups</i> <i>Disadvantaged Communities</i> <i>Public Inv. and Agency Coord.</i>	d. The contractor will be required to closely coordinate the construction schedule with ODOT and the City of Cincinnati prior to the start of construction activities affecting the resource. e. The area will be returned to the same use as exists today.	ODOT ODOT	Construction Post- Construction	III III	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.6, 5.2, 5.6 4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.6, 5.2, 5.6
38.	Section 4(f) Properties <i>Community Facilities</i> <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Public Inv. and Agency Coord.</i>	In accordance with 23 CFR part 774 (Section 4(f)), measures to mitigate <i>de minimis</i> Section 4(f) impacts to the Queensgate Playground and Ball Field will comply with the Memorandum of Agreement (ODOT Agreement Number 16588) , executed May 5, 2011: a. ODOT will acquire property from the City of Cincinnati Recreation Commission (CRC) in accordance with all applicable federal and state regulations. Compensation for land and property, excluding ball field lighting, will be via the normal ODOT property acquisition procedures. b. ODOT, upon receipt of an acceptable plan detailing how the CRC will utilize funds for recreational purposes, will pay \$198,050 to the CRC to be applied toward the submitted plan (including ball field lighting). c. Limited access right-of-way fencing along the park and highway boundary will be installed along the CRC property as part of ODOT's construction project. The fence will consist of 10-foot-high chain link fencing. Based on updated noise analyses, a 10-foot noise barrier is proposed along the park and highway boundary in lieu of the limited access right-of-way fencing. If the noise public involvement concludes that a noise barrier will not be built, then the limited access right-of-way fencing will be installed as noted above.	ODOT ODOT ODOT	Completed in 2014 Completed in 2012 Construction	II II II	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.7, 5.2, 5.6 4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.7, 5.2, 5.6 4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.7, 5.2, 5.6



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
39.	Section 4(f) Properties <i>Community Facilities</i> <i>Environmental Justice</i> <i>Socioeconomic Groups</i> <i>Disadvantaged Communities</i> <i>Public Inv. and Agency Coord.</i>	The following measures will be implemented to minimize harm during construction activities affecting Ezzard Charles Park (formerly Laurel Park):				
		a. Access to the resource shall be maintained at all times, except for the time needed to temporarily occupy the property, which shall be less than the time needed for construction of the project.	ODOT	Construction	II	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.8, 5.2, 5.6
		b. Temporary construction fencing shall be installed along proposed construction limits prior to the start of construction activities to protect the resource and the public.	ODOT	Construction	II	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.8, 5.2, 5.6
		c. Appropriate signage shall be installed to alert users of the resource of construction activities, access restrictions or closures, and to direct users to secondary access points.	ODOT	Construction	II	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.8, 5.2, 5.6
		d. Where pavement is removed, the roadway and roadbed material will be removed to clean subgrade, and areas no longer occupied by roadway pavement will be restored.	ODOT	Construction	II	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.8, 5.2, 5.6
		e. The area will be returned to the same use as exists today.	ODOT	Post-Construction	II	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.8, 5.2, 5.6
		f. The contractor will be required to closely coordinate the construction schedule with ODOT and the City of Cincinnati prior to the start of construction activities affecting the resource.	ODOT	Construction	II	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.8, 5.2, 5.6
		g. Trees within the existing tree lawn along Ezzard Charles Drive will not be removed. If tree removal becomes necessary during construction, the removal will be coordinated with and approved by the Cincinnati Park Board.	ODOT	Construction	II	4.1.3, 4.1.7, 4.1.8, 4.1.9, 4.13.8, 5.2, 5.6
40.	Section 4(f) Properties	During design and construction, KYTC and ODOT will notify the National Park Service of any access restrictions affecting the Lewis and Clark National Historic Trail prior to any project-related activities affecting the trail, which is the Ohio River. In addition, KYTC and ODOT will install appropriate signage to alert users of the trail of project-related activities or access restrictions in the Ohio River.	KYTC, ODOT	Design, Construction	III	4.13.11



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
41.	Section 6(f) Properties <i>Section 4(f) Properties</i> <i>Public Inv. and Agency Coord.</i>	During detailed design, KYTC will coordinate the project's right-of-way acquisition and construction schedules with the City of Covington's new master planning efforts for the Goebel Park Complex to determine when impacts will occur and when property will be available. The project plans will require the contractor to remove the interstate infrastructure and grade the replacement land in coordination with the City of Covington. KYTC will transfer the ownership of the replacement land to the City of Covington after construction of the West 5 th Street ramp is complete. Once the land transfer is complete, the City of Covington will continue all future maintenance responsibility for the Goebel Park Complex, including the replacement land. FHWA and KYTC will ensure the Kentucky Department for Local Government (DLG) will complete the Section 6(f) conversion in accordance with National Park Service (NPS) requirements within two years after KYTC acceptance of the completed work in the vicinity of the Goebel Park Complex.	FHWA, KYTC	Design, Construction, Right-of-Way Acquisition, Post-Construction	III	4.14.6, 5.6
42.	Permits <i>Ecological Resources</i>	Project-related activities affecting jurisdictional wetlands or streams or United States Army Corps of Engineers (USACE) Civil Works facilities will not commence until the applicable permits and/or permissions have been issued – Section 401 Water Quality Certification through the Ohio Environmental Protection Agency (OEPA) and the Kentucky Division of Water (KDOW), USACE Section 404 (and any applicable Section 10), United States Coast Guard (USCG) Section 9, and/or USACE Section 408 permission – for any project-related activities or construction subsections impacting these resources to ensure compliance with the Clean Water Act of 1972, the Rivers and Harbors Act of 1899, and 33 United States Code (USC) Section 408.	KYTC, ODOT	Design, Construction	III	4.2.1, 4.2.2, 4.15
43.	Permits <i>Ecological Resources</i>	All project-related activities planned to occur in waterways or that may affect United States Army Corps of Engineers (USACE) Civil Works facilities (i.e., geotechnical investigations, temporary dewatering, construction access, etc.) will be coordinated with KYTC and ODOT to determine permitting and/or permission requirements prior to conducting such activities.	KYTC, ODOT	Design, Construction	III	4.2.2, 4.15



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
44.	Permits	All applicable permit conditions will be included in the project's construction documents, and all permit conditions will be followed during construction.	KYTC, ODOT	Design, Construction	III	4.15
45.	Permits <i>Eco. Resources</i>	Jurisdictional wetland and stream mitigation will be provided in accordance with the approved Section 404 permit and Section 401 Water Quality Certification.	KYTC, ODOT	Construction	III	4.2.1, 4.2.2, 4.15
46.	Permits <i>Ecological Resources</i>	Floodplain/floodway permits will be obtained before construction activities impacting floodplains/floodways occur – floodplain permits from the City of Cincinnati and the City of Covington and a Conditional Letter of Map Revision (CLOMR)/Letter of Map Revision (LOMR) from the Federal Emergency Management Agency (FEMA) for regulated floodways.	KYTC, ODOT	Design, Post-Construction	III	4.2.5, 4.15
47.	Permits <i>Construction</i>	A National Pollutant Discharge Elimination System (NPDES) Permit will be obtained from the Ohio Environmental Protection Agency (OEPA) before construction activities begin.	ODOT	Construction	I, II, and III	4.11.7, 4.15
48.	Permits <i>Construction</i>	A Kentucky Pollutant Discharge Elimination System (KPDES) Permit will be obtained from the Kentucky Division of Water (KDOW) before construction activities begin.	KYTC	Construction	III	4.11.7, 4.15
49.	Public and Stakeholder Involvement	ODOT will build a wider bridge on Ezzard Charles Drive over I-75. The widened bridge will provide an additional 50 feet of green space on each side that could support potential future civic space or retail development by the City of Cincinnati. ODOT will fund the cost of the bridge design and will share the construction cost with the City. ODOT and the City will develop cost sharing and maintenance agreements prior to construction.	ODOT	Design, Construction	II	5.1.1
50.	Public and Stakeholder Involvement <i>Env. Justice</i> <i>Socio. Groups</i> <i>Disadvantaged Communities</i>	In accordance with current policies, ODOT will transfer approximately 10 acres of excess land opened up by refinements to the 3 rd Street, 4 th Street, 5 th Street, and 6 th Street ramps to the City of Cincinnati for potential redevelopment and/or public use.	ODOT	Post-Construction	III	4.1.7, 4.1.8, 4.1.9, 5.1.2



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
51.	Public and Stakeholder Involvement <i>Travel Patterns and Access</i>	The following refinements suggested during public involvement activities will be further evaluated during the innovation process for the Phase III progressive design-build contract: <ul style="list-style-type: none"> a. Eliminate the 3rd Street ramp to the northbound collector-distributor system in Cincinnati and redirect traffic to the proposed connection at the end of the Clay Wade Bailey Bridge; b. Reconfigure the lanes on the Clay Wade Bailey Bridge to add bicycle lanes; c. Reconfigure 6th Street in Cincinnati to accommodate two-way traffic; and d. Design concepts submitted by the Bridge Forward Coalition. 	ODOT, KYTC	Design	III	4.1.4, 5.1.2
52.	Local Agency Coordination	KYTC will implement the commitments and good faith cooperation measures outlined in the <i>Memorandum of Understanding between the City of Covington, Kentucky and the Kentucky Transportation Cabinet Regarding Brent Spence Bridge Project and NEPA Reevaluation Process</i> executed June 15, 2022 and the <i>Memorandum of Agreement Between the Kentucky Transportation Cabinet and the City of Covington, Kentucky</i> executed June 15, 2022.	KYTC	Design, Construction	III	5.2
53.	Local Agency Coordination <i>Public Inv. and Agency Coord.</i>	KYTC and ODOT will continue to coordinate with the Project Advisory Committee to provide project updates and gather feedback during the design and construction of the project. At a minimum, the Project Advisory Committee will be engaged at the following critical milestones: during the consideration of innovation concepts in the “proof-of-concept” phase of the Phase III progressive design-build contract, at the end of the “project development” phase of the Phase III progressive design-build contract, and prior to the construction of each project phase.	KYTC, ODOT	Design, Construction	I, II, and III	5.2, 5.6
54.	Ongoing Public & Stakeholder Involvement	The project <i>Public Engagement Plan</i> will be updated to guide public and stakeholder engagement (including environmental justice populations, identified socioeconomic populations and groups, and disadvantaged communities) during detailed design and construction.	KYTC, ODOT	Design, Construction	I, II, and III	5.6



No.	Resource Area ¹	Commitment	Responsibility	Timing of Implementation	Project Phase(s) ²	Section/ Figure Reference
<i>ES-Table II (cont.)</i>						
55.	Ongoing Public & Stakeholder Involvement	Information about design decisions, construction sequencing, project highlights, and construction schedules will be shared with the public through project website updates, social media, e-newsletters, local media, presentations to local groups, and virtual project updates. Information about ongoing project activities will be shared on a regular basis, and information about milestones (such as the start of a construction phase) will be shared as appropriate. Specific to the Phase III progressive design-build contract, the public will be informed of major decisions, as appropriate.	KYTC, ODOT	Design, Construction	I, II, and III	5.6
56.	Ongoing Public & Stakeholder Involvement	KYTC and ODOT will establish multiple methods for the public to make inquiries about the project during detailed design and construction (including via the project website, email, direct mailings, and phone) and will provide timely responses to inquiries that are received.	KYTC, ODOT	Design, Construction	I, II, and III	5.6

- 1. The primary resource area addressed by the environmental commitment is listed first in bold print. Additional resource areas with ancillary benefits associated with the commitment are indicated in italicized print.*
- 2. Phase I (ODOT PID 11461) is a design-bid-build contract for 0.8 miles of I-75 from Findlay Street to just south of Marshall Avenue at the northern end of the Brent Spence Bridge corridor in Ohio. Phase II (ODOT PID 113361) is a design-bid-build contract for 0.9 miles of I-75 from north of the Linn Street overpass to the northern limits of the bridge over Findlay Street in Ohio. Phase III (ODOT PID 116649 | KYTC Project Item No. 6-17) is a progressive design-build contract for 6 miles of I-71/I-75 from south of the Dixie Highway (US-25) interchange in Kentucky to Linn Street in Ohio). For the Phase III progressive design-build contract, the design phase may also be referred to as the preconstruction phase.*



1. INTRODUCTION

In accordance with the National Environmental Policy Act (NEPA), an [Environmental Assessment](#) (EA) was originally prepared for the Brent Spence Bridge (BSB) Corridor Project in the Commonwealth of Kentucky and the State of Ohio in March 2012. A [Finding of No Significant Impact](#) (FONSI) was approved by the Federal Highway Administration (FHWA) on August 9, 2012 (see Appendix B, NEPA Process). Reevaluations completed in 2015 and 2018 concluded that the 2012 FONSI remained valid.

More than three years have passed since the 2012 FONSI and subsequent reevaluations of its validity. Project refinements have also occurred in response to public comments and further study, though they remain within the project footprint and impacts evaluated in the 2012 EA/FONSI. This supplemental EA has been prepared consistent with Title 23 of the Code of Federal Regulations (CFR) §§ 771.129 and 771.130 and assesses updated regulatory requirements, changed site conditions, design refinements to the previously selected alternative, impact changes (mostly reductions), further environmental commitments (enhancements and mitigation), and additional NEPA reevaluation and coordination efforts that have occurred since the 2012 EA/FONSI. This supplemental EA is intended to provide an analysis of potential impacts of refined project activities that were not expressly included in the approved 2012 EA/FONSI.

1.1 Project Description

The BSB corridor consists of 7.8 total miles of I-71 and I-75 connecting southwest Ohio and northern Kentucky. This corridor is located within the Greater Cincinnati/Northern Kentucky region and is a major route for regional and local mobility. Regionally, the BSB carries both I-71 and I-75 traffic over the Ohio River and connects to I-74, I-275, and US-50. The BSB corridor also facilitates local travel by providing access to downtown Cincinnati in Hamilton County, Ohio and Covington in Kenton County, Kentucky. The corridor forms a critical freight route connecting Canada to Florida, carrying more than \$1 billion of freight every day and more than \$400 billion of freight every year. Traffic congestion continues to hamper freight movement throughout the BSB corridor as evidenced by its ranking at 15 on the American Transportation Research Institute's list of the nation's top truck bottlenecks for the year 2023.¹

The project's primary features are illustrated in Figure 1. The project will:

- Reconstruct I-71/I-75 and add one lane in each direction;
- Rebuild the overpass bridges and interchanges in the corridor and add a new exit at Ezzard Charles Drive in Ohio;
- Construct a collector-distributor (C-D) roadway system between West 12th Street/Martin Luther King (MLK) Jr. Boulevard in Kentucky and Ezzard Charles Drive in Ohio;
- Extend frontage roads connecting Pike Street to West 4th Street and West 5th Street in Kentucky;
- Add C-D lanes between Dixie Highway (US-25) and Kyles Lane (KY-1072) in Kentucky;

¹ <https://truckingresearch.org/wp-content/uploads/2023/02/ATRI-2023-Top-Truck-Bottlenecks-Executive-Summary.pdf>



- Rehabilitate and reconfigure the existing double-decker BSB to carry three lanes of traffic on each deck as part of the C-D roadway system; and
- Build a new double-decker companion bridge west of the existing BSB to carry five lanes of through (interstate) traffic on each deck.

The project will also add sidewalks and shared-use paths on local streets that are parallel to or cross the interstate and incorporate aesthetic treatments throughout the corridor.

The proposed improvements listed above address the project purpose and need. The project will be designed to reduce congestion and improve traffic operations; reduce crashes related to traffic congestion and design deficiencies and improve safety for pedestrians and bicyclists; be designed in accordance with the most current Kentucky Transportation Cabinet (KYTC) and Ohio Department of Transportation (ODOT) standards; and maintain connections to key regional and national transportation corridors.

The project will be delivered in three, nonsequential construction phases, as summarized in the following sections and shown in Figure 2. Detailed maps showing the proposed improvements for the BSB corridor are included in Figure 8, which is located in Section 4 (Environmental Resources, Impacts, and Mitigation).

1.1.1 Phase I (ODOT PID 114161)

Phase I of the BSB Corridor Project includes the following:

- Reconstructing and widening approximately 0.8 miles of I-75 from Findlay Street to just south of Marshall Avenue at the northern end of the BSB corridor;
- Reconstructing the southbound I-75 exit to Western Avenue and the northbound I-75 entrance from Bank Street;
- Replacing the Bank Street and Harrison Avenue bridges over I-75;
- Constructing a new interchange on I-75 to connect to the new Western Hills Viaduct, a separate project with independent utility and completed NEPA review that is being developed by the City of Cincinnati; and
- Building pedestrian and bicycle facilities under I-75 on Bank Street and Harrison Avenue.

Phase I is following a design-bid-build procurement process. The estimated contract cost is \$173.3 million¹ with construction anticipated to begin in 2029 and be completed in 2032.

¹ Contract costs are for the year of expenditure.

A Collector-Distributor (C-D) Roadway System is a network of roads alongside a highway that streamlines traffic flow as it enters and exits the highway. The purpose is to reduce the number of exit and entrance points on the highway while providing access to and from local roads.

As the name implies, the system “collects” traffic exiting from a highway and “distributes” it to local roadways. Similarly, it “collects” traffic from local roadways and “distributes” it onto the highway.

Collector-distributor roads can be one or more lanes. They can be built as separate roadways next to the highway, or they can be extra lanes separated from the main highway with a barrier.



Figure 1: BSB Corridor Project Overview

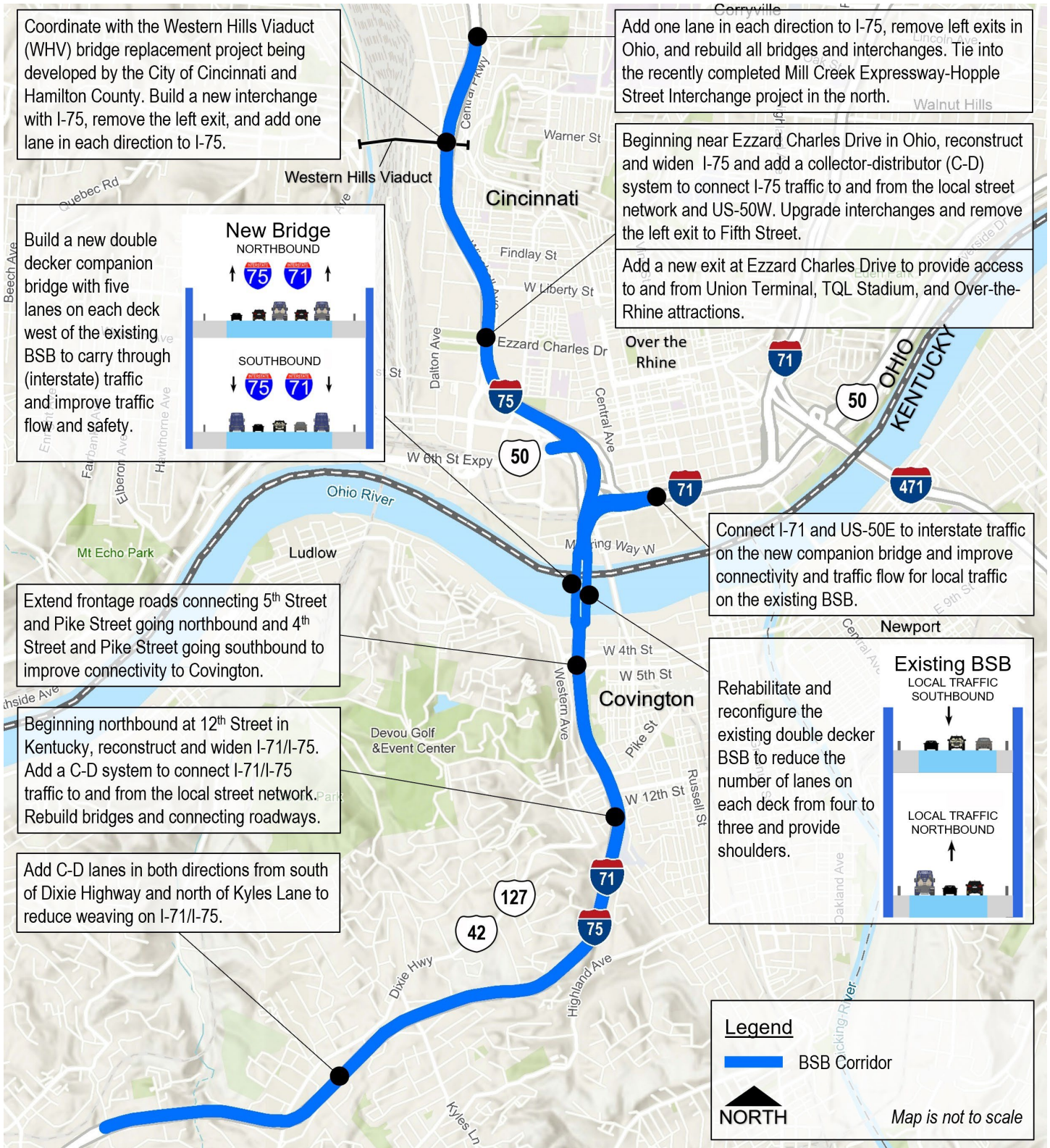
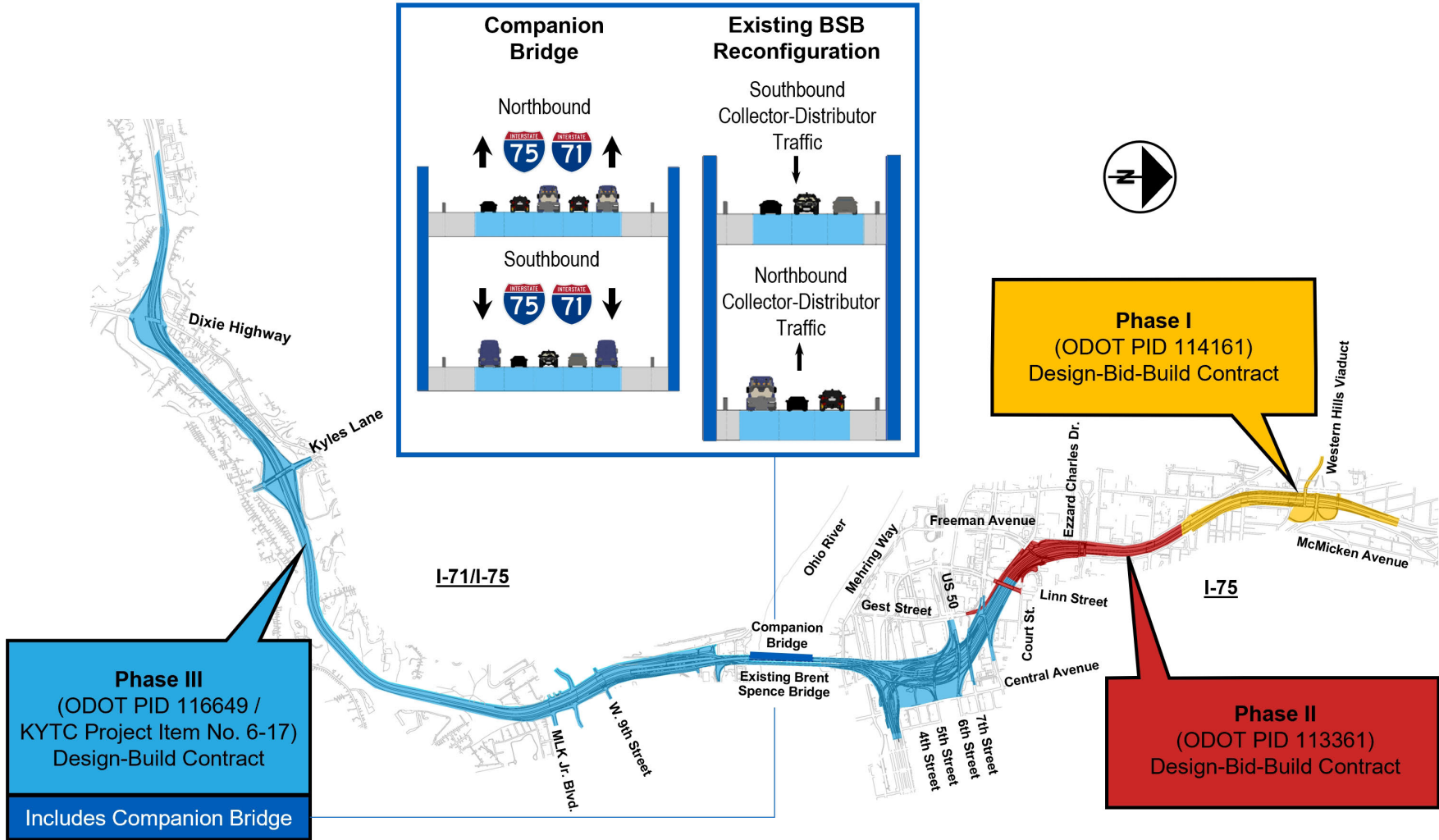


Figure 2: BSB Corridor Project Phases



1.1.2 Phase II (ODOT PID 113361)

Phase II of the BSB Corridor Project includes the following:

- Reconstructing and widening approximately 0.9 miles of I-75 from north of the Linn Street overpass to the northern limits of the bridge over Findlay Street;
- Constructing new I-75 ramps to and from Freeman Avenue and Western Avenue;
- Replacing the Linn Street and Ezzard Charles Drive bridges over I-75;
- Reconstructing approximately 0.3 miles of Western Avenue between Gest Street and the I-75 southbound entrance ramp;
- Reconstructing approximately 0.4 miles of Gest Street between Freeman Avenue and US-50;
- Removing the roadway connections from Gest Street to Linn Street;
- Building a cul-de-sac on West Court Street; and
- Building pedestrian and bicycle facilities along Winchell Avenue and Gest Street and across I-75 on Linn Street, Freeman Avenue, Ezzard Charles Drive, Liberty Street, and Findlay Street, including a new pedestrian bridge connecting Freeman Avenue to Winchell Avenue.

Phase II is following a design-bid-build procurement process. The estimated contract cost is \$301.7 million¹ with construction anticipated to begin in 2026 and be completed in 2031.

1.1.3 Phase III (ODOT PID 116649 / KYTC Project Item No. 6-17)

Phase III of the BSB Corridor Project includes the following:

- Reconstructing and widening approximately 6 miles of I-71/I-75 and reconfiguring interchanges from south of the Dixie Highway (US-25) interchange in Kentucky to Linn Street in Ohio (approximately 5 miles in Kentucky and 1 mile in Ohio);
- Building a new northbound I-75 exit at Ezzard Charles Drive in Ohio;
- Adding a 3rd Street entrance to northbound I-75 in Ohio;
- Adding an entrance to northbound I-75 and an exit from the southbound C-D roadway system at 3rd Street in Ohio, across from the Clay Wade Bailey Bridge;
- Removing the southbound I-75 exit to 5th Street and the 4th Street entrance to northbound I-75 in Ohio;
- Adding 3rd Street and 6th Street entrances to the northbound C-D roadway system in Ohio;
- Rehabilitating and reconfiguring the existing double-decker BSB to reduce the number of lanes on each deck from four to three and provide inside and outside shoulders;

¹ Project costs are for the year of expenditure.



-
- Constructing a double-decker companion bridge with five lanes on each deck west of the existing BSB;
 - Extending the northbound frontage road connecting Pike Street and West 5th Street in Kentucky;
 - Extending the southbound frontage road connecting West 4th Street and Pike Street in Kentucky;
 - Constructing a C-D roadway system to connect I-71/I-75 traffic to and from the local street network between West 12th Street/MLK Jr. Boulevard in Kentucky and Ezzard Charles Drive in Ohio; and
 - Constructing a C-D roadway system between Dixie Highway (US-25) and Kyles Lane (KY-1072) in Kentucky to reduce weaving movements on I-75.

Phase III is following a progressive design-build procurement process. The estimated total project cost is \$3.1 billion.¹ The progressive design-build procurement process will be completed according to a phased approach. The construction phase will begin in 2025, although some limited construction activities may begin in 2024. Construction is anticipated to be substantially complete in 2030.

1.2 Project History

On October 14, 2004, KYTC and ODOT recognized the need to improve the BSB corridor and formally entered into an agreement to jointly develop and deliver a project to replace the existing BSB. That agreement has been updated and modified five times from 2004 to the present, including a supplement dated December 12, 2012 that established a Bi-State Management Team to focus on procurement, financing, and project communications.

KYTC and ODOT developed a range of alternatives for improving the BSB corridor. Through a series of preliminary engineering and planning studies coupled with public outreach and stakeholder involvement, KYTC and ODOT narrowed the range of alternatives to two feasible build alternatives, which were evaluated in the 2012 [EA](#). In August 2012, FHWA issued a [FONSI](#) identifying Alternative I as the selected alternative for the BSB Corridor Project (see Appendix B, NEPA Process).

Since the approval of the FONSI and the establishment of the Bi-State Management Team, additional studies were conducted by KYTC and ODOT to better understand financial and procurement options and any potential environmental implications.

1.2.1 Funding

Detailed cost estimates were developed for the 2012 EA/FONSI and were an important consideration in the identification of the selected alternative. In accordance with standard practice for preliminary project development, specific funding mechanisms were not identified in the 2012 EA/FONSI. Once the 2012 EA/FONSI was finalized, KYTC and ODOT began the next steps to identify specific funding mechanisms for the project. During this process, they looked at ways to reduce design and procurement costs with alternative delivery, financing, and funding methods such as design-build, public-private partnerships, and tolling.

¹ Project costs are for the year of expenditure.



Legislation in place at the time allowed both states to consider tolling, and regional businesses and industries strongly supported moving the project forward using alternative methods.

During these studies, local interests concentrated primarily in northern Kentucky expressed concern about the impacts of tolling and associated traffic diversion. In response to these concerns, the Kentucky General Assembly passed legislation in April 2015 that prohibited the authorization of tolls for any project involving the interstate highway system that connects the Commonwealth of Kentucky with the State of Ohio. With the legislative change, several studies and reviews relative to the impacts of tolling were stopped.

In 2021, ODOT secured the funding to complete detailed design and prepare contract plans for Phases I and II of the project. ODOT also secured the funding to construct Phase II beginning in 2026. In November 2021, the United States Congress passed the Infrastructure Investment and Jobs Act – also known as the “Bipartisan Infrastructure Law” – which created new programs to fund key infrastructure priorities and create more funding opportunities for local governments. In December 2022, KYTC and ODOT received federal funding grants worth \$1.635 billion for the remaining elements of the project and have since developed detailed funding plans for their portions of the project costs.

1.2.2 Refinements to Selected Alternative I (from the 2012 EA/FONSI)

Since 2012, KYTC and ODOT have conducted a Value Engineering Workshop (October 2012), a Performance-Based Design Workshop (December 2019), and other studies and activities to identify and evaluate measures to improve the design and constructability of the project while reducing the costs and impacts. Further improvements and cost-saving measures were identified as Phases I and II of the project progressed through detailed design development. In addition, ODOT has continued to coordinate with the City of Cincinnati and Hamilton County to refine Selected Alternative I (from the 2012 EA/FONSI) to accommodate the final alignment of the Western Hills Viaduct, which is a separate project with independent utility and a separate, completed NEPA review. These combined efforts culminated in a set of refinements to Selected Alternative I (from the 2012 EA/FONSI) that have been designated Refined Alternative I (Concept I-W) and are the focus of this supplemental EA. A detailed discussion of the concepts that have been evaluated since 2012 is provided in Sections 3.2 and 3.3.

1.2.3 Related NEPA Reevaluations and Actions

FHWA has approved two prior reevaluations of Selected Alternative I (from the 2012 EA/FONSI) (see Appendix B, NEPA Process). In the first reevaluation, completed on February 11, 2015, FHWA determined that the potential to toll I-71/I-75 would require the preparation of a supplemental EA to evaluate the additional impacts associated with tolling. However, studies pertaining to tolling were stopped in 2015, and thus a supplemental EA was unnecessary. In the second reevaluation, completed on March 15, 2018, FHWA determined that the environmental resource studies were more than five years old and would require additional review to ensure the NEPA decision remained valid based on the possibility of new, changed, or additional regulatory requirements. FHWA also reiterated the 2015 recommendation for additional impact analyses and the preparation of a supplemental EA if tolling was incorporated into the project. Both reevaluations concluded



that until KYTC and ODOT committed to any potential changes in project scope and any required reevaluation was completed, the existing [FONSI](#) dated August 9, 2012 would remain valid.

In a letter to FHWA on July 22, 2021, KYTC and ODOT provided project updates and committed to preparing this supplemental EA. In addition, the states reiterated that tolling is not a feasible option for the project (see Appendix B, NEPA Process).

In December 2023, KYTC received a request from the design-build team to conduct soil borings for geotechnical investigations east of I-71/I-75 between Emery Drive and Edgecliff Road to provide information necessary to develop the design of Refined Alternative I (Concept I-W) to a higher level of detail. On January 5, 2024, KYTC approved the geotechnical borings as a Categorical Exclusion for Minor Projects in accordance with 23 CFR §§ 771.117(c)(24) and 771.117(e) and the *Programmatic Agreement between the FHWA, Kentucky Division and the KYTC Regarding the Processing of Actions Classified as Categorical Exclusions for Federal-Aid Highway Projects*. On January 9, 2024, FHWA determined that the geotechnical borings were in compliance with 23 CFR § 636.109(b)(2) and no additional action was required of FHWA. Documentation related to the geotechnical borings is included in Appendix B, NEPA Process.

1.2.4 Project Status

Since the completion of the 2012 EA/FONSI, the following key project activities have occurred:

- ODOT completed the required financial mitigation for impacts to the Queensgate Playground and Ball Field in 2012, and the City of Cincinnati reconfigured the ball fields to accommodate the project in 2014.
- ODOT completed right-of-way appraisals for Longworth Hall.
- KYTC and ODOT developed updated traffic projections for the corridor.
- ODOT began detailed design development for Phases I and II of the project.
- ODOT prepared right-of-way plans and acquired 70 of the 79 parcels required for the project and has removed buildings acquired to eliminate any nuisance potential.
- KYTC completed right-of-way plans and has begun acquisition in all areas except the Lewisburg Historic District.
- KYTC and ODOT have continued stakeholder coordination and public outreach through the project website, e-newsletters, social media, stakeholder meetings, the Project Advisory Committee, the Aesthetics Committee, and Aesthetics Subcommittees. These efforts were limited in scope between 2012 and 2021 but increased in frequency beginning in 2022.
- KYTC and ODOT held 12 small-scale and 4 broad-scale environmental justice/neighborhood outreach meetings in communities with known populations of minorities, low-income individuals, and other socioeconomic populations and groups to share updates on the project and to offer residents the opportunity to share feedback with the project team.
- KYTC and ODOT held two open-house style project update meetings in August 2023.



-
- KYTC and ODOT selected the design-build team for the Phase III of the project, and the progressive design-build process has begun.

In addition, the following maintenance and repair work affecting the existing BSB has occurred:

- A BSB maintenance project was performed in 2017, which included a deck overlay with joint repair, steel work, and lighting replacement.
- Emergency repairs to the BSB were completed on December 22, 2020 to repair damage caused by a truck crash and fire on the lower deck of the bridge on November 11, 2020. Though the bridge's structural integrity was not compromised, a 6,900-square-foot section of the upper-level concrete deck and underlying steel stringer beams were replaced. Damaged deck and barrier walls were also repaired on the lower level. Scheduled maintenance work was also performed during the closure, including repairing drains, cleaning overhead signs, and repaving the northbound I-71/I-75 approach.
- A BSB painting project was completed in November 2021.

2. PURPOSE AND NEED

The purpose and need for the project is unchanged from what was presented in the approved 2012 EA/FONSI:

- Improve traffic flow and level of service (LOS);
- Improve safety;
- Correct geometric deficiencies; and
- Maintain connections to key regional and national transportation corridors.

Additional details about the project's purpose and need are provided in the [Purpose and Need Statement \(May 2006\)](#), the [Conceptual Alternatives Study \(April 2009\)](#), and the 2012 EA/FONSI. See Section 3.9 for additional information and Refined Alternative I (Concept I-W) and the project purpose and need.

2.1 Logical Termini and Independent Utility

The project's logical termini and independent utility were established in the [Purpose and Need Statement](#). The logical termini and independent utility were carried forward into the 2012 EA/FONSI and are unchanged for this supplemental EA. The BSB Corridor Project stretches for about 7.8 miles between Kentucky and Ohio, beginning south of the Dixie Highway (US-25) interchange in Kentucky and ending just north of the Western Hills Viaduct interchange in Ohio.

KYTC completed improvements to the Buttermilk Pike interchange that terminated just south of Dixie Highway in 2014 and is currently developing a separate project to improve the I-75/I-275 interchange south of the BSB corridor. ODOT is currently constructing separate projects to improve I-75 from the Western Hills Viaduct north to I-275. I-71/I-75 between Dixie Highway and the Western Hills Viaduct is the remaining portion of I-71/I-75 within the I-275 beltway to be evaluated for improvements.



As such, this project connects logical termini and is of sufficient length to address the project needs on a broad scope. In addition, the project area was large enough that it did not restrict the consideration of a full range of reasonably foreseeable transportation improvement alternatives during the development of the 2012 EA/FONSI. The size of the project area allowed for the development of a complete project that does not require other transportation improvements for the project to be useful to the public. Finally, the logical termini do not preclude a reasonable range of alternatives for other projects in the area or region.

3. ALTERNATIVES

Shortly following the approval of the 2012 EA/FONSI, KYTC and ODOT began efforts to identify methods to deliver the project as efficiently as possible. These efforts resulted in several refinements to Selected Alternative I (from the 2012 EA/FONSI). The refinements incorporated into the project, designated collectively as Refined Alternative I (Concept I-W), reduce the project footprint, improve the project's functionality, create no substantial new or increased impacts, and do not substantially change the following key design components included in the 2012 EA/FONSI:

- The mainline layout from Dixie Highway (US-25) (Kentucky) to Linn Street (Ohio);
- The number of interstate and C-D lanes;
- The C-D roadway concept between West 12th Street/ MLK Jr. Boulevard (Kentucky) and Ezzard Charles Drive (Ohio); and
- The C-D roadway system between Dixie Highway (US-25) and Kyles Lane (KY-1072) in Kentucky.

A summary of the project refinements is provided in Table 1 and Appendix A. A detailed description of the refinements within Refined Alternative I (Concept I-W), including how they were developed and evaluated, is provided in the following sections. The project team considered additional refinements based on public comments that were received during the project development process. Additional information regarding these proposed refinements is provided in Section 5 of this supplemental EA and the [Public Involvement Summary \(January 2024\)](#).

3.1 No-Build Alternative

The No-Build Alternative is unchanged from the 2012 EA/FONSI. It consists of minor, short-term safety and maintenance improvements to the BSB and the BSB corridor to maintain continuing operations within the existing right-of-way. This includes the scheduled maintenance work that was completed in conjunction with the emergency bridge repair in 2020. As documented in the 2012 EA/FONSI, the No-Build Alternative does not meet the project purpose and need because it would not improve traffic flow or safety, would not correct existing geometric deficiencies, and would result in serious impacts to the traveling public and the region's economy.



Table 1: BSB Corridor Project Refinements

Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Additional Notes
Refinements to the Project Layout		
<p>Traffic traveled in opposite directions on upper and lower decks of new companion bridge requiring center bridge supports. Interstate and local traffic mixed on the new companion bridge and the existing BSB.</p>	<p>Traffic travels in only one direction on each deck of the new companion bridge. Interstate traffic travels on the new companion bridge, and local traffic travels on the existing BSB as part of the C-D roadway system.</p>	<ul style="list-style-type: none"> • Reduced bridge width from 172 feet to 107 feet, substantially reducing the project footprint and costs. • Retained the number and assignment of lanes crossing the Ohio River (I-71/I-75/C-D). • C-D road access points were unchanged. • Simplified configuration of through and local traffic.
<p>Downtown Cincinnati ramps matched existing locations.</p>	<p>Minor ramp reconfigurations:</p> <ul style="list-style-type: none"> • Widening the southbound 2nd Street exit ramp from one to two lanes (to provide adequate capacity).¹ • Moving the entrance ramp to NB I-75 from 4th Street to 3rd Street (access moved 1 block). • Refining the NB I-75 exit to 5th Street to create a new signalized intersection with the US-50 ramp (no substantial change in access). • Reducing the number of lanes on the eastbound approach to the 5th Street/Central Avenue intersection from four to three (to provide adequate capacity).¹ • Replacing the connection between 6th Street and Winchell Avenue with a connection to the NB C-D road (more direct access to NB I-75). • Widening the SB I-75 ramp to 7th Street from one to two lanes (to provide adequate capacity).¹ 	<ul style="list-style-type: none"> • Refinements made in response to City of Cincinnati requests and public comments. • Opens up approximately 10 acres of land for potential redevelopment and/or public use.



Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Additional Notes
<i>Table 1 (cont.)</i>		
I-75 interchange connected to the existing Western Hills Viaduct.	I-75 interchange connects to the proposed Western Hills Viaduct. All access points from the 2012 EA/FONSI are maintained.	The City of Cincinnati is developing a separate project with independent utility and completed NEPA review to replace the Western Hills Viaduct on a modified alignment. The project's design was refined to accommodate the new viaduct.
Two, one-way bridges on Ezzard Charles Drive over I-75.	One, two-way bridge on Ezzard Charles Drive over I-75 with an additional 50 feet of green space on each side to support potential future civic space or retail development by the City of Cincinnati.	Refinement made in response to City of Cincinnati requests to improve safety by reducing wrong-way crashes and to provide additional areas for potential future civic space or retail development.
Entrance ramp to NB I-75 provided at Freeman Avenue in the West End neighborhood (Ohio).	Entrance ramp to NB I-75 moved from Freeman Avenue to Ezzard Charles Drive (about 1,000 feet north) with a new auxiliary lane on NB I-75 between Ezzard Charles Drive and the Western Hills Viaduct (to provide adequate capacity). ²	<ul style="list-style-type: none"> • Refinement made in coordination with the City of Cincinnati and improve access to NB I-75 from the West End neighborhood. • Reduced costs and simplified maintenance of traffic and construction of the bridge carrying Freeman Avenue over I-75.
Five lanes on the NB frontage road and four lanes on the SB frontage road between West 12 th Street/MLK Jr. Boulevard and Pike Street (Kentucky).	Three lanes on the NB and SB frontage roads between West 12 th Street/MLK Jr. Boulevard and Pike Street (Kentucky).	<ul style="list-style-type: none"> • Refinement made to reduce project footprint while maintaining acceptable traffic operations.¹
NB frontage road terminated at West 9 th Street (Kentucky).	NB frontage road extended north to next major intersection (5 th Street) (Kentucky).	<ul style="list-style-type: none"> • Refinements improve north-south access and connectivity, were made in coordination with the City of Covington, and were vetted through neighborhood outreach.
New companion bridge type: simply supported arch bridge with inclined arch ribs or a two-tower cable-stayed bridge with vertical legs/towers.	Minor refinement to companion bridge type: arch bridge or a cable-stayed bridge.	<ul style="list-style-type: none"> • Incorporated more flexibility in the bridge types to allow the progressive design-build team to pursue innovative and cost-effective designs. • Refinement made in consultation with the project Aesthetics Committee.



Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)	Additional Notes
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Table 1 (cont.)

Typical Refinements Due to Continuing Progression through Detailed Design

Horizontal and vertical alignments and cross sections based on preliminary engineering and mapping.	Refinement and optimization of horizontal and vertical alignments and cross sections based on detailed engineering design.	<ul style="list-style-type: none"> • Reduced the project footprint in several locations.
Minimal consideration of retaining walls during preliminary engineering.	Detailed retaining wall evaluation during detailed engineering design and right-of-way plan development.	<ul style="list-style-type: none"> • Substantially reduced the project footprint, including up to 95 percent reduction in residential relocations.

Refinements Due to Updated KYTC/ODOT Generally Applicable Design Criteria

13.5-foot outside shoulders 12 foot inside shoulders	10-foot outside and inside shoulders	Reduced project footprint.
60 mph mainline design speed 50 mph C-D road design speed	55 mph mainline and C-D road design speed.	Reduced project footprint.

1. Preliminary design refinements were developed using planning-level traffic projections for the year 2050. The refinements were vetted, confirmed, and finalized using certified traffic for the years 2029 and 2049 (see Section 3.8).
2. Preliminary design refinements were developed using design-level certified traffic projections for the year 2048. The refinements were vetted, confirmed, and finalized using certified traffic for the years 2029 and 2049 (see Section 3.8).

3.2 Development of Refinement Concepts

In October 2012, KYTC, ODOT, and FHWA held a three-day Practical Design/Value Engineering Workshop with a multidisciplinary team of industry experts to identify ways to add value to and enhance the quality of the project. Benefits of practical design and value engineering can include right-sizing projects to meet the identified needs, lowering overall project costs, and reducing the time to complete the project, among others. The primary goals of the October 2012 Practical Design/Value Engineering Workshop were to:

- Provide a high-level evaluation by experts to generate ideas for delivering the project quickly, economically, and safely;
- Conduct a field visit and discuss opportunities and constraints for delivering the project; and
- Generate technical ideas for improvements to Selected Alternative I (from the 2012 EA/FONSI).

The workshop identified nearly 100 ideas for improvements to Selected Alternative I (from the 2012 EA/FONSI) that were grouped into high, medium, and low value designations based on the potential benefit to the project combined with the feasibility of implementation. These ideas are summarized in the [Draft Practical Design/Value Engineering Workshop Report \(October 2012\)](#), which recommended detailed analysis of the high value ideas and additional conceptual analysis of medium value ideas.

In February 2014, KYTC and ODOT evaluated potential savings associated with three of the high value ideas from the Practical Design/Value Engineering Workshop that focused on refining the design of the new companion bridge. The study findings were documented in the [Potential Cost Savings Estimate \(February 2014\)](#). However, the project was put on hold before KYTC and ODOT reached any final decisions about the value engineering concepts and ideas.

In March 2015, KYTC and ODOT prepared a [Cost Savings Study](#) that evaluated options for scaling back the project to primarily address the safety and design deficiencies of the existing BSB with minimal construction on I-71/I-75 to tie into the new/rehabilitated structures. However, these concepts were removed from further consideration because they did not address traffic operational issues throughout the corridor and created safety concerns due to lane drops on I-71/I-75.

The [Draft Practical Design/Value Engineering Workshop Report](#), [Potential Cost Savings Estimate](#), and [Cost Savings Study](#) considered refinements to Selected Alternative I (from the 2012 EA/FONSI) to accommodate tolling in the BSB corridor. However, due to legislation passed in Kentucky, tolling studies were stopped in 2015, and concepts related to tolling were not developed further.

In 2015, as part of the continuing value engineering process, KYTC and ODOT developed the Whiz Bang Concept to further evaluate another high value idea from the Practical Design/Value Engineering Workshop: separating through (interstate) traffic from local ramp connections. Two options were evaluated in detail:

- Whiz Bang Concept 2 utilized the existing BSB for local traffic (three lanes on each level) and a new double-decker companion bridge (five lanes on each level) to the west for through (interstate) traffic.



-
- Whiz Bang Concept 4 eliminated the existing BSB and placed all traffic on a new double-decker bridge to the west. The bridge would have eight lanes on each level, with interstate and local traffic separated on the structure in five and three lanes, respectively.

Both concepts were evaluated for traffic operations, local connectivity in Kentucky, and cost. The analysis determined the existing BSB has a long remaining life, and removing it to build a wider companion bridge would not be cost effective. Therefore, Whiz Bang Concept 4 was removed from further study in October 2019. Whiz Bang Concept 2 was progressed for further study and renamed to Concept W.

KYTC, ODOT, and FHWA held a Performance-Based Design Workshop in December 2019 that assembled a multidiscipline team of highway, bridge, traffic, and construction professionals to identify additional value engineering concepts that could further reduce the cost of Selected Alternative I (from the 2012 EA/FONSI). The workshop recommended the following concepts for further study:

- Concept S included a superstreet layout for the local street and ramp connections in Kentucky and Ohio using the through and local traffic assignments on the river bridges from Selected Alternative I (from the 2012 EA/FONSI).
- Concept W (developed in 2015 as Whiz Bang Concept 2) carried interstate-only traffic on the new companion bridge and local traffic on the existing BSB as part of the C-D roadway system.
- Concept M accommodated I-75 and C-D traffic on the new companion bridge. The existing BSB would carry I-71 and local traffic using existing ramps for West 4th Street and West 5th Street in Covington and 2nd Street and 3rd Street in Cincinnati.

These concepts were further evaluated based on traffic operations, design, and cost in the [Analysis of Design Concepts](#) (May 2020). Based on the results of the analysis, Concept S was removed from consideration due to operational constraints. Concept W and Concept M were both considered viable options for the BSB corridor and recommended for further study. After the completion of the [Analysis of Design Concepts](#) report, the concept names were updated to Concept I-W and Concept I-M to convey more clearly that the concepts are value engineering refinements to Selected Alternative I (from the 2012 EA/FONSI).

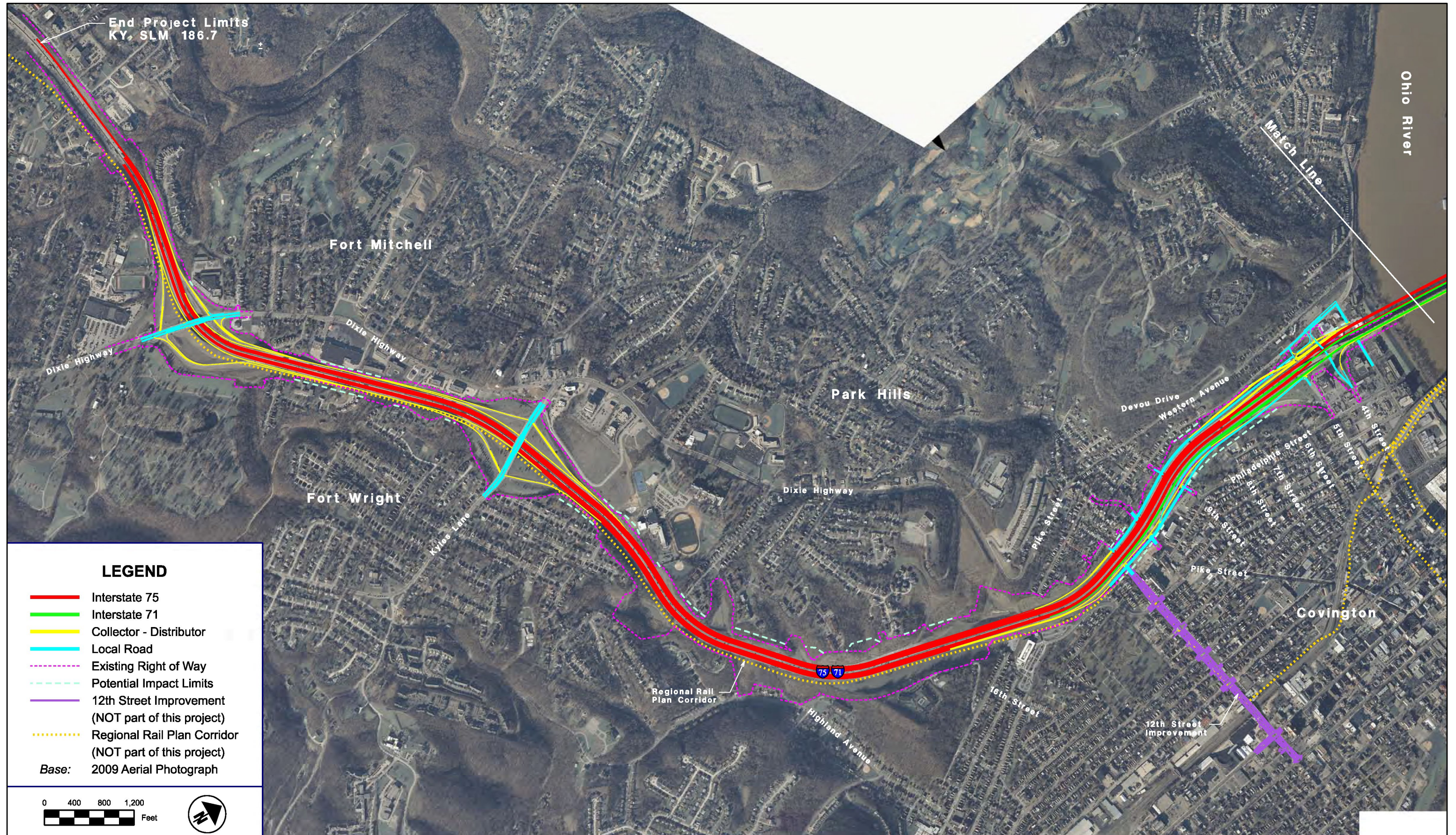
Selected Alternative I (from the 2012 EA/FONSI) and value engineering Concepts I-W and I-M were further evaluated as described in the following sections.

3.2.1 Selected Alternative I (from 2012 EA/FONSI)

Selected Alternative I is described in the 2012 EA/FONSI and shown in Figure 3. It utilizes the existing I-71/I-75 alignment from the southern project limits near Dixie Highway (US-25) north to Kyles Lane (KY-1072). The Dixie Highway and Kyles Lane interchanges are modified slightly to accommodate C-D roadways along both sides of I-71/I-75 between the two interchanges. North of Kyles Lane, the alignment shifts to the west to accommodate additional I-71/I-75 travel lanes. Between Kyles Lane and West 12th Street/MLK Jr. Boulevard in Kentucky, I-71/I-75 consists of six lanes in each direction. Near West 12th Street/MLK Jr. Boulevard in Kentucky, the alignment splits into separate routes for I-71, I-75, and the northbound C-D roadways carrying local traffic.

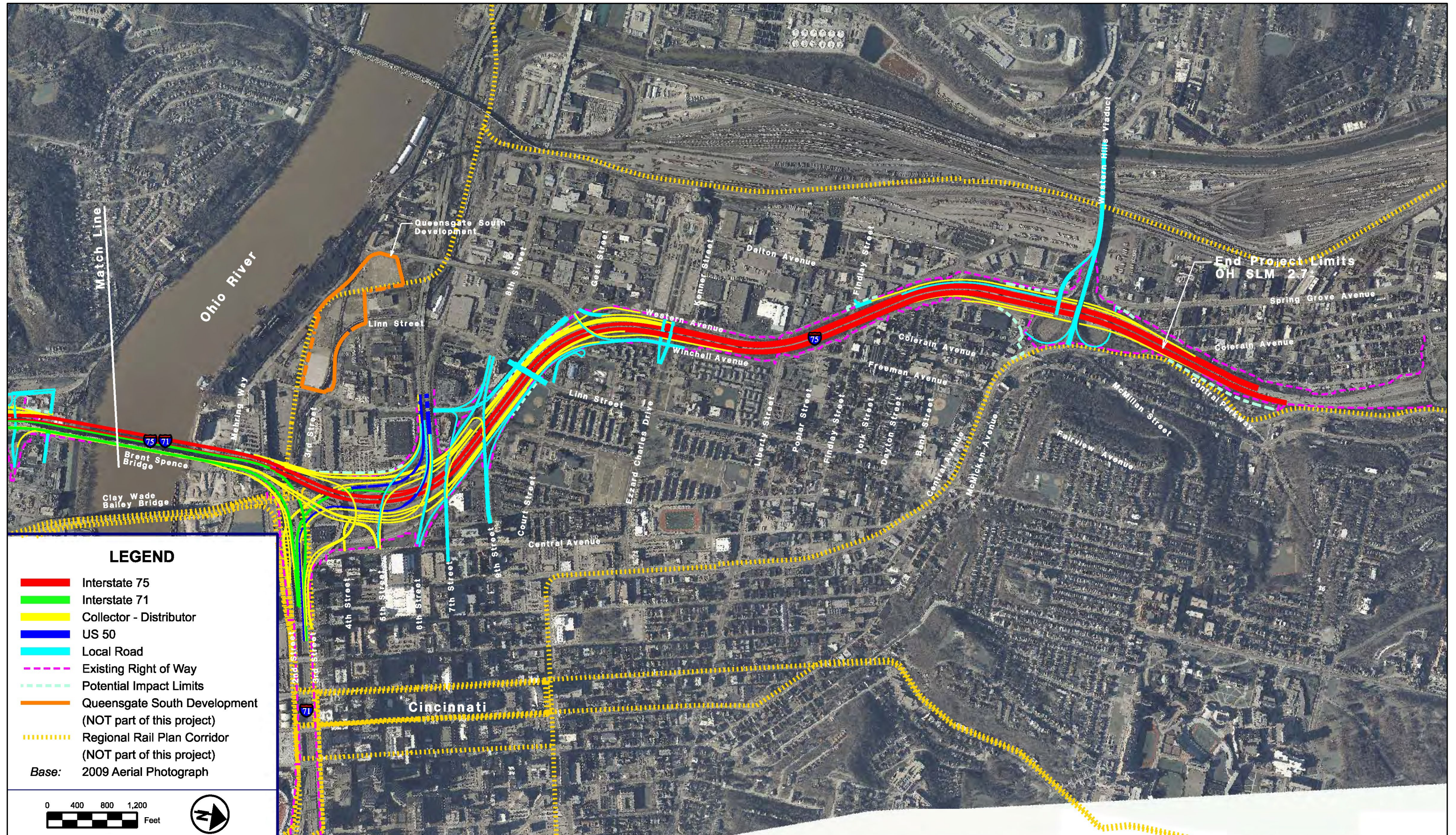


Figure 3: Selected Alternative I (from the 2012 EA/FONSI) - Sheet 1 of 2



Source: Brent Spence Bridge Replacement/Rehabilitation Project Environmental Assessment Exhibits 4A and 4B (March 2012)

Figure 3: Selected Alternative I (from the 2012 EA/FONSI) - Sheet 2 of 2



Source: Brent Spence Bridge Replacement/Rehabilitation Project Environmental Assessment Exhibits 4A and 4B (March 2012)

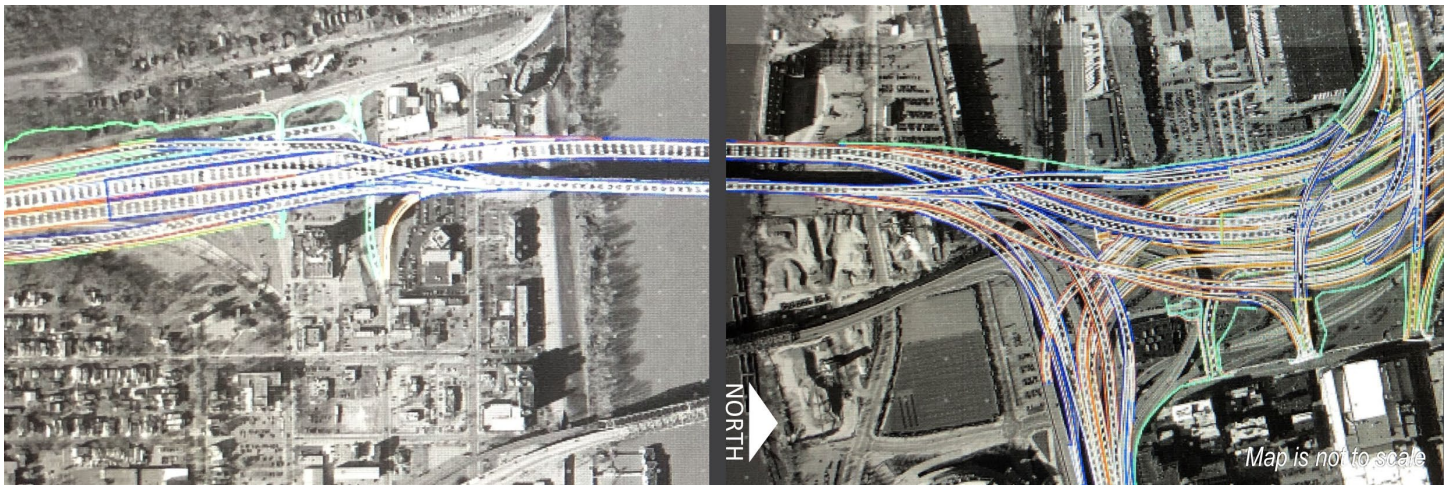
Selected Alternative I (from the 2012 EA/FONSI) includes a new 172-foot-wide double-decker companion bridge to the west of the existing BSB that carries northbound and southbound I-75 traffic with three lanes in each direction. Two additional lanes carry southbound I-71 traffic, and three more lanes carry southbound local traffic as part of the C-D roadway system. Selected Alternative I (from the 2012 EA/FONSI) rehabilitates the existing BSB to carry two lanes of northbound I-71 traffic and three lanes of northbound local traffic as part of the C-D roadway system.

Selected Alternative I (from the 2012 EA/FONSI) reconfigures I-75 through the I-71/I-75/US-50 Interchange and eliminates access to and from northbound I-75 between West 12th Street/MLK Jr. Boulevard in Kentucky and the US-50/6th Street overpass in Ohio. Selected Alternative I (from the 2012 EA/FONSI) also eliminates access to and from southbound I-75 between the Freeman Avenue exit in Ohio and the West 12th Street/MLK Jr. Boulevard exit in Kentucky.

3.2.2 Concept I-W

Concept I-W (see Figure 4) is a value engineering concept that largely matches Selected Alternative I (from the 2012 EA/FONSI) with the exception of how traffic crosses the Ohio River. Concept I-W includes a new 107-foot-wide double-decker companion bridge to the west of the existing BSB, with all I-71 and I-75 traffic on the new bridge and all C-D traffic on the existing BSB. The new companion bridge carries five lanes of combined southbound I-71 and I-75 traffic on the lower deck and five lanes of combined northbound I-71 and I-75 traffic on the upper deck. The rehabilitated existing BSB carries three lanes of northbound local traffic on the lower deck and three lanes of southbound local traffic on the upper deck, both as part of the C-D roadway system.

Figure 4: Concept I-W

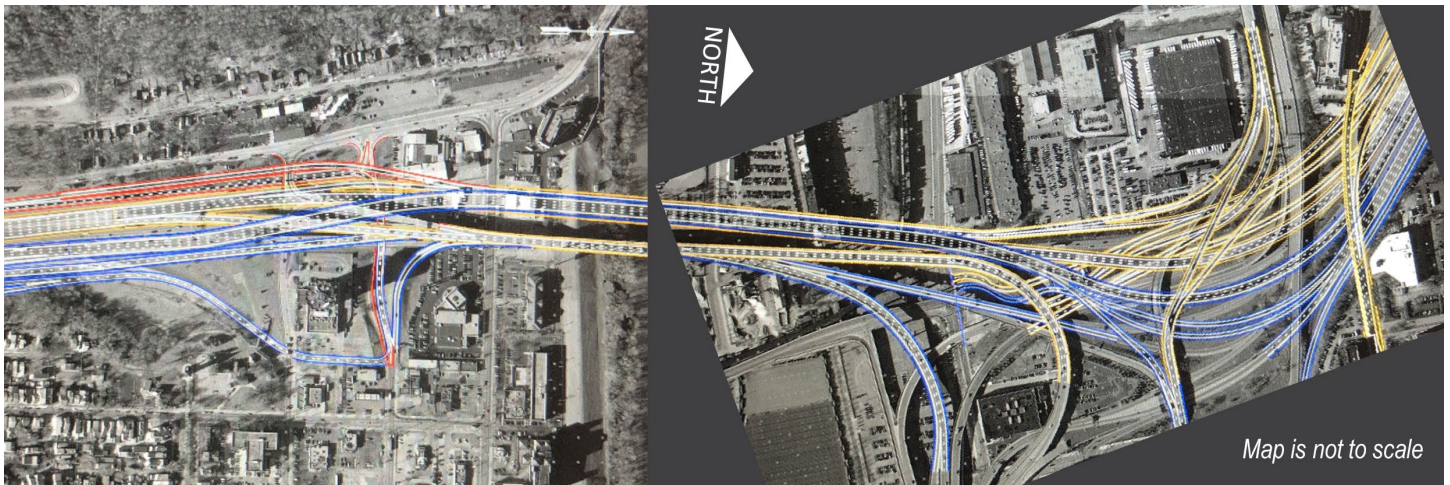


Source: [Analysis of Design Concepts \(May 2020\)](#). See Section 3.3.3 for refinements incorporated into Concept I-W.

3.2.3 Concept I-M

Concept I-M (see Figure 5) is a value engineering concept that also largely matches Selected Alternative I (from the 2012 EA/FONSI) with the exception of how traffic crosses the Ohio River. Concept I-M includes a new 133-foot-wide double-decker companion bridge to the west of the existing BSB, with all I-71 traffic on the existing BSB and all I-75 traffic on the new bridge. Local traffic is distributed to both bridges, with many connections to the existing bridge remaining. The new companion bridge carries three lanes of southbound I-75 traffic on the lower deck and three lanes of northbound I-75 traffic on the upper deck. Two additional lanes on each deck of the new bridge carry local traffic as part of the C-D roadway system. Concept I-M rehabilitates the existing BSB to carry two lanes of northbound I-71 traffic on the lower deck and two lanes of southbound I-71 traffic on the upper deck. One additional lane on each deck carries local traffic as part of the C-D roadway system, maintaining existing connections at West 4th Street and West 5th Street in Covington and 2nd Street and 3rd Street in Cincinnati.

Figure 5: Concept I-M



Source: [Analysis of Design Concepts \(May 2020\)](#).

3.2.4 Evaluation

Concept I-W and Concept I-M were contained entirely within the footprint for Selected Alternative I (from the 2012 EA/FONSI), and the environmental impacts were no greater than those previously identified for Selected Alternative I. KYTC and ODOT evaluated Selected Alternative I (from the 2012 EA/FONSI), Concept I-W, and Concept I-M in terms of traffic operations, connectivity, geometric design, work limits, cost estimates, and constructability. As documented in the [Design Summary Report \(August 2022\)](#), traffic modeling showed similar traffic operations for Concept I-W and Selected Alternative I (from the 2012 EA/FONSI), while Concept I-M

showed excessive traffic queues for northbound I-71/I-75 in the AM peak period.¹ As shown in Figure 6, Concept I-W performed better than the other concepts for connectivity, geometric design, and work limits/impacts. Concept I-W had the most complexity in terms of constructability, but no fatal flaws were identified. Further review conducted after the [Design Summary Report](#) concluded that Concept I-M required additional work to bring existing structures into conformance with current standards, reducing the cost savings associated with this concept. Therefore, Concept I-M was removed from further study. Concept I-W addressed the project purpose and need with lower impacts and costs than Selected Alternative I (from the 2012 EA/FONSI). Therefore, Concept I-W was carried forward as a value engineering refinement to Selected Alternative I (from the 2012 EA/FONSI) and designated as Refined Alternative I (Concept I-W) for the BSB Corridor Project.

3.3 Additional Refinements

In 2021, ODOT began detailed design development for Phases I and II of the BSB Corridor Project, which identified several refinements that were incorporated into the project. KYTC and ODOT also initiated studies of value engineering features for Phase III in addition to the refinements already incorporated into Concept I-W. The resulting additional refinements for each project phase are summarized in the following sections.

3.3.1 Phase I (ODOT PID 114161)

The selected alternative identified in the 2012 [FONSI](#) included a tight urban diamond interchange between I-75 and the Western Hills Viaduct. Since 2012, the City of Cincinnati has been developing a separate project with independent utility and completed NEPA review to replace the Western Hills Viaduct on a new alignment. ODOT has closely coordinated Phase I of the BSB Corridor Project with the preferred alignment for the viaduct and evaluated five alternatives for refining the interchange design to accommodate the proposed viaduct. The alternatives were variations of the tight urban diamond layout within the same footprint as the original 2012 design and resulted in the same environmental impacts. The alternatives were coordinated with the City of

¹ Planning-level traffic projections for the year 2050 were used to compare and evaluate value engineering concepts. Traffic operations for Selected Alternative I and Concept I-W were subsequently vetted and confirmed using certified traffic for the years 2029 and 2049 (see Section 3.8).

Figure 6: Value Engineering Concept Comparison

Evaluation Factor	Alternative I	Concept I-W	Concept I-M
Traffic Operations	Best	Better	Good
Connectivity	Better	Best	Good
Geometric Design	Better	Best	Good
Work Limits / Impacts	Good	Best	Better
Cost	Good	Better	Best
Constructability	Best	Better	Best

Legend

Best Better Good

Source: [Design Summary Report \(August 2022\)](#).



Cincinnati and evaluated based on operations, geometrics, and the ability to provide the movements accommodated in the tight urban diamond interchange design from the 2012 EA/FONSI. A detailed summary of the five alternatives considered, including the rationale for dismissing or advancing each, is included in the [Technical Memo: PID 114161 – Selection of the Preferred alternative at the I-75 and WHV Interchange \(January 2023\)](#).¹

Alternative 5 was ultimately recommended as the preferred alternative for the following reasons:

- It provides local access at the interchange without negatively impacting traffic operations;
- It maintains a footprint similar to the original tight urban diamond interchange design (from the 2012 EA/FONSI) and provides local access to and from northbound and southbound I-75 while also providing for local surface street movements to and from the Western Hills Viaduct; and
- It functions with the highest operational efficiency of the alternatives that provided local connections.

Based on the design of Alternative 5 for the Western Hills Viaduct interchange, the following refinements are incorporated into the Phase I portion of Refined Alternative I (Concept I-W):

- Shifting the I-75 alignment west of the alignment for Selected Alternative I (from the 2012 EA/FONSI) at the connection to Phase II (ODOT PID 113361) to minimize work along Winchell Avenue;
- Accommodating all movements to and from I-75 via the bottom deck of the new Western Hills Viaduct. The tight urban diamond interchange design from the 2012 EA/FONSI accommodated interstate movements from the bottom deck and local movements from the top deck of the existing viaduct;
- Providing indirect westbound access from Spring Grove Avenue to the bottom deck of the new Western Hills Viaduct via access at the I-75 interchange. The tight urban diamond interchange design from the 2012 EA/FONSI provided a ramp connecting Spring Grove Avenue directly to the top deck of the existing viaduct; and
- Providing a connection traveling eastbound from the new Western Hills Viaduct to westbound Harrison Avenue off the east end of the interchange at the northbound ramp intersection. The original tight urban diamond interchange design provided access via a ramp from the top deck of the existing viaduct.

The Western Hills Viaduct configuration for the existing condition, Selected Alternative I (from the 2012 EA/FONSI), and Refined Alternative I (Concept I-W) are shown in Figure 7.

¹ Design-level certified traffic projections for the year 2048 were used to compare and evaluate alternative configurations for the Western Hills Viaduct interchange. Traffic operations at the Western Hills Viaduct interchange were subsequently vetted and confirmed using certified traffic for the years 2029 and 2049 (see Section 3.8).



Figure 7: Western Hills Viaduct Interchange - Sheet 1 of 2

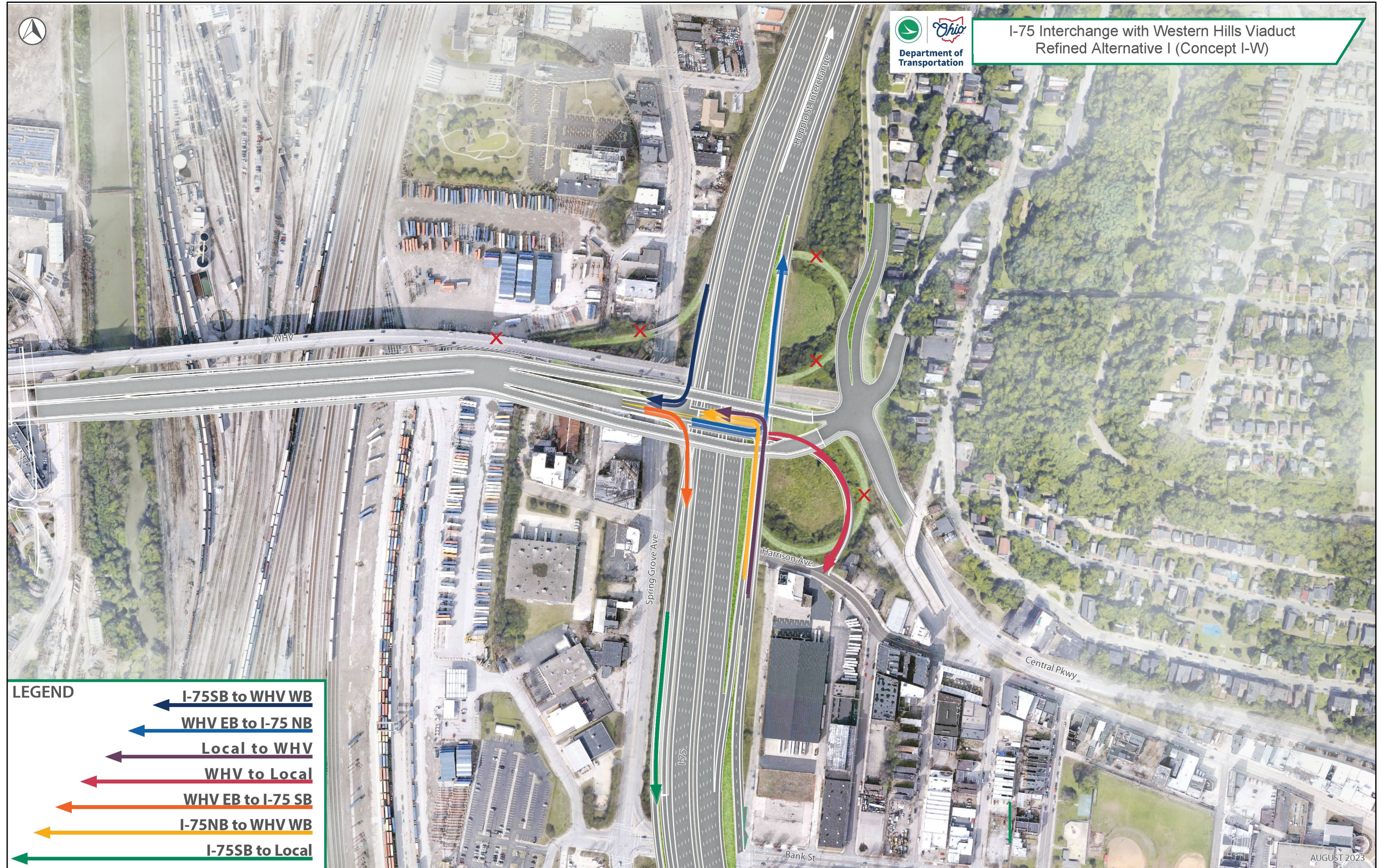
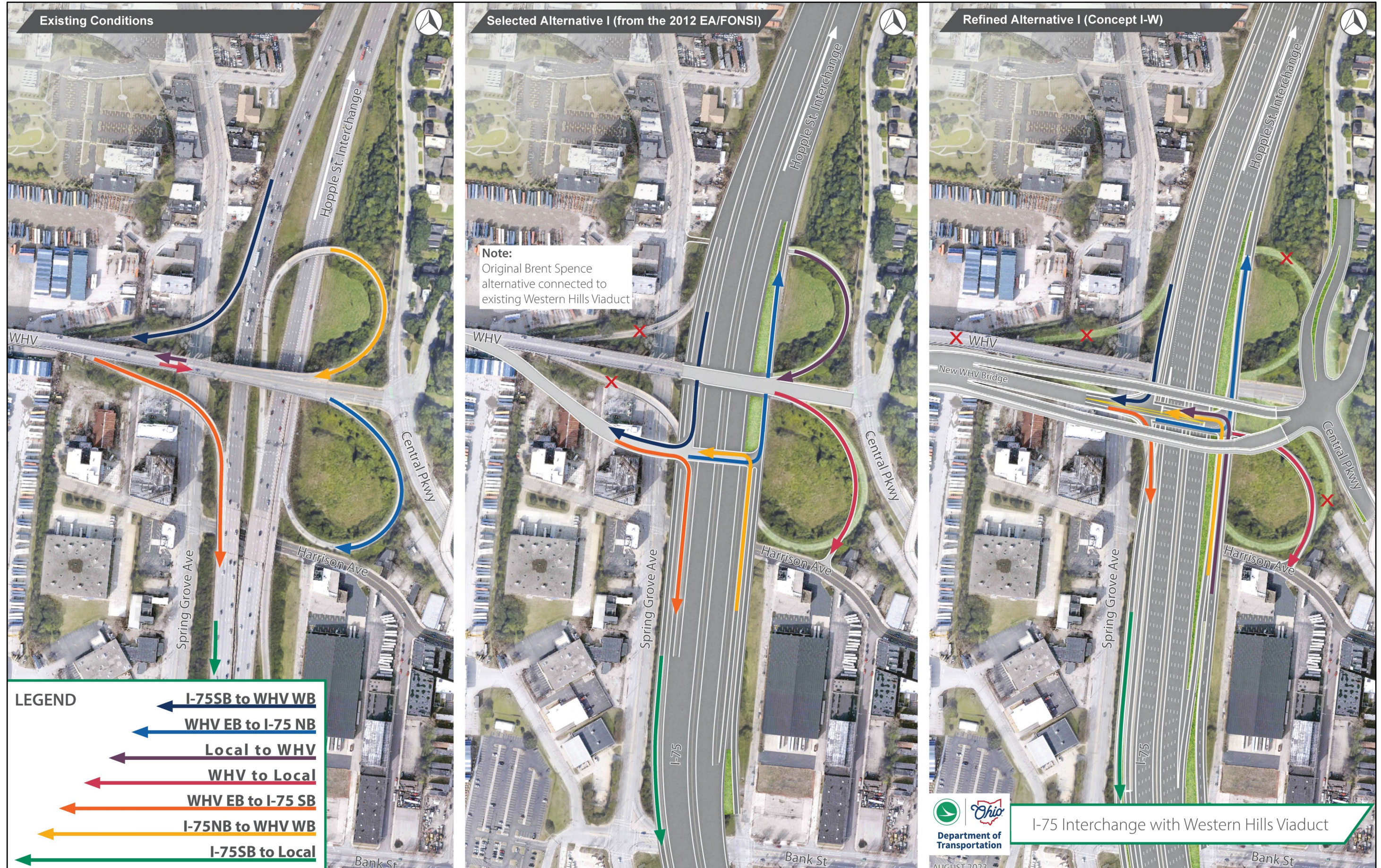


Figure 7: Western Hills Viaduct Interchange - Sheet 2 of 2



3.3.2 Phase II (ODOT PID 113361)

Refinements within the limits of Phase II were made in coordination with the City of Cincinnati to reduce project impacts and costs and to improve local access to I-75. The refinements incorporated into the Phase II portion of Refined Alternative I (Concept I-W) include:

- Moving the northbound entrance ramp to I-75 from its existing location at Freeman Avenue (south of Ezzard Charles Drive) to Winchell Avenue (north of Ezzard Charles Drive) and adding an auxiliary lane on northbound I-75 between Ezzard Charles Drive and the Western Hills Viaduct to provide adequate capacity between the ramps;¹
- Maintaining three lanes on the northbound C-D roadway from the Winchell Avenue exit ramp to where it merges with I-75 northbound to provide adequate capacity. The northbound C-D roadway in the 2012 EA/FONSI was two lanes in this area.²
- Reducing the project footprint by adjusting the alignment of the southbound C-D roadway to run closer to I-75;
- Reducing the project footprint by narrowing the inside shoulder widths along I-75 from 13.5 to 12 feet;
- Widening the outside shoulders from 12 feet to 14 feet on southbound I-75 near Findlay Street and Liberty Street to accommodate maintenance of traffic during construction;
- Replacing two existing one-way bridges on Ezzard Charles Drive with a combined two-way bridge over I-75 to reduce wrong-way crashes and provide an additional 50 feet of green space on each side to support potential future civic space or retail development by the City of Cincinnati; and
- Adjusting the horizontal and vertical alignments of I-75 to match the current design speed of 55 mph (reduced from 60 mph), provide required sight distances, increase the separation between I-75 and Court Street, and provide proper vertical clearances at cross streets.

3.3.3 Phase III (ODOT PID 116649 / KYTC Project Item No. 6-17)

The refinements incorporated within the limits of Phase III have not substantially changed the following key design components included in the 2012 EA/FONSI:

- The mainline layout from Dixie Highway (US-25) (Kentucky) to Linn Street (Ohio);
- The number of interstate and C-D lanes;
- The C-D roadway concept between West 12th Street/MLK Jr. Boulevard (Kentucky) and Ezzard Charles Drive (Ohio); and
- The C-D roadway system between Dixie Highway (US-25) and Kyles Lane (KY-1072) in Kentucky.

¹ The preliminary design of these refinements was developed using design-level certified traffic projections for the year 2048. The refinements were vetted, confirmed, and finalized using certified traffic for the years 2029 and 2049 (see Section 3.8).

² The preliminary design of the C-D roadways for Refined Alternative I (Concept I-W) were evaluated using planning-level traffic projections for the year 2050. The design was vetted, confirmed, and finalized using certified traffic for the years 2029 and 2049 (see Section 3.8).



Refinements to the Phase III design include the incorporation of practical design and value engineering features, revisions to ramps in downtown Cincinnati, and refinements to the new companion bridge to respond to local concerns and to reduce the project's footprint, impacts, and costs. These refinements are discussed further in the following sections.

Practical Design and Value Engineering Features

KYTC, ODOT, and FHWA met on June 2, 2022 to revisit the ideas from the October 2012 Practical Design/Value Engineering Workshop and determine which refinements would be included in the Phase III portion of Refined Alternative I (Concept I-W). Based on that meeting, the following value engineering components have been included:

- Reconfiguring the lanes on the existing BSB and new companion bridge to keep through (interstate) and local (C-D) traffic on separate facilities.
- Optimizing interchange geometry in downtown Cincinnati by utilizing the land formerly occupied by the dunhumbly USA headquarters at 444 3rd Street.
- Adjusting the design speed of the I-71/I-75 mainline and the C-D roadways to 55 mph. The design speeds in the 2012 EA/FONSI were 60 mph for the I-71/I-75 mainline and 50 mph for the C-D roadways.
- Allowing the inside and outside shoulder widths on ramps to be flipped to reduce overall width and improve horizontal sight distance.
- Allowing 10-foot inside and outside shoulder widths for I-71/I-75 and the C-D roads to reflect generally applicable updated design standards. The inside shoulder widths in the 2012 EA/FONSI were 13.5 feet, and the outside shoulders were 12 feet.
- Reducing the number of lanes on the frontage roads between West 12th Street/MLK Jr. Boulevard and Pike Street in Kentucky to three lanes in each direction based on updated traffic analyses. The 2012 EA/FONSI specified five lanes northbound and four lanes southbound.

In addition to the refinements identified at the June 2, 2022 meeting, the following refinements have been incorporated into the Phase III design:

- The 2012 [FONSI](#) included a refinement to Alternative I that modified the northbound C-D roadway in Kentucky by providing a new exit ramp at West 5th Street and removing a proposed section of Simon Kenton Way (referred to as Jillians Way in the 2012 EA/FONSI) between West 9th Street and West 5th Street. The new exit ramp and the full extents of Simon Kenton Way are included in Refined Alternative I (Concept I-W).
- The main span length of the new companion bridge may potentially be reduced from 1,000 feet to a minimum of 870 feet based on preliminary coordination with the U.S. Coast Guard (USCG) in January 2013 and December 2022 (see Appendix B, Permitting).

Additional details about the value engineering concepts considered, including potential advantages and disadvantages and the rationale for accepting or rejecting each, are provided in the [Design Summary Report](#).



City of Cincinnati Comments

In response to ongoing discussions with the public, the City of Cincinnati provided comments requesting a distinct suite of design refinements on September 2, 2022. In response to the comments, KYTC and ODOT evaluated several ramp refinements that were found to operate acceptably in both the morning and evening peak travel periods and would meet the project's purpose and need. The City of Cincinnati concurred with the findings on October 20, 2022. Therefore, the following refinements are incorporated into Refined Alternative I (Concept I-W):

- Widening the southbound 2nd Street exit ramp from one to two lanes to provide adequate capacity;¹
- Moving the entrance ramp to northbound I-75 from 4th Street one block south to 3rd Street;
- Reconfiguring the northbound I-75 exit to 5th Street to create a new signalized intersection with the US-50 ramp with no substantial change in access;
- Reducing the number of lanes on the eastbound approach to the 5th Street/Central Avenue intersection from four to three to provide adequate capacity;¹
- Replacing the connection between 6th Street and Winchell Avenue with a connection to the northbound C-D road to provide more direct access to northbound I-75; and
- Widening the southbound I-75 ramp to 7th Street from one to two lanes to provide adequate capacity.¹

A detailed response to the City of Cincinnati's comments is included in the [Public Involvement Summary](#).

New Companion Bridge Type

The 2012 [FONSI](#) approved two bridge types for the new companion bridge: a simply supported arch bridge with inclined arch ribs, and a two-tower cable-stayed bridge with vertical legs/towers. The 2012 FONSI also stipulated that the top elevation of the bridge would be no less than 300 feet and no more than 420 feet above the normal pool elevation of the Ohio River. Refined Alternative I (Concept I-W) incorporates more flexibility in the bridge types to allow the progressive design-build team to pursue innovative and cost-effective designs to the greatest extent practicable. While the bridge types remain the same, the specific design opportunities within each bridge type have been expanded. For the arch bridge type, the stipulation for it to be simply supported with inclined ribs has been removed. For the cable-stayed bridge, the stipulation to provide two vertical towers has been removed. The bridge types for Refined Alternative I (Concept I-W) are more broadly described as an "arch bridge" and a "cable-stayed bridge." The approved elevations are unchanged. This decision was made in consultation with the project Aesthetics Committee, which discussed this topic in a January 31, 2023 meeting. See Section 4.9 for additional discussion about the new companion bridge type.

¹ Planning-level traffic projections for the year 2050 were used to evaluate the design refinements requested by the City of Cincinnati. Widening the southbound 2nd Street exit ramp was incorporated into the refinements after they were vetted and confirmed using certified traffic for the years 2029 and 2049 (see Section 3.8).



3.4 Design Criteria

Refined Alternative I (Concept I-W) was developed in accordance with the most current versions of the KYTC *Highway Design Guidance Manual* and the ODOT *Location and Design Manual*. Notable changes to the project design criteria since the 2012 EA/FONSI include:

- The original design followed the preferred criteria for design speed. In accordance with accepted practice for KYTC and ODOT, Refined Alternative I (Concept I-W) utilizes performance-based design guidelines which allow the design speed to match the posted speed for the I-71/I-75 mainline. As such, the design speed for the I-71/I-75 mainline is reduced from 60 mph to 55 mph. The design speed for the C-D roads matches the mainline design speed of 55 mph. Selected Alternative I (from the 2012 EA/FONSI) used a design speed of 50 mph for the C-D roads.
- The original design utilized shoulder widths that would accommodate pier foundations, light towers, and sign foundations. Current adopted KYTC and ODOT generally applicable design standards do not require the extra widening of shoulders in these situations. In accordance with current design standards, the inside and outside shoulder widths for I-71/75 and the C-D roads for Refined Alternative I (Concept I-W) are revised from 12 feet to 10-foot paved shoulders.
- The required length of the new companion bridge main span over the navigation channel for the Ohio River may be reduced from 1,000 feet to 870 feet based on preliminary coordination with USCG (see Appendix B, Permitting). The under clearance for the new companion bridge will be no lower than 532 feet in elevation and is unchanged from the 2012 EA/FONSI.

Refined Alternative I (Concept I-W) represents the base design for the BSB Corridor Project. Additional geometric modifications and innovation concepts that improve project quality, reduce costs, shorten schedule, support the project goals and objectives, and have support at the local level may be evaluated during the progressive design-build contract (see Section 3.7).

3.5 Design Exceptions

Required design exceptions will be finalized during the detailed design of each construction phase. FHWA, KYTC, and ODOT will further evaluate potential design exceptions based on the context of the facility, needs of the various project users, safety, mobility, human and environmental impacts, project costs, and other impacts prior to approval.¹ The following sections compare potential design exceptions based on the preliminary design of Refined Alternative (Concept I-W) to those described for Selected Alternative I in the 2012 EA/FONSI.

The majority of the potential design exceptions for the project are due to the constraints of the project's urban setting and the need to connect to existing roadways. Selected Alternative I (from the 2012 EA/FONSI) required 43 design exceptions. These exceptions were based on a design speed of 60 mph for the I-71/I-75 mainline and 50 mph for the C-D roads. The preliminary design for Refined Alternative I (Concept I-W) requires 55 design exceptions based on a design speed of 55 mph for both the I-71/I-75 mainline and the C-D roads. The increased design speed on the C-D roads accounts for 10 of the 55 design exceptions for Refined Alternative I (Concept I-W). Furthermore, the 2012 EA/FONSI did not account for 3 design exceptions on

¹ <https://www.fhwa.dot.gov/design/standards/ga.cfm> (Item 7)



US-50 that would have been required for Selected Alternative I. Table 2 summarizes the potential changes in design exceptions. The design exceptions listed in Table 2 represent a conservative estimate based on the current design. The project team will work to minimize and reduce design exceptions to the extent practicable during detailed design. A detailed list of design exceptions is provided in the [Interchange Modification Study Addendum](#) (December 2023).

Table 2: Design Exception Comparison

State	Selected Alternative I (from 2012 EA/FONSI) Design Exceptions (quantity)	Refined Alternative I (Concept I-W) Design Exceptions (quantity) ¹
Kentucky	<u>3 Total</u> <ul style="list-style-type: none"> • Grade (1) • Lane width (1) • Shoulder width (1) 	<u>19 Total</u> <ul style="list-style-type: none"> • Grade (1) • Horizontal sight distance (5) • Vertical sight distance (9) • Lane width (2) • Shoulder width (2)
Ohio	<u>40 Total</u> <ul style="list-style-type: none"> • Grade (7) • Degree of curve (11) • Horizontal stopping sight distance (18) • Vertical stopping sight distance (2)³ • Shoulder width (2) 	<u>36 Total²</u> <ul style="list-style-type: none"> • Grade (5) • Degree of curve (5) • Horizontal stopping sight distance (12) • Vertical stopping sight distance (11) • Shoulder width (3)

1. Selected Alternative I (from the 2012 EA/FONSI) design exceptions are based on a C-D road design speed of 50 mph. Refined Alternative I (Concept I-W) design exceptions are based on a C-D road design speed of 55 mph. If a 50 mph C-D road design speed were used for Refined Alternative I (Concept I-W), the required design exceptions would be reduced by 7 in Kentucky (2 horizontal sight distance, 5 vertical sight distance) and 3 in Ohio (2 horizontal sight distance, 1 vertical sight distance).
2. Includes 0 design exceptions for Phase I, 1 design exception for Phase II, and 35 design exceptions for Phase III.
3. Selected Alternative I (from the 2012 EA/FONSI) did not account for 3 design exceptions for vertical sight distance on US-50.

3.6 Cost Estimates

The cost estimates in the 2012 EA/FONSI were updated to reflect current design contingencies, unit prices, inflation rates, and construction years for each project phase. The cost estimates were also revised to include actual right-of-way, estimated costs for unacquired right-of-way, and utility relocation costs. In addition, updated costs for public relations, procurement, stipend, state labor, bridge painting, and design were included. Finally, previously expended preliminary development dollars were added to the estimated contract costs to estimate the total cost to implement Refined Alternative I (Concept I-W).

A Cost, Schedule, and Risk Assessment workshop held by FHWA and the project team in October 2022 confirmed that the total project cost estimate is \$3.6 billion in the year of expenditure, which includes all costs required to deliver the project, including but not limited to planning, design, right-of-way acquisition, construction, construction management services, and agency labor.

The costs to deliver Selected Alternative I (from the 2012 EA/FONSI) were not updated to reflect current prices. However, based on the information presented in the [Design Summary Report](#) and the [2022 Project](#)



[Summary with Associated Costs](#) (April 2022), the total costs for Refined Alternative I (Concept I-W) are less than the costs to construct Selected Alternative I (from the 2012 EA/FONSI).

3.7 Future Design Refinements

Refined Alternative I (Concept I-W) represents the base design for the BSB Corridor Project. It is anticipated that the design-build team for Phase III will develop innovation concepts that will be evaluated by KYTC and ODOT. Innovations that improve project quality, reduce costs, shorten schedule, support the project goals and objectives, and have support at the local level may be incorporated into the project.

When innovations are proposed, KYTC and ODOT will share recommendations with key stakeholders such as the City of Cincinnati, the City of Covington, the City of Park Hills, the City of Fort Wright, the City of Fort Mitchell, Hamilton County, and Kenton County and will gather feedback from local agencies that may be affected by any changes. Each local entity will be responsible for soliciting public feedback on innovations as part of their review and comment process. For example, the City of Cincinnati is assembling an advisory committee to provide project feedback that will include representatives from Hamilton County, the Cincinnati Port Authority, community councils, development corporations, business groups, and other interested groups.

When KYTC, ODOT, and FHWA determine that an innovation will be incorporated into the project, the public will be informed of the decision. Information provided to the public will include a description of the innovation, an explanation of the expected benefits, and the rationale for the decision. If an innovation requires additional coordination or reevaluation to meet NEPA requirements, KYTC, ODOT, and FHWA will conduct those activities in accordance with all federal requirements.

3.8 Traffic

The 2012 EA/FONSI presented the traffic operational characteristics of Selected Alternative I based on design-level certified traffic projections for the year 2035. Several updates to the traffic projections in the BSB corridor have been made since the approval of the 2012 EA/FONSI. In 2022, the Modeling and Forecasting Section of ODOT's Office of Statewide Planning developed design-level certified traffic projections for the years 2028 and 2048, which reflected the anticipated opening day and design years for BSB Corridor Project Phases I and II at that point in the project's development. These traffic volumes were used to refine the Phase I and II designs during the detailed design activities that were occurring at that time (see Sections 3.3.1 and 3.3.2).

KYTC and ODOT developed planning-level traffic projections for the year 2050 that were used to evaluate the value engineering concepts for Phase III (see Section 3.3.3) and refinements to the ramps in downtown Cincinnati (see Section 3.3.3). The traffic projections included two peak travel periods: an AM peak period from 6:00 am to 10:00 am and a PM peak period from 2:00 pm to 7:00 pm. The 2050 traffic projections were based on existing 2019 traffic counts in the BSB corridor, ODOT's Simulation Demand Estimator, and the Ohio-Kentucky-Indiana Regional Council of Governments (OKI) regional travel demand model of record.

In May 2023, KYTC and ODOT developed design-level no-build and build certified traffic for the years 2029 and 2049, which reflected the anticipated opening day and design years for the entire BSB Corridor Project based on the most current project development. The certified traffic projections were based on existing 2019



traffic counts in the BSB corridor, the *Ohio Traffic Forecasting Manual*, and the OKI regional travel demand model of record. The 2029 and 2049 certified traffic projections were used to prepare an [Interchange Modification Study Addendum](#) for the project. The [Interchange Modification Study Addendum](#) vetted and confirmed the traffic operational characteristics of Selected Alternative I (from the 2012 EA/FONSI) and Refined Alternative I (Concept I-W). The most current traffic data was also utilized for air quality, emissions burdens, and noise technical studies conducted for the project (see Sections 4.6, 4.7, and 4.8).

The [Interchange Modification Study Addendum](#) analyzed traffic operations for the I-71/I-75 mainline, the C-D roadways, the ramp intersections with local streets, and adjacent arterial roadways during the morning (AM) and evening (PM) peak travel periods. Table 3 summarizes the updated traffic operational characteristics using the design year 2049 certified traffic. As shown in Table 3, Selected Alternative I (from the 2012 EA/FONSI) and Refined Alternative I (Concept I-W) provide acceptable traffic operations throughout the project area, with a few minor exceptions during peak travel periods. Refined Alternative I (Concept I-W) results in slightly improved overall traffic operations when compared to Selected Alternative I (from the 2012 EA/FONSI). Additional details about projected traffic operations in the BSB corridor are provided in the [Interchange Modification Study Addendum](#).

Table 3: Traffic Operational Comparison for the Year 2049

Location	Selected Alternative I (from 2012 EA/FONSI)		Refined Alternative I (Concept I-W)	
	AM Peak Hour LOS ¹	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS
I-71/I-75 and C-D System	Acceptable, except: • LOS E for 4 segments • LOS F for 3 segments	Acceptable, except: • LOS E for 7 segments • LOS F for 3 segments	Acceptable, except: • LOS E for 1 segment • LOS F for 1 segment ²	Acceptable, except: • LOS E for 6 segments • LOS F for 3 segments ²
Intersections	Acceptable, except: • LOS F at 2 locations	Acceptable, except: • LOS E at 3 locations • LOS F at 3 locations	Acceptable, except: • LOS E at 1 location • LOS F at 1 location	Acceptable, except: • LOS E at 1 location

1. In built-up urban areas such as the project area, LOS D or better is considered to be acceptable for the AM and PM peak periods.
2. Segments with LOS F are external to the project area. These delays are present in the no-build condition and will not be made worse by the project. All freeway and C-D segments in the project area operate at LOS E or better.

3.9 Refined Alternative I (Concept I-W) and Purpose and Need

The 2012 EA/FONSI demonstrated that Selected Alternative I met the project purpose and need. Refined Alternative I (Concept I-W) reduces the project footprint, improves the project’s functionality, and does not substantially change the key design components of Selected Alternative I (from the 2012 EA/FONSI). Therefore, Refined Alternative I (Concept I-W) continues to meet the project purpose and need, as summarized below:

- Improve traffic flow and level of service. Refined Alternative I (Concept I-W) will reduce congestion and improve traffic operations throughout the project area (see Section 3.8).



-
- Improve safety. Refined Alternative I (Concept I-W) will improve safety by including measures to reduce congestion-related crashes. In addition, the C-D roadway system will improve safety by separating through and local traffic and keeping them separate for longer distances, thus reducing weaving movements that increase the risk of crashes. The removal of left-hand exits and other design deficiencies such as substandard shoulders are also expected to improve safety and reduce crashes by further reducing weaving movements and by providing a larger buffer for vehicles. In addition, two existing one-way bridges on Ezzard Charles Drive over I-75 will be replaced with one combined two-way bridge to reduce the high number of wrong-way crashes occurring at this location. A detailed safety analysis is provided in the [Interchange Modification Study Addendum](#).

In support of the KYTC *Complete Streets, Roads, and Highways Policy*, the ODOT *Multimodal Design Guide*, and the OKI *Regional Complete Streets Policy*, Refined Alternative I (Concept I-W) will promote safety for bicyclists and pedestrians. The ramp connections with local streets are being designed as lower-speed urban roadways, which will encourage drivers to decelerate to safe speeds prior to reaching bicycle and pedestrian crossings. Furthermore, the buffer distance between automobile traffic and sidewalks and shared-use paths will be increased, improving bicyclist and pedestrian safety and comfort. Finally, lighting will be installed in underpass areas to improve safety and security for pedestrians and bicyclists.

- Correct geometric deficiencies. Refined Alternative I (Concept I-W) has been developed in accordance with the most current versions of the KYTC *Highway Design Guidance Manual* and the ODOT *Location and Design Manual* and will correct geometric deficiencies throughout the corridor, including lane width, shoulder width, horizontal and vertical clearances, and horizontal and vertical geometry (see Sections 3.4 and 3.5).
- Maintain connections to key regional and national transportation corridors. Refined Alternative I (Concept I-W) will reduce congestion, improve traffic flow, improve safety, and correct geometric deficiencies along a vital link to key regional and national transportation corridors. In addition, existing connections to the project corridor will be accommodated (see Section 4.1.4).

4. ENVIRONMENTAL RESOURCES, IMPACTS, AND MITIGATION

This chapter describes changes related to the human and natural environment and anticipated project impacts since the 2012 EA/FONSI. Detailed maps showing the environmental resources and anticipated impacts addressed in Sections 4.1.1, 4.1.2, 4.1.3, 4.1.5, 4.2.1, 4.2.2, 4.5.2, 4.8.1, 4.8.2, 4.12.2, 4.13, and 4.14 are shown in Figure 8. A guide providing cross references between neighborhoods and cities adjacent to the project corridor, impacted public recreational properties, impacted historic properties, EJ populations, identified socioeconomic populations and groups, disadvantaged communities, and noise sensitive areas is included in Appendix C.



Figure 8: Refined Alternative I (Concept I-W) - Sheet 1 of 8

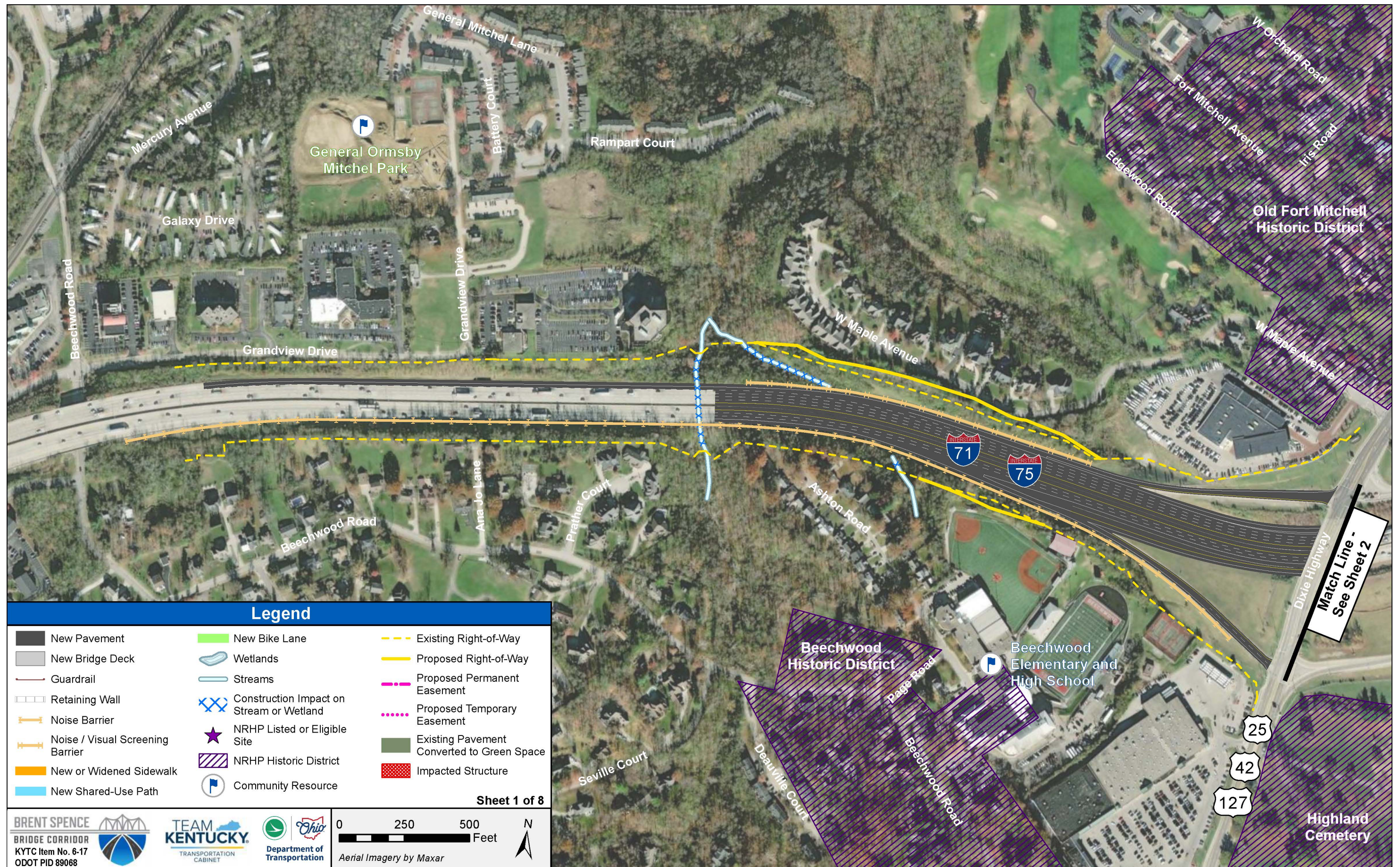
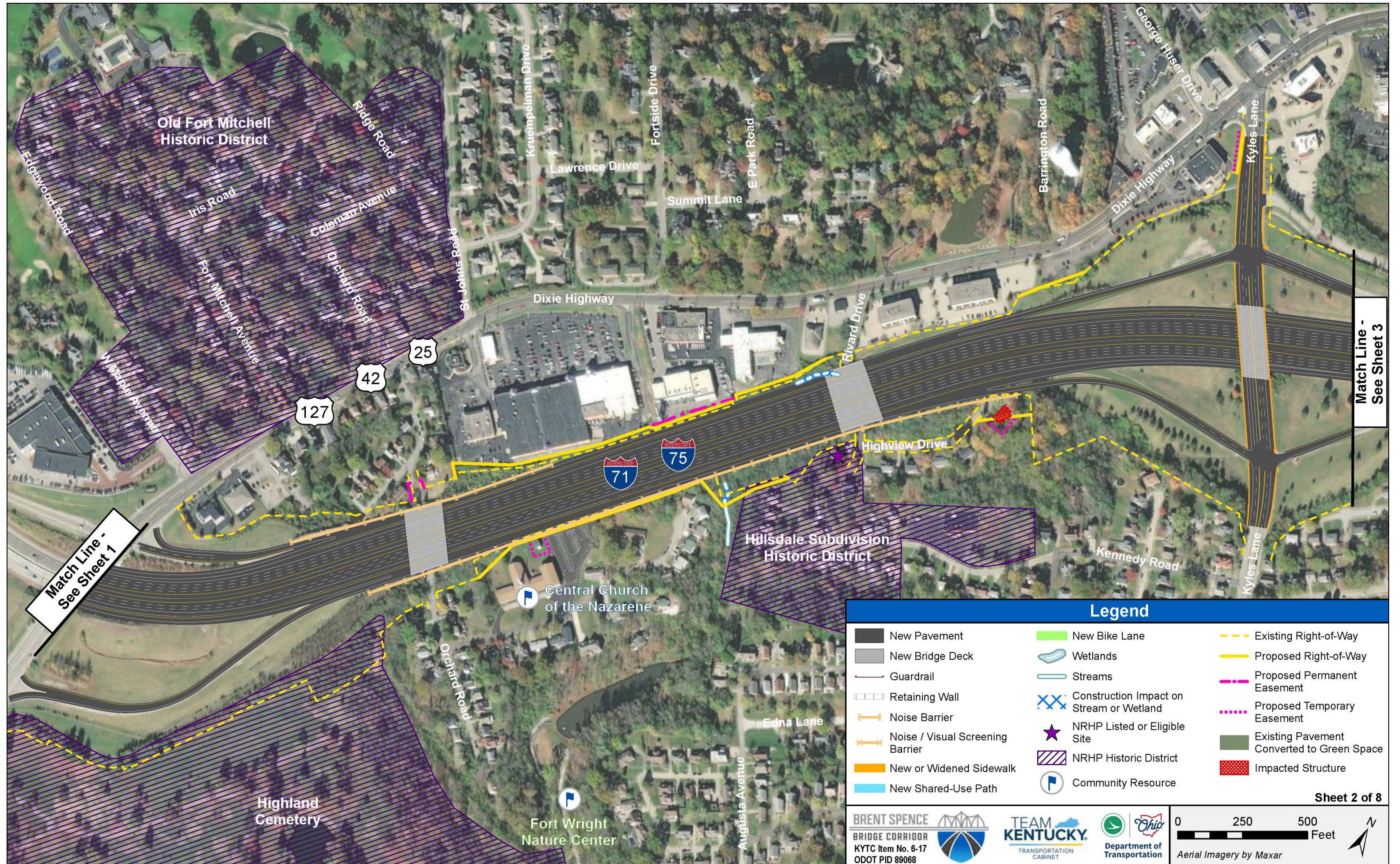


Figure 8: Refined Alternative I (Concept I-W) - Sheet 2 of 8

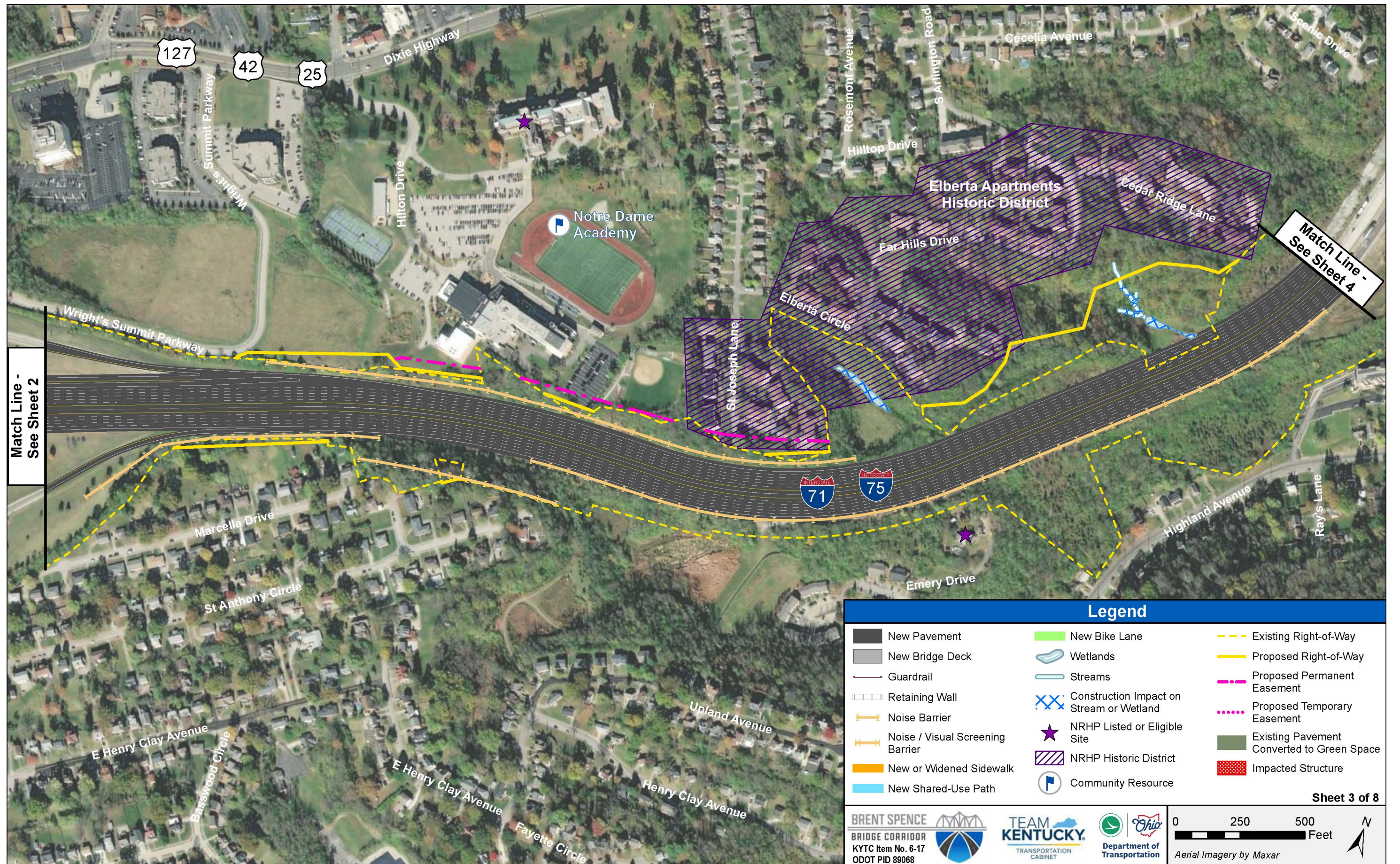


Legend					
	New Pavement		New Bike Lane		Existing Right-of-Way
	New Bridge Deck		Wetlands		Proposed Right-of-Way
	Guardrail		Streams		Proposed Permanent Easement
	Retaining Wall		Construction Impact on Stream or Wetland		Proposed Temporary Easement
	Noise Barrier		NRHP Listed or Eligible Site		Existing Pavement Converted to Green Space
	Noise / Visual Screening Barrier		NRHP Historic District		Impacted Structure
	New or Widened Sidewalk		Community Resource		
	New Shared-Use Path				

Sheet 2 of 8

Aerial Imagery by Maxar

Figure 8: Refined Alternative I (Concept I-W) - Sheet 3 of 8



Legend					
	New Pavement		New Bike Lane		Existing Right-of-Way
	New Bridge Deck		Wetlands		Proposed Right-of-Way
	Guardrail		Streams		Proposed Permanent Easement
	Retaining Wall		Construction Impact on Stream or Wetland		Proposed Temporary Easement
	Noise Barrier		NRHP Listed or Eligible Site		Existing Pavement Converted to Green Space
	Noise / Visual Screening Barrier		NRHP Historic District		Impacted Structure
	New or Widened Sidewalk		Community Resource		
	New Shared-Use Path				

Sheet 3 of 8

Aerial Imagery by Maxar

Figure 8: Refined Alternative I (Concept I-W) - Sheet 4 of 8

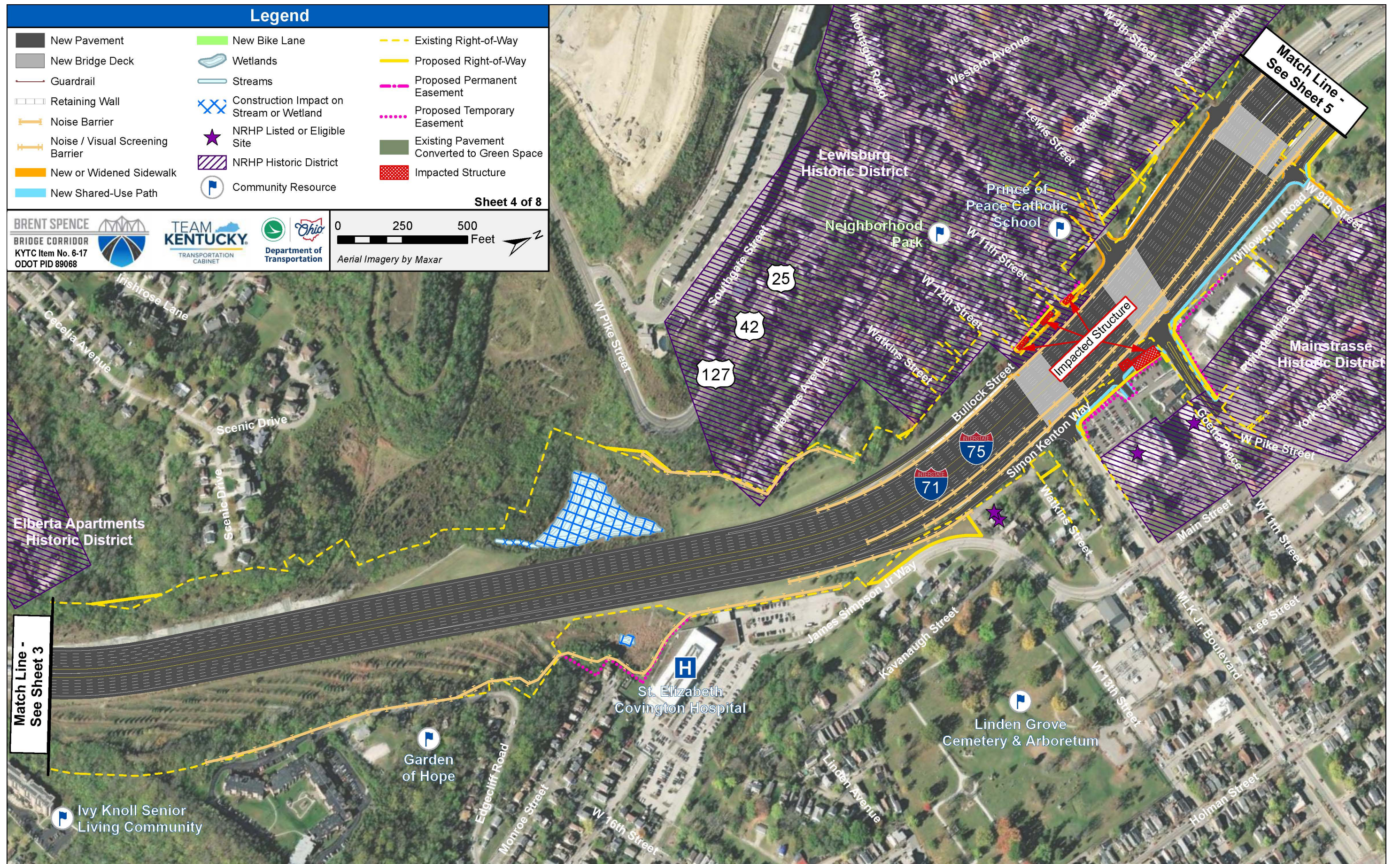


Figure 8: Refined Alternative I (Concept I-W) - Sheet 5 of 8



Figure 8: Refined Alternative I (Concept I-W) - Sheet 6 of 8



Figure 8: Refined Alternative I (Concept I-W) - Sheet 7 of 8

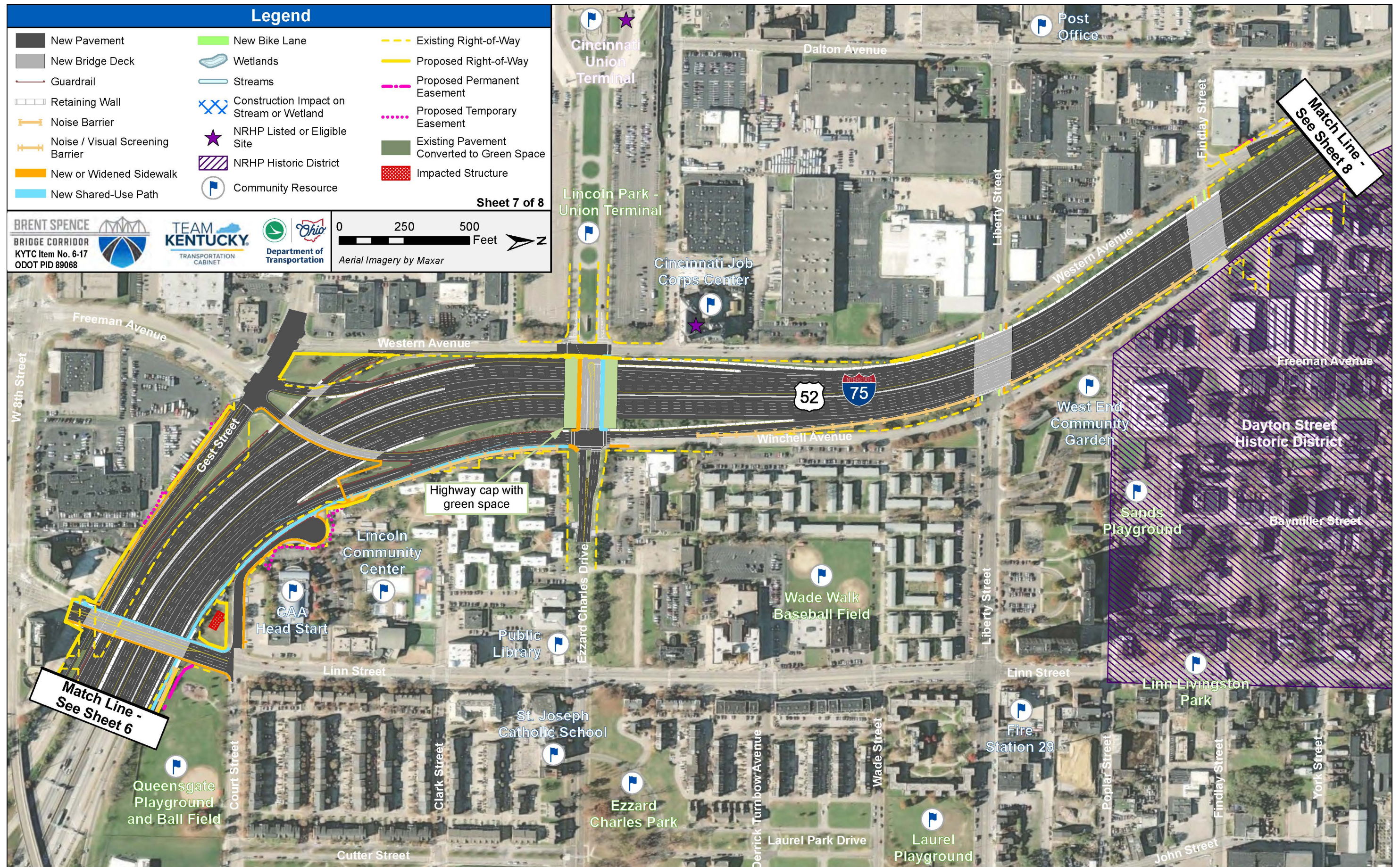
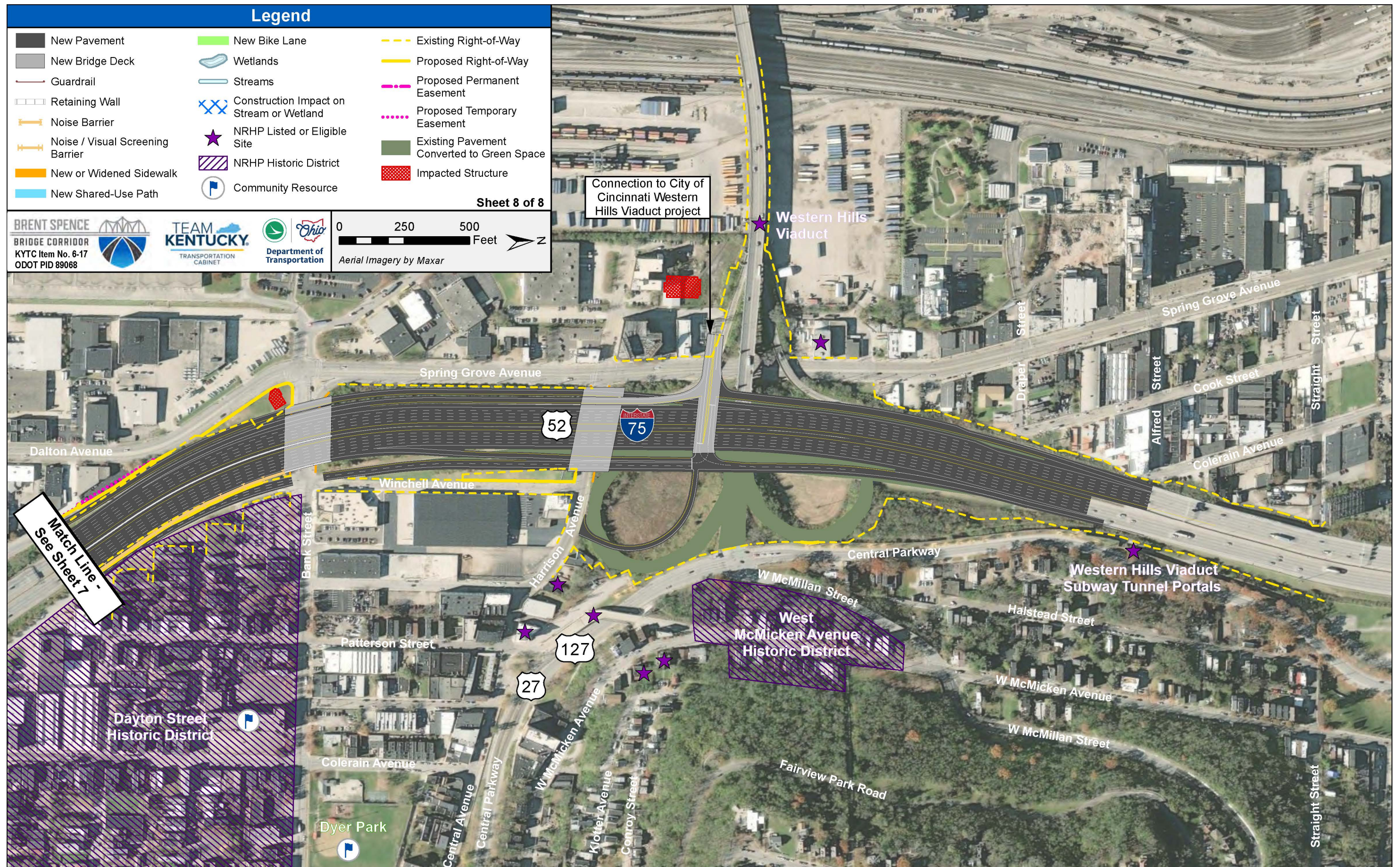


Figure 8: Refined Alternative I (Concept I-W) - Sheet 8 of 8



4.1 Social and Economic Resources

Changes related to the social and economic environment since the 2012 EA/FONSI are discussed in the following sections.

4.1.1 Land Use

Land use in the project area has not substantially changed since 2012. The land use is a mixture of urban and suburban. The primary uses are commercial, industrial, residential, institutional, and existing roadway rights of way. Selected Alternative I (from the 2012 EA/FONSI) would have converted 53.38 acres¹ of land to transportation use.

Refined Alternative I (Concept I-W) will convert 51.18 acres of land to transportation use. In Ohio, the impacted land consists of 37.71 acres of commercial, industrial, and utility properties and land owned by the City of Cincinnati. In Kentucky, the impacted land consists of 13.47 acres of primarily residential and commercial properties north of West 12th Street and open space and scattered residential properties south of West 12th Street. The land that will be converted to transportation right-of-way for Refined Alternative I (Concept I-W) is shown in Figure 8.

The refinements incorporated into Refined Alternative I (Concept I-W) result in a net reduction in the amount of land that will be converted to transportation right-of-way, as summarized in Table 4. The reduced impacts span across all land use categories, including residential, industrial, commercial, undeveloped, and institutional. The most notable changes in land use impacts are in Covington, where the reduced width of the new companion bridge and the incorporation of retaining walls have substantially reduced impacts to residential land. Refined Alternative I (Concept I-W) also incorporates minor reconfigurations to the 2nd Street, 3rd Street, 4th Street, 5th Street, 6th Street, and 7th Street ramps in downtown Cincinnati that will open up approximately 10 acres of land for potential redevelopment and/or public use, as described in Section 3.3.3.

Table 4: Land Use Impacts Comparison

State	Selected Alternative I (from 2012 EA/FONSI) Land Converted to Transportation Right-of-Way	Refined Alternative I (Concept I-W) Land Converted to Transportation Right-of-way ¹
Kentucky	21.76 acres	13.47 acres
Ohio	31.62 acres ²	37.71 acres ³
Total	53.38 acres	51.18 acres

1. Refined Alternative I (Concept I-W) also includes 1.33 acres of permanent easement and 2.65 acres of temporary easement in Kentucky. It includes 0.32 acre of permanent easement, 13.17 acres of aerial easement (aerial rights only), and 15.00 acres of temporary easement in Ohio.
2. Total includes 22.01 acres of property owned by the City of Cincinnati that was impacted by Selected Alternative I but not quantified in the 2012 EA/FONSI.
3. Increased impact acreage in Ohio is based on detailed title research and the establishment of final right-of-way limits that has occurred since the 2012 EA/FONSI and is not related to changes in the project's design. Total does not reflect approximately 10 acres to be returned to the City of Cincinnati for potential redevelopment and/or public use.

¹ Total includes 22.01 acres of property owned by the City of Cincinnati that was impacted by Selected Alternative I but not quantified in the 2012 EA/FONSI.



KYTC began acquiring right-of-way for the Kentucky portions of the project under the 2012 FONSI in early 2022. ODOT began acquiring land for the Ohio portions of the project in 2014 and has acquired 70 of the 79 Ohio parcels under the 2012 FONSI, with the majority of the parcels acquired prior to May 2021. KYTC and ODOT are continuing to acquire the remaining parcels under the 2012 FONSI. The acquisition of property for right-of-way has been, and will continue to be, in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act).

4.1.2 Neighborhood and Community Cohesion

The 2012 EA/FONSI identified minor impacts to community cohesion due to greater than 40 residential displacements in Kentucky. The refinements incorporated into Refined Alternative I (Concept I-W) reduced the residential displacements in Kentucky by up to 95 percent, to only four required residential relocations. The residential relocations include one single-family home adjacent to the northbound exit ramp to Kyles Lane and three single-family homes along Bullock Street in the Lewisburg neighborhood. Given the limited number of residential relocations and the distribution throughout the project area, the residential relocations required by Refined Alternative I (Concept I-W) are not anticipated to impact community cohesion. Additional details about residential displacements are provided in Section 4.1.5.

The 2012 EA/FONSI did not address impacts to community cohesion related to commercial relocations for Selected Alternative I. Refined Alternative I (Concept I-W) requires 1 partial and 24 full commercial relocations, which is 2 fewer commercial relocations than would have been required by Selected Alternative I (from the 2012 EA/FONSI). With the exception of the tenants in Longworth Hall, the Ohio businesses have already been relocated and removed under the 2012 FONSI. Ongoing acquisition activities in Kentucky and Ohio have indicated that affected businesses will be able to relocate within the same geographic area if so desired, either in existing structures or new construction. Furthermore, the businesses to be relocated do not serve unique community needs. None of the commercial relocations is expected to result in substantial job loss or economic impact. The only major employer required to relocate is the dunnhumby USA headquarters; however, in anticipation of the BSB project, a new expanded headquarters (currently under new ownership and called 84.51°) has already been built about one-half mile east of its previous location. Therefore, the commercial relocations required by Refined Alternative I (Concept I-W) are not anticipated to impact community cohesion. Additional details about commercial displacements are provided in Section 4.1.5.

Refined Alternative I (Concept I-W) incorporates aesthetic enhancements, multimodal facilities, noise reduction measures, and drainage improvements that will improve community cohesion, as described below:

- KYTC and ODOT are coordinating with the cities of Fort Mitchell, Fort Wright, Covington, and Cincinnati to further their goals of creating vibrant urban spaces in locations throughout the corridor. These efforts include incorporating aesthetic treatments into project features such as piers, abutments, retaining walls, noise barriers, and noise/visual screening barriers and planning for improvements to landscaping, streetscapes, and gateways. Additional details about aesthetics incorporated into the project are provided in Section 4.9.



- Refined Alternative I (Concept I-W) will build new and reconstruct existing sidewalks, shared-use paths, and bicycle lanes on local streets that are parallel to or cross I-71/I-75. These improvements will increase the options available to pedestrians and bicyclists, which will enhance community connectivity along and across the I-71/I-75 corridor and may improve access to transit, employment, healthcare, cultural, recreational, and commercial destinations. At Pike Street and West 12th Street/MLK Jr. Boulevard, the project will improve connections to the Lewisburg neighborhood, which was left isolated from greater Covington by the original interstate construction. In Ohio, the bicycle and pedestrian infrastructure will improve connectivity in and between the Cincinnati Central Business District (CBD) Riverfront, Queensgate, and West End neighborhoods. New bicycle lanes and shared-use paths incorporated into Refined Alternative I (Concept I-W) will support future planned improvements of regional pedestrian and bicycle networks. Additional details about the multimodal features incorporated into the project, including mapping of proposed facilities, are provided in Section 4.1.4.
- Proposed noise barriers and noise/visual screening barriers will reduce noise in nearly all residential areas that are adjacent to I-71/I-75.¹ Additional details about proposed noise barriers and noise/visual screening barriers are provided in Section 4.8. The locations of proposed noise barriers and noise/visual screening barriers are shown in Figure 8.
- The separation of interstate runoff from combined sewer systems and the implementation of measures to address surcharging in the Peaselburg neighborhood will reduce combined sewer overflows and flooding in residential areas adjacent to I-71/I-75. Details about stormwater management are provided in Section 4.12.1.

Given the above, Refined Alternative I (Concept I-W) is expected to result in net improvements to community cohesion throughout the project area.

4.1.3 Community Facilities

Community facilities in and near the project area are shown in Figure 8 and summarized below (facilities that were included in the 2012 EA/FONSI are marked with an “*”):

- General Ormsby Mitchel Park (KY) – 7.6-acre city park with tennis and basketball courts currently under renovation to construct a covered pavilion located at 261 Grandview Drive in Fort Mitchell.
- Beechwood Elementary and High School* (KY) – Public elementary and high school complex with school buildings, a baseball field, a football field, and tennis courts located at 54 Beechwood Road in Fort Mitchell.
- Highland Cemetery* (KY) – 250-acre cemetery located at 2167 Dixie Highway in Fort Mitchell.

¹ Noise barriers have been determined to be reasonable and feasible per 23 CFR part 772 and the applicable state noise policy and are proposed mitigation for noise impacts. Noise/visual screening barriers do not meet one or more of the reasonability criteria but are proposed enhancements to provide noise reduction above and beyond the requirements of 23 CFR 772 and the applicable state noise policy.



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- Central Church of the Nazarene* (KY) – Church with small playground located at 2006 Pieck Drive in Fort Wright.
 - Fort Wright Nature Center (KY) – 13-acre nature area with trails, covered shelters, and a pond located off Highland Pike near Highland Cemetery in Fort Wright.
 - Notre Dame Academy* (KY) – Parochial college preparatory high school including tennis courts, a soccer field and track, and a baseball field located at 1699 Hilton Drive in Park Hills.
 - Ivy Knoll Senior Living Community* (KY) – Nursing home located at 800 Highland Avenue in Covington (identified as Baptist Life Communities in the 2012 EA/FONSI).
 - Garden of Hope* (KY) – Re-creation of the Garden Tomb in Jerusalem located at 699 Edgecliff Road in Covington.
 - St. Elizabeth Covington Hospital* (KY) – Hospital located at 1500 James Simson R. Way in Covington (identified as the St. Elizabeth Medical Center in the 2012 EA/FONSI).
 - Linden Grove Cemetery and Arboretum* (KY) – Historic cemetery, arboretum, and garden located at 401 West 13th Street in Covington.
 - Neighborhood Park (Lewisburg)* (KY) – Small neighborhood park with playground, a picnic table, and benches located at West 11th Street and Hermes Avenue in Covington.
 - Prince of Peace Catholic School* (KY) – Parochial pre-kindergarten through 8th grade school located at 625 Pike Street in Covington.
 - Devou Park* (KY) – 700-acre public city park and golf course located at 1344 Audubon Road in Covington.
 - Goebel Park Complex* (KY) – 14.67-acre public city park complex consisting of three interconnected parks: Goebel Park, Kenney Shields Park, and the Sergeant First Class (SFC) Jason Bishop Memorial Dog Park located adjacent to I-71/I-75 between West 9th Street and West 5th Street in Covington. The complex includes picnic areas, a playground, walking trails, a neighborhood pool, basketball courts, and a fenced area for exercising pets. The SFC Jason Bishop Memorial Dog Park opened in December 2022 and was not included in the 2012 EA/FONSI.
 - George Steinfeld Park (KY) – A landscaped public walkway with benches (Sixth Street Promenade) located between the West 6th Street one-way roadways in Covington.
 - Kettering Health Bengals Practice Fields* (OH) – Practice fields for the Cincinnati Bengals professional football team located at 200 Mehring Way in Cincinnati.
 - Paycor Stadium* (OH) – Professional football stadium located at 1 Paycor Stadium in Cincinnati (formerly identified as the Paul Brown Stadium).



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- The David and Rebecca Barron Center for Men (OH) – Center providing beds, meals, and support services for men who are unhoused located at 411 Gest Street in Cincinnati. A Winter Shelter providing shelter to single men and women who are unhoused also operates at this location between December and February.
 - Fire Station 14* (OH) – Cincinnati Fire Department station located at 430 Central Avenue in Cincinnati.
 - Duke Energy Convention Center* (OH) – Convention and exhibition facility located at 525 Elm Street in Cincinnati.
 - Firefighters Memorial (OH) – 0.9-acre public city-owned plaza and memorial statue located east of I-75 in the area bounded by 6th Street, Central Avenue, and 5th Street in Cincinnati.
 - WXIX TV* (OH) – Network television station located at 635 7th Street in Cincinnati.
 - Queensgate Playground and Ball Field* (OH) – 5.3-acre public city park with an all-star baseball field, two playgrounds, and picnic areas located at 707 Court Street in Cincinnati.
 - Community Action Agency Head Start* (OH) – Family learning center providing education and support for children from birth to 5 years of age located at 880 Court Street in Cincinnati.
 - Lincoln Community Center* (OH) – City recreation center including a neighborhood pool, basketball courts, a playground, and a tennis court located at 1027 Linn Street in Cincinnati.
 - Public Library* (OH) – Cincinnati and Hamilton County public library located at 805 Ezzard Charles Drive in Cincinnati.
 - St. Joseph Catholic School* (OH) – Parochial pre-kindergarten through 8th grade school located at 737 Ezzard Charles Drive in Cincinnati.
 - Cincinnati Union Terminal* (OH) – Historic train station and museum center located at 1301 Western Avenue in Cincinnati.
 - Lincoln Park Union Terminal* (OH) – Public city-owned greenspace located west of I-75 and along Ezzard Charles Drive in Cincinnati.
 - Ezzard Charles Park (OH) – 6.5-acre public city park with a lawn area, trees, paved walkways, benches, and an accessible plaza located at 500 Ezzard Charles Drive in Cincinnati. Portions of Ezzard Charles Park consist of sidewalks and tree lawns that are situated within (encroaching upon) the existing transportation right-of-way north and south of Ezzard Charles Drive between Winchell Avenue and John Street in Cincinnati.
 - Cincinnati Job Corps Center* (OH) – Workforce training center and dormitories for persons aged 16-25 years located at 1409 Western Avenue in Cincinnati.



- Wade Walk Baseball Field* (OH) – Public city park including two baseball fields located at 1525 Linn Street in Cincinnati (identified as a park at Derrick and Turnbow and Linn Street in the 2012 EA/FONSI).
- Laurel Playground (OH) – Public city park including a playground, basketball courts, and a baseball field located at 501 Liberty Street in Cincinnati.
- Fire Station 29* (OH) – Cincinnati Fire Department station located at 564 Liberty Street in Cincinnati.
- Post Office* (OH) – Main post office facility located at 1623 Dalton Avenue.
- West End Community Garden (OH) – Community garden located in the area bounded by Freeman Avenue, Poplar Street, and Malden Walk in Cincinnati.
- Sands Playground (OH) – Playground and paved multipurpose play area located in the area bounded by Poplar Street, Baymiller Street, and Livingston Street in Cincinnati.
- Linn Livingston Park (OH) – Small neighborhood greenspace located at the intersection of Linn Street and Livingston Street in Cincinnati.
- Dyer Park* (OH) – Public city park with two baseball fields, basketball courts, a playground, and a sprayground located at 2110 Freeman Avenue in Cincinnati.

The Lafayette Bloom B-O-T Accelerated Middle School (OH) at 1941 Baymiller Street in Cincinnati and the Heberle Elementary School (OH) at 2015 Freeman Avenue in Cincinnati, which were documented in the 2012 EA/FONSI, have closed.

The 2012 EA/FONSI concluded that Selected Alternative I would not impact groups that provide social services to communities in the project area and that emergency response would be expected to improve due to reduced traffic congestion. These conclusions are unchanged for Refined Alternative I (Concept I-W).

Table 5 presents a comparison of impacts to community facilities. When compared to Selected Alternative I (from the 2012 EA/FONSI), Refined Alternative I (Concept I-W) reduces impacts to schools, places of worship, and hospitals, and slightly increases temporary and permanent impacts to publicly owned parks and recreation areas. The increased impacts are primarily due to the presence of new resources that did not exist in 2012, as well as the additional land needed to provide the infrastructure to separate the BSB corridor’s stormwater runoff from the existing combined sewer system in the vicinity of the Goebel Park Complex. Additional details regarding impacts to public recreational properties are provided in Section 4.13. Proposed right-of-way acquired from community facilities for Refined Alternative I (Concept I-W) is shown in Figure 8.



Table 5: Community Facilities Impact Comparison

Impacted Facility (State)	Selected Alternative I (from 2012 EA/FONSI) Impacts	Refined Alternative I (Concept I-W) Impacts
Notre Dame Academy (KY) – 44.6 acres	1.34 acres permanent right-of-way – including portions of existing ball field and parking lot.	<ul style="list-style-type: none"> • 0.30 acre permanent (strip) right-of-way from an undeveloped portion of the property adjacent to southbound I-71/I-75. • 0.60 acre permanent easement from undeveloped portions of the property. The easement crosses an existing parking lot, but the lot will not be disturbed. • No impacts to school facilities or operations.
Beechwood Elementary and High School (KY) – 15.1 acres	Unquantified minor strip of permanent right-of-way.	<ul style="list-style-type: none"> • 0.07 acre permanent (strip) right-of-way from an undeveloped portion of the property adjacent to the northbound Dixie Highway exit ramp. • No impacts to school facilities or operations.
Central Church of the Nazarene (KY) – 3.9 acres	0.44 acre permanent right-of-way – including 24 parking spaces.	<ul style="list-style-type: none"> • 0.28 acre permanent (strip) right-of-way along curb line of parking lot. • 0.10 acre temporary easement for the removal of a church sign. • No impacts to church function or operation.
St. Elizabeth Covington Hospital (KY) ¹ – 11.8 acres	Unquantified minor permanent right-of-way impacts.	<ul style="list-style-type: none"> • No permanent right-of-way. • 2.1 acres temporary easement for restoration of existing stormwater retention basin. • No impacts to hospital operations.
Goebel Park Complex (including Goebel Park, Kenney Shields Park, and SFC Jason Bishop Memorial Dog Park) (KY) – 14.67 acres	2.59 acres permanent right-of-way – including 360 feet of walking trail, basketball courts and parking lot and proximity impacts to outdoor pool. ²	<ul style="list-style-type: none"> • 2.84 acres permanent right-of-way; 0.07 acre temporary easement; loss of 360 feet of walking trail, 2 basketball courts and associated resources, and proximity impacts to outdoor pool. • Impacts mitigated through replacement land; reconstruction of the walking trail within the complex; and funding for a new Goebel Park Complex Master Plan, replacement and enhancement of the basketball courts or other outdoor recreation facilities within the park, and relocated outdoor pool and associated facilities or other comparable aquatic facility serving the same purpose within the park.³



Impacted Facility (State)	Selected Alternative I (from 2012 EA/FONSI) Impacts	Refined Alternative I (Concept I-W) Impacts
<i>Table 5 (cont.)</i>		
Firefighters Memorial (OH) – approximately 0.9 acre	Not identified in 2012 EA/FONSI.	<ul style="list-style-type: none"> • Temporary closure of adjacent sidewalk and plaza areas along 6th St. during construction with measures to minimize harm during construction activities.³ • No permanent restriction of access or incorporation of land.
Queensgate Playground and Ball Field (OH) – 5.29 acres	<ul style="list-style-type: none"> • 0.9 acre permanent right-of-way – including the outfield area of existing ball field. • Trees and shrubs removed along the park’s southern edge due to highway, retaining wall, and noise barrier construction. 	<ul style="list-style-type: none"> • 0.72 acre permanent right-of-way and easement across existing (2012) outfield area. • Impacts to outfield area mitigated in 2014 by reconfiguring 2 existing ball fields into 1 all-star ball field and building a new playground and picnic area.³ • Trees and shrubs removed along the park’s southern edge due to highway, retaining wall, and noise barrier construction.
Ezzard Charles Park (OH) – approximately 6.5 acres	Not identified in 2012 EA/FONSI.	<ul style="list-style-type: none"> • Reconstruction/relocation of existing sidewalk. Temporary sidewalk closures during construction with measures to minimize harm during construction activities.³ • No permanent restriction of access or incorporation of land.

1. *St. Elizabeth Covington Hospital was identified as the St. Elizabeth Medical Center in the 2012 EA/FONSI.*
2. *The SFC Jason Bishop Memorial Dog Park (included in the Goebel Park Complex) was opened in December 2022 and was not included in the 2012 EA/FONSI. The 2012 EA stated Alternative I would avoid impacts to the walking trail, but the FONSI subsequently identified 360 feet of impacts for Selected Alternative I.*
3. *See Section 4.13 for additional details about impacts, mitigation measures, and measures to minimize harm for public recreational properties.*

4.1.4 Travel Patterns and Access

The following sections discuss changes related to vehicular, pedestrian and bicycle, and transit travel patterns and access since the 2012 EA/FONSI.

Vehicular

Table 6 compares vehicular travel patterns and access for Selected Alternative I (from the 2012 EA/FONSI) and Refined Alternative I (Concept I-W). Figure 9 illustrates how traffic will travel through the corridor.



Table 6: Travel Patterns and Access

Feature	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W)
Local Access to I-71/I-75	<ul style="list-style-type: none"> • Access to NB and SB I-71/I-75 via C-D roadways between W. 12th St./MLK Jr. Blvd. (KY) and Ezzard Charles Dr. (OH) • Direct access to I-71/I-75 SB from W. 12th St./MLK Jr. Blvd. (KY) • Direct access to I-71 NB from Pike St. (KY) • Access to I-75 NB from 3rd St. and the Clay Wade Bailey Bridge. (OH) • Access to NB I-75 from 6th St. via connection to Winchell Ave. (OH) • Access to I-75 NB from Freeman Ave. (OH) • Access to I-75 NB/SB from bottom deck of the existing Western Hills Viaduct. (OH) 	<p>Same as Selected Alternative I, except:</p> <ul style="list-style-type: none"> • Access to I-71 NB from Pike St. accommodated via C-D roadways. (KY) • Texas turnaround opened on W. 12 St. in 2023 removed. (KY) • Emergency vehicle access only restriction on W. 4th St. (implemented in 2023) removed (KY). • Ramp to NB C-D roadway at 4th St. removed and replaced with ramp at 3rd St. (OH) • Access to I-75 NB from 6th St. via direct connection to C-D roadways. (OH) • Access to I-75 NB from Freeman Ave. moved to Winchell Ave. (OH) • Access to I-75 NB/SB from bottom deck of the new Western Hills Viaduct. (OH)
Access to Covington from I-71/I-75	Access via C-D roadways.	Same as Selected Alternative I.
Access from northbound C-D road to W. 5 th St. (KY)	Exit ramp from northbound C-D roadway to West 5 th St. Section of Jillians Way ¹ removed between W. 9 th St. and W. 5 th St.	Same as Selected Alternative I, except that Simon Kenton Way continues between W. 9 th St. and W. 5 th St.
Access to Downtown Cincinnati from I-71/I-75 (OH)	Access via C-D roadways.	<p>Same as Selected Alternative I, except:</p> <ul style="list-style-type: none"> • SB I-75 exit to 2nd St. widened to 2 lanes. • SB I-75 exit to 5th St. removed. • SB I-75 exit to 7th St. widened to 4 lanes.
Rose St. and Augusta St. (OH)	Rose St. and Augusta St. remained open.	<ul style="list-style-type: none"> • Rose St. permanently closed. • Augusta St. permanently closed under the existing BSB.
Ezzard Charles Dr. over I-75 (OH)	Two, one-way bridges.	One combined two-way bridge.
Local access to the Western Hills Viaduct (OH)	<ul style="list-style-type: none"> • Direct WB access from Spring Grove Ave. to top deck of existing viaduct. • Direct EB access to Harrison Ave. from top deck of existing viaduct. 	<ul style="list-style-type: none"> • Indirect WB access from Spring Grove via access at the I-75 interchange. • Direct access traveling EB from the new viaduct to WB Harrison Ave. off of new viaduct at NB ramp intersection.
Separation of Local and Regional Traffic (KY and OH)	<ul style="list-style-type: none"> • Separated using C-D roadways and divided by barriers where design guidelines dictate. • Barriers required on the new companion bridge, where I-75 NB and local SB traffic share the lower deck. 	Same as Selected Alternative I, except no barriers required on bridges due to separation of through and local traffic and placement of opposing traffic on different decks on the existing BSB and new companion bridge.

1. Jillians Way was renamed to Simon Kenton Way after the 2012 EA/FONSI.



Figure 9: Refined Alternative I (Concept I-W) Traffic Flow - Sheet 1 of 8

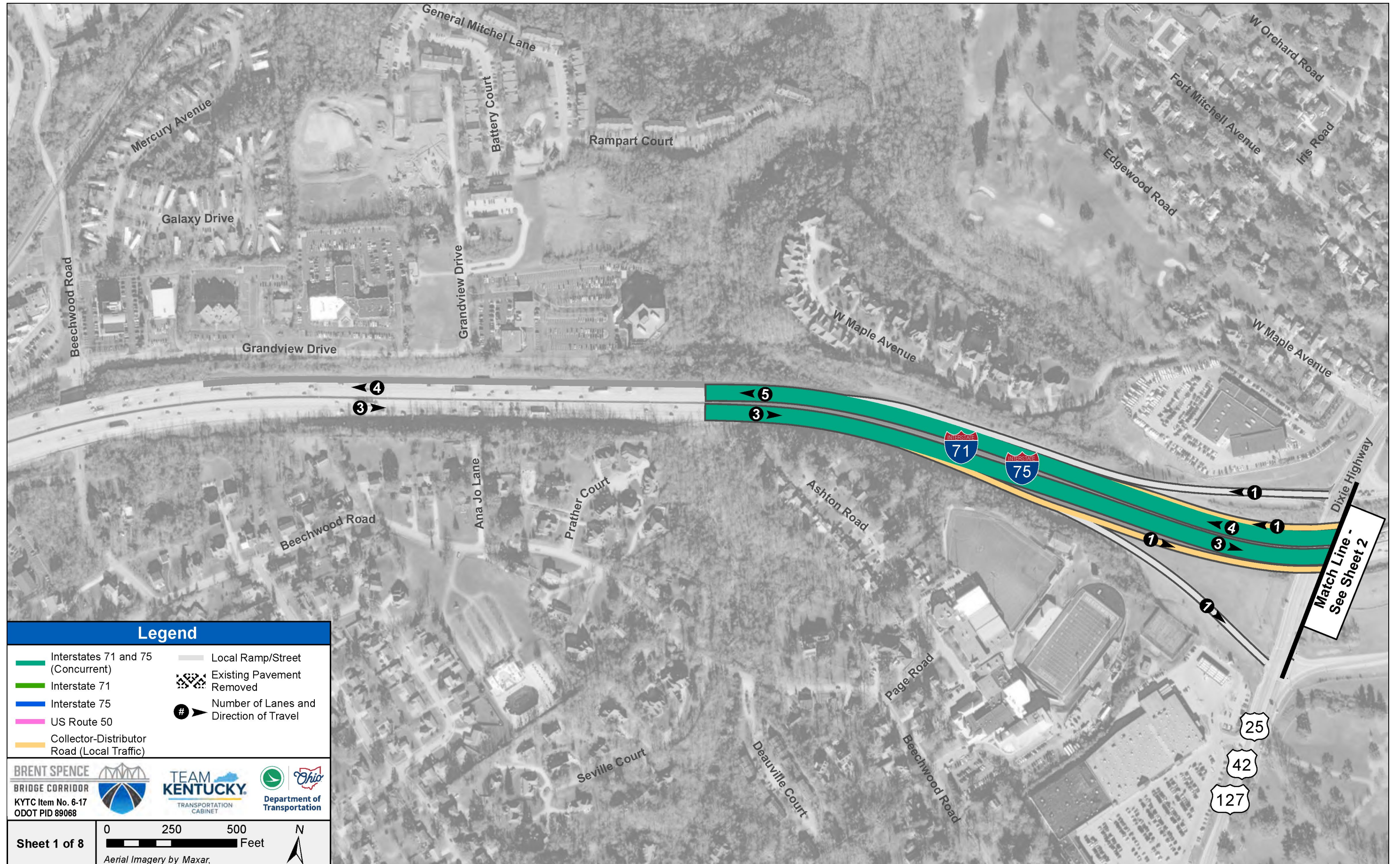


Figure 9: Refined Alternative I (Concept I-W) Traffic Flow - Sheet 2 of 8



Figure 9: Refined Alternative I (Concept I-W) Traffic Flow - Sheet 3 of 8



Figure 9: Refined Alternative I (Concept I-W) Traffic Flow - Sheet 4 of 8

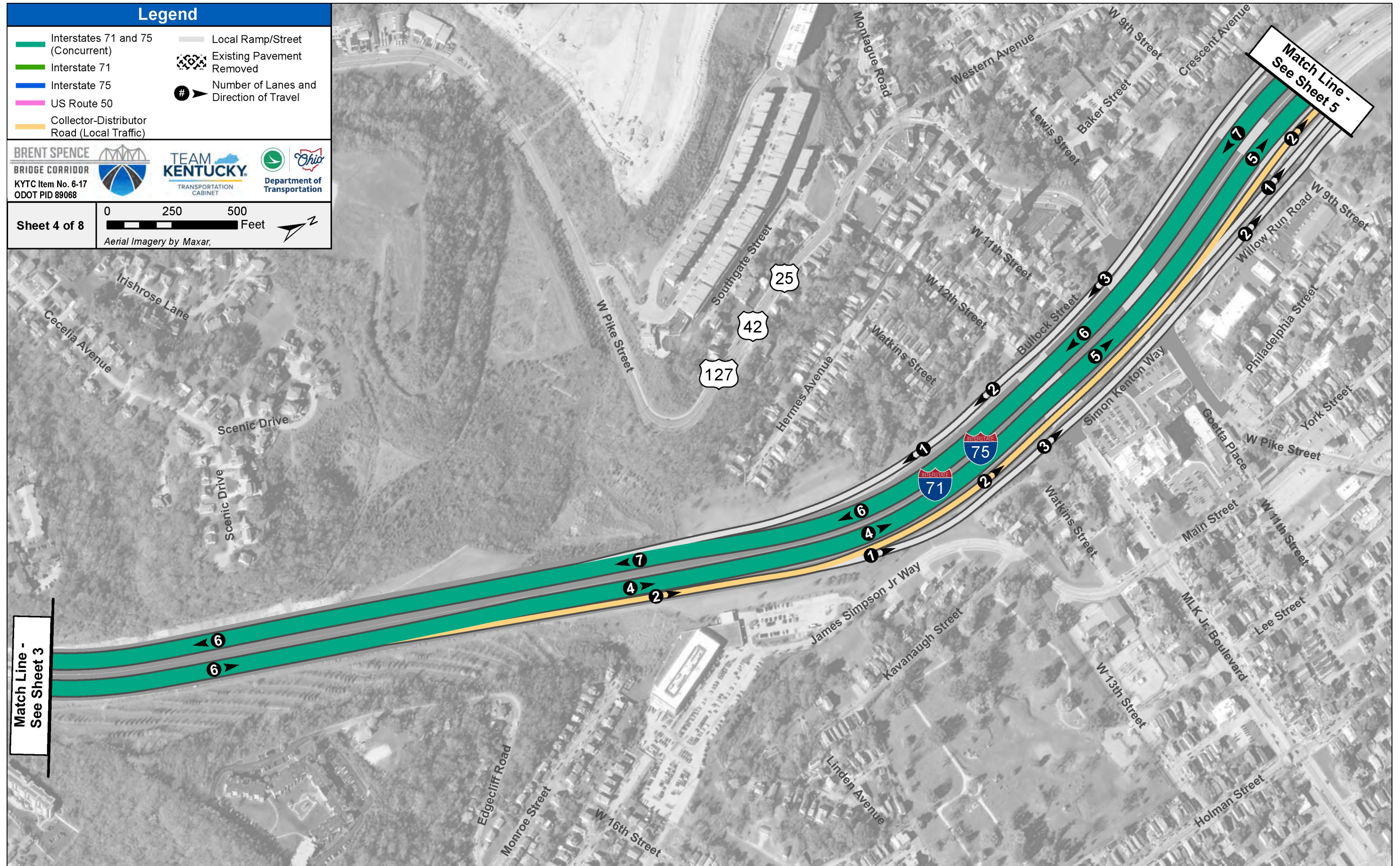


Figure 9: Refined Alternative I (Concept I-W) Traffic Flow - Sheet 5 of 8

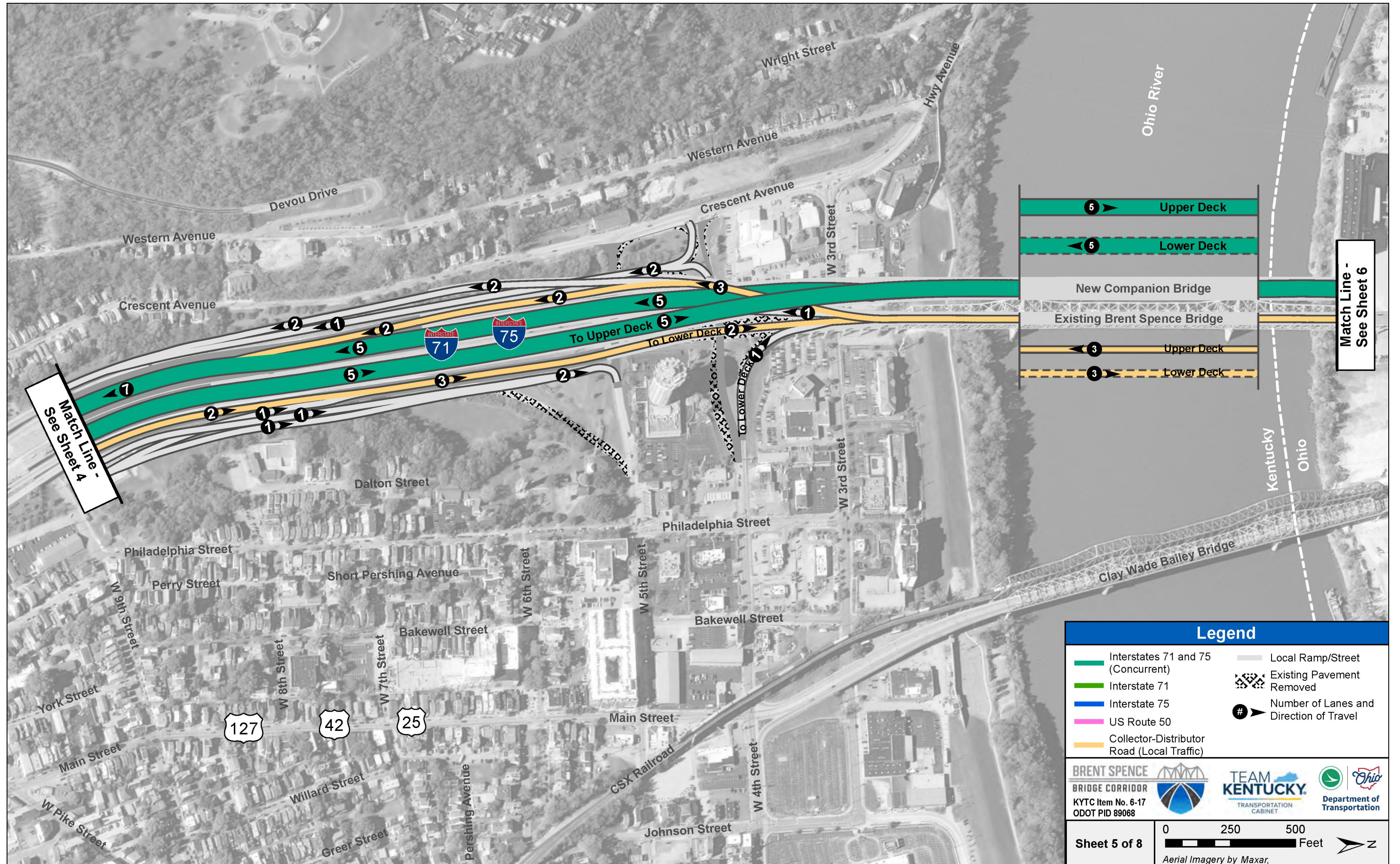


Figure 9: Refined Alternative I (Concept I-W) Traffic Flow - Sheet 6 of 8

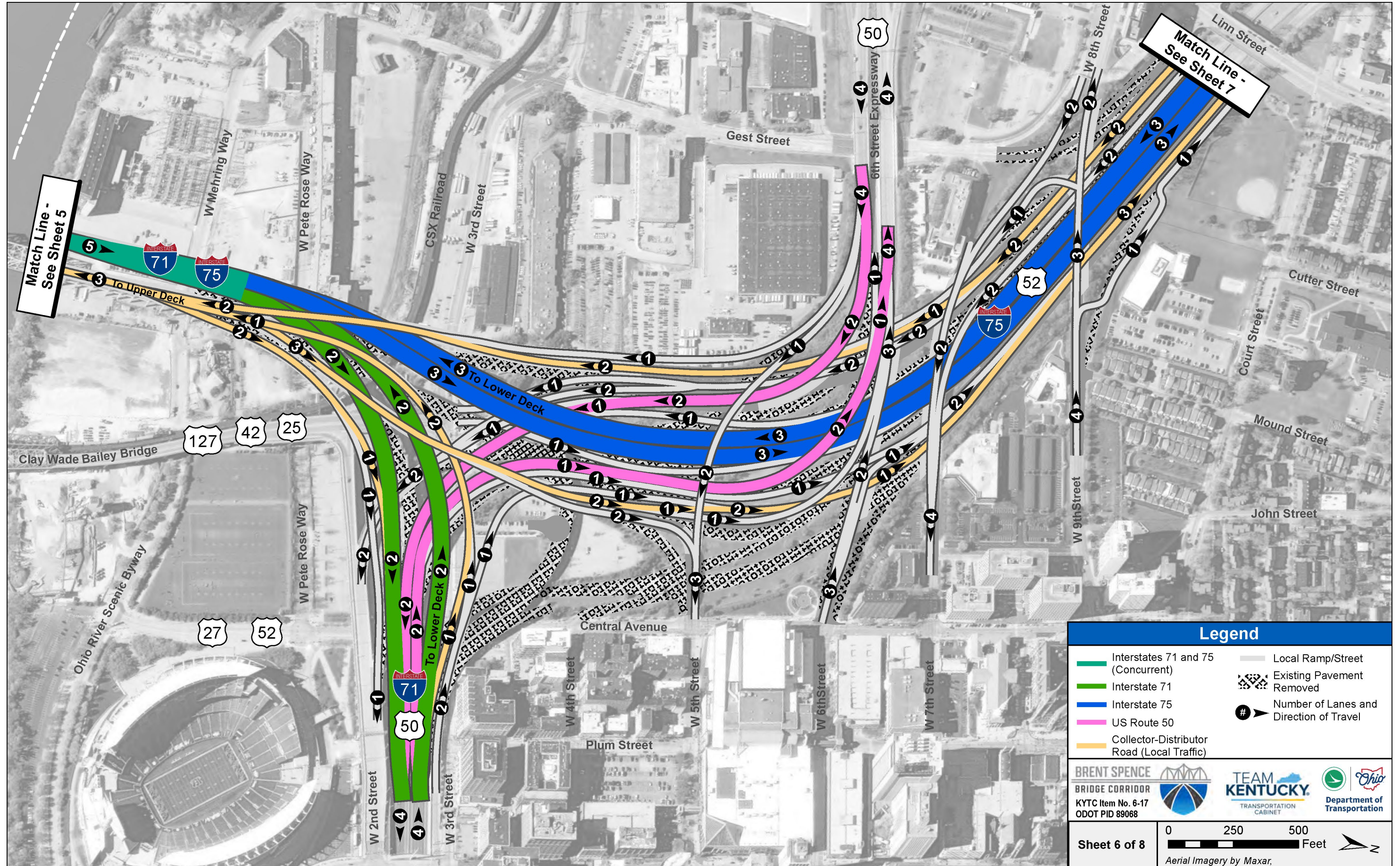


Figure 9: Refined Alternative I (Concept I-W) Traffic Flow - Sheet 7 of 8

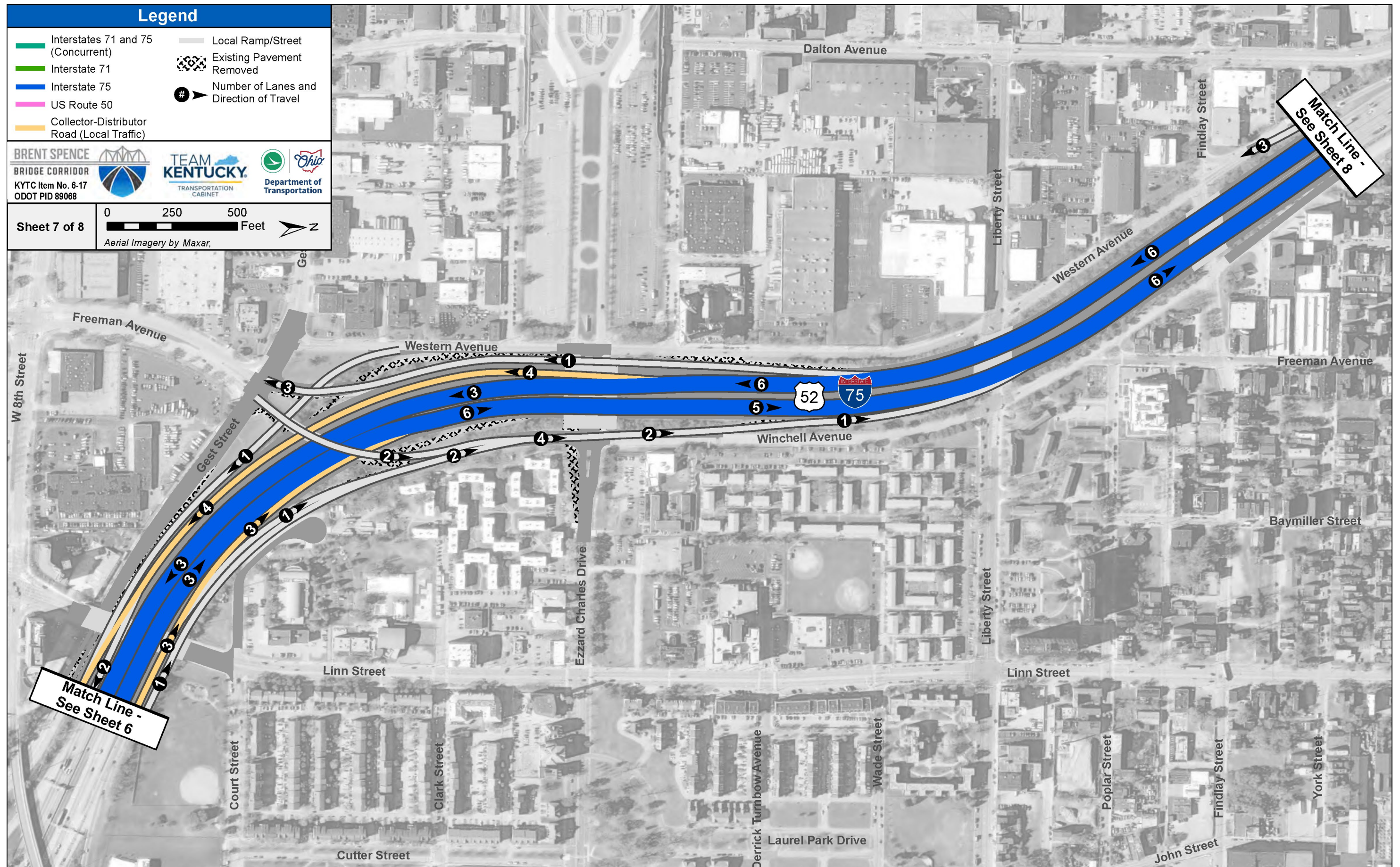
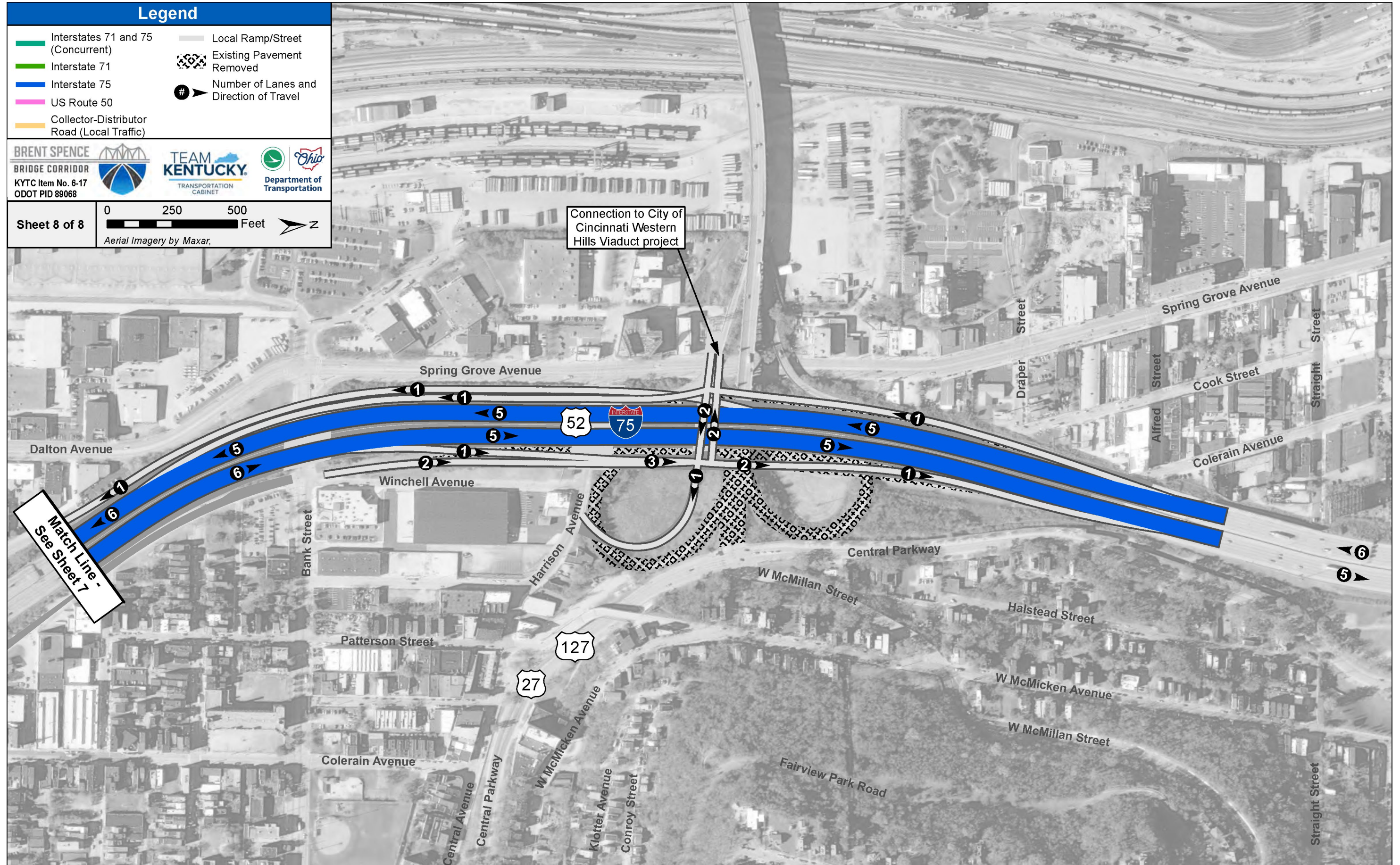


Figure 9: Refined Alternative I (Concept I-W) Traffic Flow - Sheet 8 of 8



Refined Alternative I (Concept I-W) will change how through (interstate) traffic and local traffic travel through the corridor while maintaining most existing travel connections and accommodating minor rerouting of traffic where access points are modified, as described below:

- Through (interstate) traffic will move through the corridor via I-71/I-75 and across the Ohio River on a new double-decker companion bridge west of the existing BSB, improving access and mobility.
- Traffic will travel to and from local destinations using C-D roadways in the locations listed below. While the method for accessing local destinations will change, all access will be maintained. The introduction of the C-D roadway system will improve traffic flow by separating through and local traffic and keeping them in separate paths for longer distances, reducing weaving movements that can disrupt traffic flow.
 - Northbound between the Dixie Highway (KY) and Kyles Lane interchanges (KY).
 - Southbound between the Kyles Lane (KY) and Dixie Highway interchanges (KY).
 - Northbound from north of St. Elizabeth Covington Hospital (KY) to north of Freeman Avenue (OH).
 - Southbound from north of Ezzard Charles Drive (OH) to south of West 5th Street (KY).
- Left-hand exits off I-71/I-75 will be removed, except for one left-hand exit to West 5th Street from the C-D road in Covington. These changes will improve traffic flow by allowing traffic to exit the interstate from the right lane or the C-D roadway as opposed to the high speed (left) interstate lane.
- The Texas turnaround at Pike Street will be removed and replaced by the C-D roadway system, which will provide access similar to the existing condition.
- An extended frontage road along Simon Kenton Way will provide an additional north-south community connection between West 9th Street and West 5th Street in Covington. This change will improve access in Covington and will provide a conduit for local traffic entering the C-D roadway system.
- The West 4th Street ramp to the northbound C-D roadway system in Covington, which continues on to I-71 and I-75, will be open to all vehicles, as opposed to the existing emergency vehicle access only. This change will restore access that currently is restricted.
- Access to northbound I-75 will be provided directly from the Clay Wade Bailey Bridge. This change will improve access to Cincinnati from the Covington area.
- Rose Street will be permanently closed, and Augusta Street will be closed under the existing BSB. Impacts to vehicular access are not anticipated because these roadways almost exclusively serve adjacent utility infrastructure and an asphalt plant, and alternative access exists within one city block.
- The entrance to northbound I-75 at 4th Street in downtown Cincinnati will be removed and replaced with an entrance ramp at 3rd Street. This change is not anticipated to impact vehicular travel because traffic will only need to reroute about one city block, and sufficient lanes will be provided to maintain acceptable traffic flow.¹

¹ Preliminary traffic operations were evaluated using planning-level traffic projections for the year 2050. Final traffic operations were vetted and confirmed using certified traffic for the years 2029 and 2049 (see Section 3.8).



- The southbound I-75 exit to 5th Street in downtown Cincinnati will be removed, and the exit to 7th Street will be widened to accommodate rerouted traffic. Impacts to vehicular access are not anticipated because traffic will only need to reroute about two city blocks, and sufficient lanes will be provided to maintain acceptable traffic flow.¹
- The connection between 6th Street and Winchell Avenue will be removed and replaced with a connection between 6th Street and the northbound C-D road, which continues on to northbound I-75 and will provide access similar to existing conditions.
- The northbound entrance ramp to I-75 will be moved from its existing location at Freeman Avenue (south of Ezzard Charles Drive) to Winchell Avenue (north of Ezzard Charles Drive), improving access to I-75 in the West End neighborhood.
- The two existing one-way bridges on Ezzard Charles Drive will be replaced with one, two-way bridge over I-75, which will provide access similar to existing conditions.
- Direct access to Central Parkway from I-75 will be provided via the interchange with the Western Hills Viaduct, improving access in this area.
- Access to Spring Grove Avenue from the Western Hills Viaduct will be provided via a ramp to Harrison Avenue, improving access in this area.

In the existing condition, incidents on the BSB force traffic (including trucks) onto the local street network, often overburdening the system. The construction of a new companion bridge and C-D roadway system will introduce additional resilience into the local and regional transportation network by providing additional options for maintaining cross-river traffic if an incident or future construction or maintenance activities occur. Likewise, the extension of Simon Kenton Way to West 5th Street in Kentucky will be able to accommodate traffic that would otherwise divert into downtown Covington. These changes are anticipated to reduce traffic congestion throughout the project area.

During final design, KYTC will coordinate with the Northern Kentucky cities along the corridor, including Fort Mitchell, Fort Wright, Park Hills, and Covington, and Kentucky first responders, including police, fire, and emergency services, to ensure the completed project accommodates emergency response access to the C-D and mainline roadways.

Given the above, impacts to vehicular travel patterns and access resulting from Refined Alternative I (Concept I-W) are anticipated to be minor.

Pedestrian and Bicycle

The 2012 EA/FONSI did not expressly address pedestrian and bicycle access. Pedestrian and bicycle facilities were incorporated into Refined Alternative I (Concept I-W) as enhancements to provide additional benefits to the surrounding communities. The pedestrian and bicycle facilities were developed in coordination with the City of Covington and the City of Cincinnati and are shown in Figure 10.

¹ Preliminary traffic operations were evaluated using planning-level traffic projections for the year 2050. Final traffic operations were vetted and confirmed using certified traffic for the years 2029 and 2049 (see Section 3.8).



In Kentucky, the project will be implemented in accordance with KYTC's *Complete Streets, Roads, and Highways Policy* and *Complete Streets, Roads, and Highways Manual*, which outline KYTC's policies and procedures for developing a comprehensive, integrated, and connected transportation network focused on creating safe transportation options for users of all ages and abilities. KYTC's complete streets policy and procedures are designed to protect vulnerable roadway users and provide equitable transportation operations in underinvested and underserved communities. To that end, Refined Alternative I (Concept I-W) will improve safety for pedestrians and school-age children who cross the northbound entrance ramp from Dixie Highway to I-71/I-75 by reducing length of the crosswalk, installing warning signs, and enhancing the pavement markings to better define the crosswalk. The project will also build a new shared-use path along the outside lanes on Simon Kenton Way. New and rebuilt sidewalks will be constructed along the outside lanes of Bullock Street. Rebuilt sidewalks will be constructed along Pike Street west of I-71/I-75. A switchback accessible ramp will be constructed to replace steep stairs between Pike Street and Lewis Street. New and rebuilt sidewalks will be constructed under the West 12th Street/ MLK Jr. Boulevard, Pike Street, West 9th Street, West 5th Street, and West 3rd Street bridges. A new shared-use path, which will tie into the existing paths in the Goebel Park Complex, will be built under the West 5th Street bridge. The shared-use path will be extended along Crescent Avenue to connect to an existing shared-use path along the Ohio River. Pedestrians and bicycles will not be permitted on the existing BSB or the new companion bridge. During final design, however, KYTC and ODOT have committed to evaluate reconfiguring the lanes on the Clay Wade Bailey Bridge to add bicycle lanes.

In Ohio, the project will be implemented in accordance with ODOT's *Multimodal Design Guide*, which outlines ODOT's procedures for developing connected pedestrian and bicycle networks to support walking and bicycling for people of all ages and abilities. To that end, the Refined Alternative I (Concept I-W) includes new and rebuilt sidewalk connections across I-75 on Linn Street, Freeman Avenue, Ezzard Charles Drive, Liberty Street, Findlay Street, Bank Street, and Harrison Avenue. Shared-use paths will be built across I-75 on 6th Street, 7th Street, 9th Street, Linn Street, and Ezzard Charles Drive and along Winchell Avenue between 9th Street and Ezzard Charles Drive. New sidewalk will be installed along West Court Street, including a pedestrian bridge connection to Freeman Avenue. Finally, new and rebuilt bike lanes will be constructed across I-75 on Liberty Street, Findlay Street, Bank Street, and Harrison Avenue.

The multimodal accommodations in both Kentucky and Ohio will also support the OKI *Regional Complete Streets Policy*, which outlines OKI's policy for building roads designed for all users.

The new and improved pedestrian and bicycle infrastructure incorporated into Refined Alternative I (Concept I-W) is anticipated to benefit pedestrian and bicycle access and mobility by increasing the options available to pedestrians and bicyclists, which will enhance community connectivity along and across the I-71/I-75 corridor and may improve access to transit, employment, healthcare, cultural, recreational, and commercial destinations for communities east and west of I-71/I-75. At Pike Street and West 12th Street/ MLK Jr. Boulevard, the project will improve connections to the Lewisburg neighborhood, which was left isolated from greater Covington by the original interstate construction. In Ohio, the bicycle and pedestrian infrastructure will improve connectivity in and between the Cincinnati CBD Riverfront, Queensgate, and West End neighborhoods. Furthermore, new bicycle lanes and shared-use paths will tie into existing and planned future pedestrian and bicycle facilities in the cities of Covington and Cincinnati, as shown in Figure 10.



Figure 10: Refined Alternative I (Concept I-W) Multimodal Facilities - Sheet 1 of 5

Legend	
	New Sidewalk
	Replace Existing Sidewalk
	New Bike Lane
	Existing Bike Lane
	Replace Existing Bike Lane
	New Shared-Use Path
	Existing Shared-Use Path
	Existing Sidewalk Trail
	Future Shared-Use Path
	New Pedestrian Bridge
	Existing Pavement Converted to Green Space
	Bus Stop
	Bus Route

 KYTC Item No. 6-17 ODOT PID 89068		
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Sheet 1 of 5	 Aerial Imagery by Maxar, Microsoft, Maxar	
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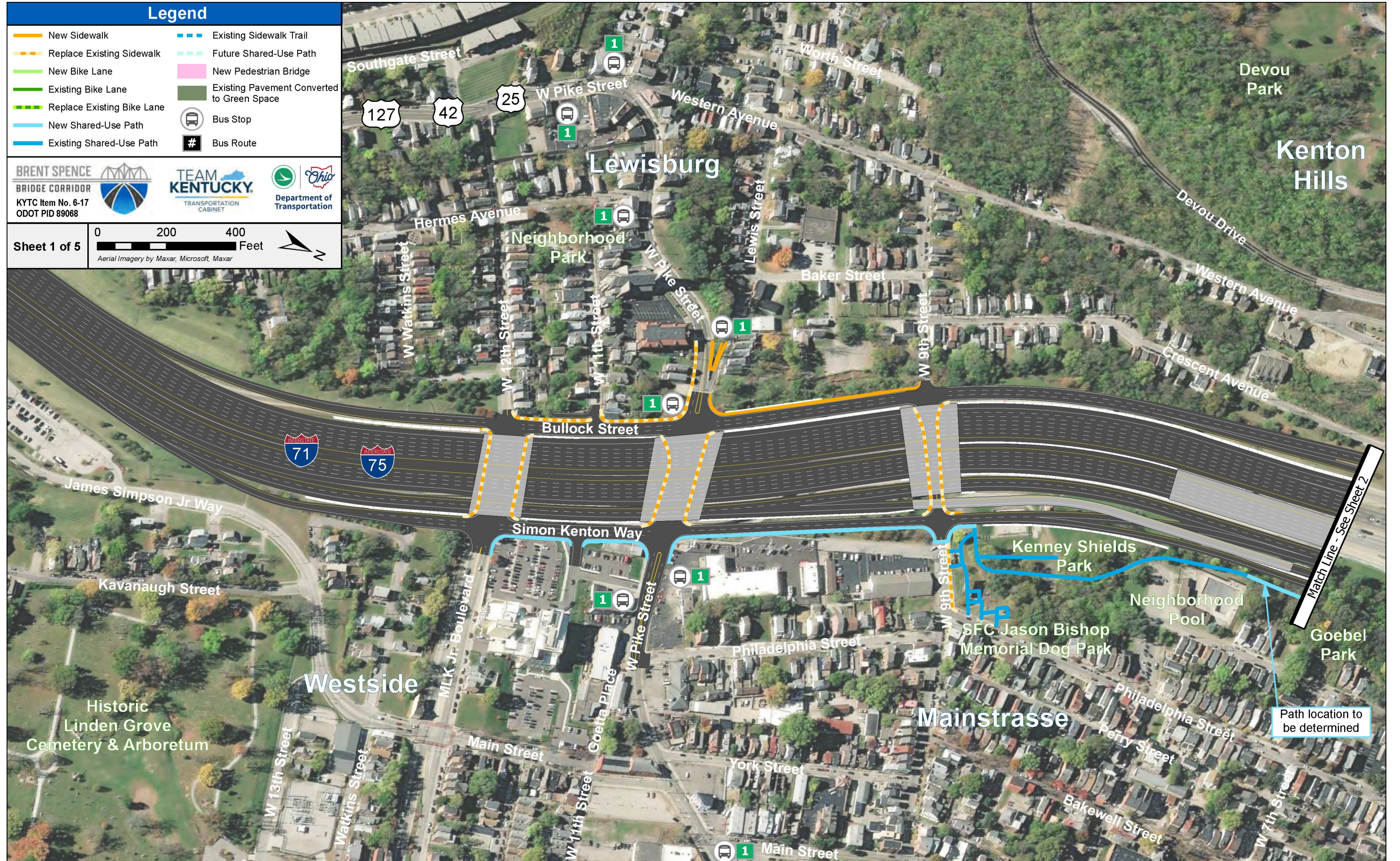


Figure 10: Refined Alternative I (Concept I-W) Multimodal Facilities - Sheet 2 of 5



Figure 10: Refined Alternative I (Concept I-W) Multimodal Facilities - Sheet 3 of 5

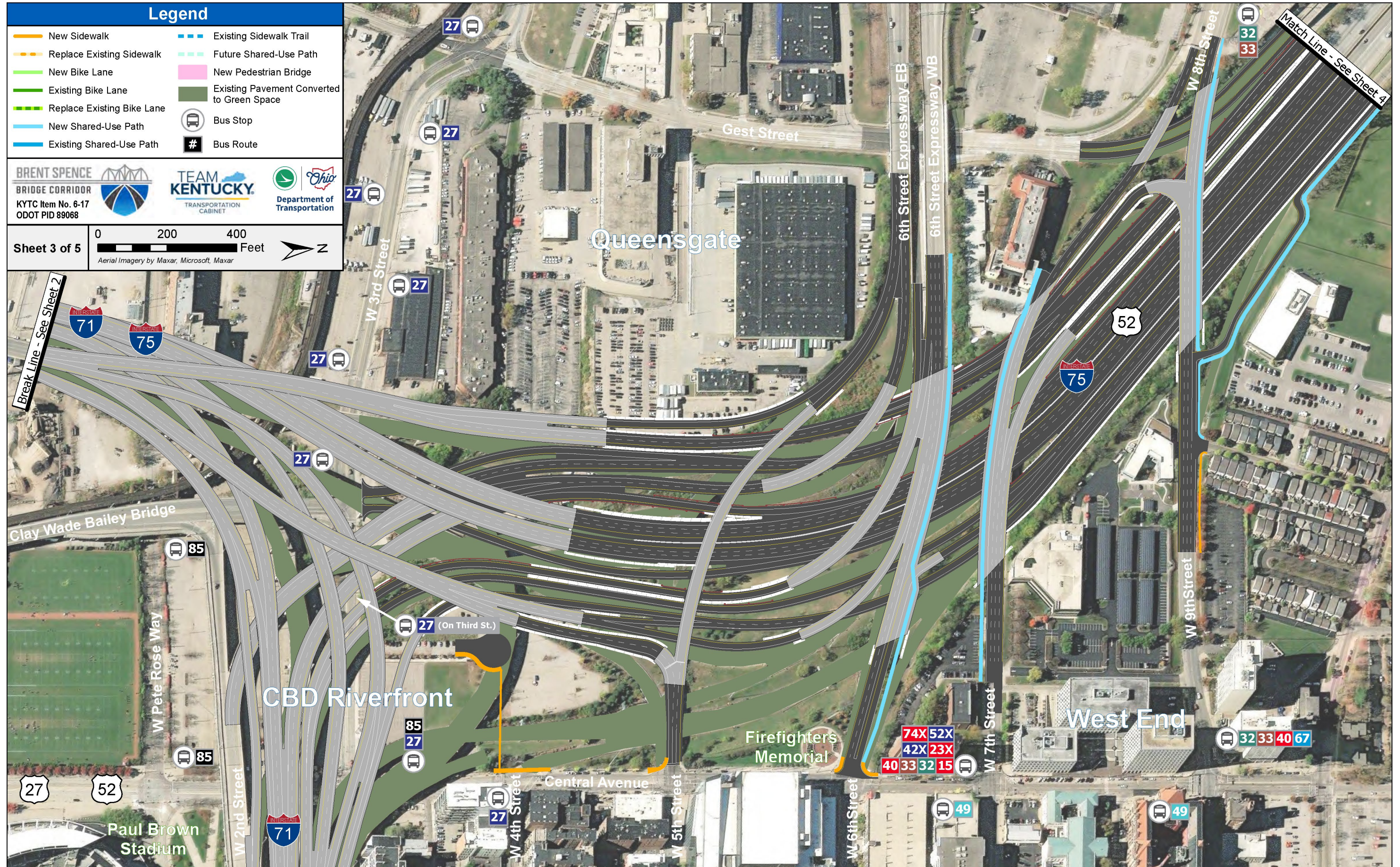


Figure 10: Refined Alternative I (Concept I-W) Multimodal Facilities - Sheet 4 of 5

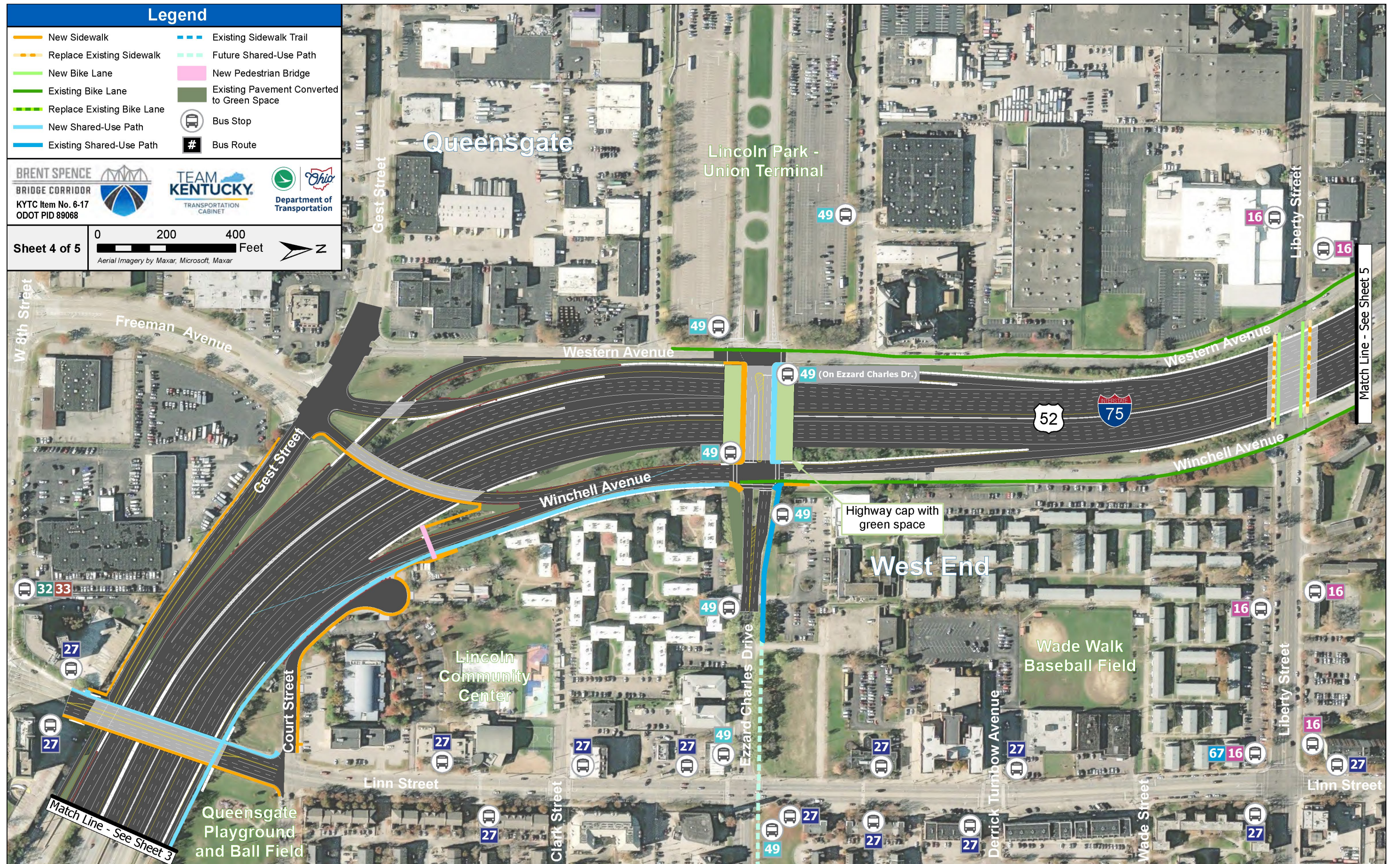
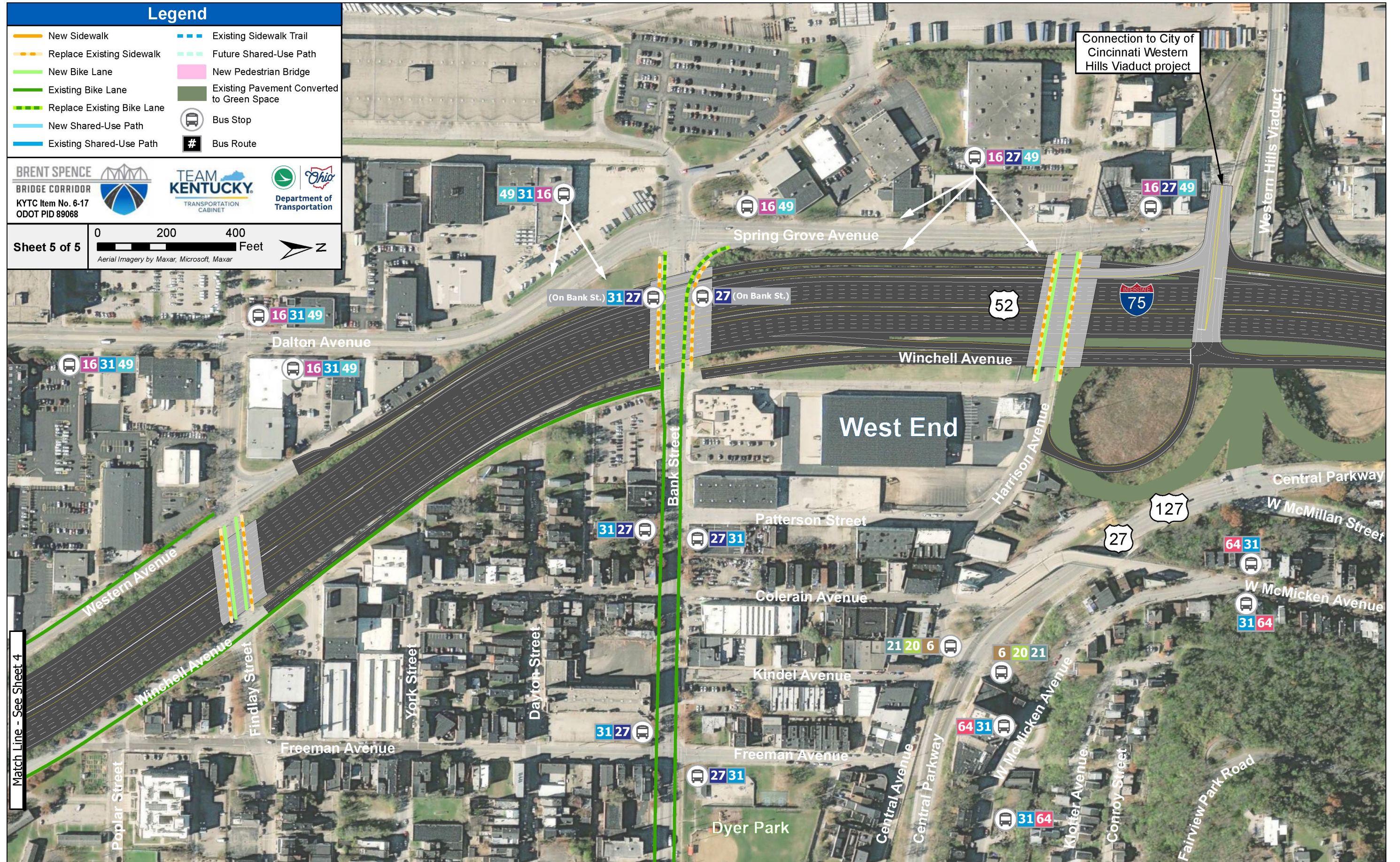


Figure 10: Refined Alternative I (Concept I-W) Multimodal Facilities - Sheet 5 of 5



Transit

The 2012 EA/FONSI did not expressly address transit. In the discussion about environmental justice (see Section 4.1.7), the 2012 EA/FONSI stated that existing public transit stops are anticipated to remain at their current locations, and future plans for transit will not be precluded by the project.

Many bus routes and stops are located directly adjacent to the BSB corridor, largely north of Pike Street in Kentucky and throughout the corridor in Ohio, as shown in Figure 10. Additionally, many bus routes in the area utilize the existing BSB and the I-71/I-75 corridor, including for access to the Cincinnati/Northern Kentucky International Airport. Existing transit stops and routes are anticipated to remain the same for Refined Alternative I (Concept I-W).

The Southwest Ohio Regional Transit Authority (SORTA) and the Transit Authority of Northern Kentucky (TANK) have been involved in the development of the project and encouraged to provide feedback as members of the Project Advisory Committee (see Section 5.2 and the [Public Involvement Summary](#) for additional information about the Project Advisory Committee). TANK has also accepted an invitation to be a participating agency during the preparation of this supplemental EA (see Section 5.4 for additional information about participating agencies). Refined Alternative I (Concept I-W) is compatible with local transit services, does not preclude future transit plans and will not result in permanent or detrimental effects on transit access.

Refined Alternative I (Concept I-W) is expected to provide an overall public benefit for transit in the area by reducing congestion and improving reliability for bus routes that use the existing BSB for 210 trips every weekday, thus benefitting individuals who utilize these transit routes.¹ In addition, new and improved sidewalks, shared-use paths, and bicycle lanes will enhance connections to existing bus stops, as shown in Figure 10.

4.1.5 Relocations

The 2012 EA/FONSI documented 40 residential relocations that were required to build Selected Alternative I. Furthermore, the data reported in the 2012 EA/FONSI counted apartment buildings as one unit, and Selected Alternative I (from the 2012 EA/FONSI) would have relocated closer to 80 households. Refined Alternative I (Concept I-W) requires 4 residential relocations, which represents up to a 95 percent reduction compared to the original project design approved in the 2012 EA/FONSI (see Table 7).

The 2012 EA/FONSI also quantified the removal of 204 feet of Longworth Hall as one commercial relocation, although the removal would have required 14 commercial tenants within that structure to relocate. When the commercial tenant relocations that were not quantified in the 2012 EA/FONSI are considered, Refined Alternative I (Concept I-W) requires two fewer full commercial relocations than Selected Alternative I (see Table 7). The largest drivers of the reduced residential and business relocation impacts are the reduced width of the new companion bridge and the incorporation of retaining walls in Kentucky.

¹ "Fixed Routes Directory." 2050 transit. Accessed April 13, 2023. <https://gis.oki.org/2050/transit/>. Routes 2X, 17X, 22X, 30X, 32X, 39X, 40X, and 42X.



Table 7: Relocations Comparison

State	Selected Alternative I (from 2012 EA/FONSI) Relocations (units or businesses)	Refined Alternative I (Concept I-W) Relocations (units or full take, partial take)
Kentucky		
Residential	40 units ¹	4 units
Commercial	6 businesses	5 full, 0 partial
Ohio		
Residential	0 units	0 units
Commercial	8 businesses ²	19 full ³ , 1 partial
Total		
Residential	40 units ¹	4 units
Commercial	14 businesses ²	24 full, 1 partial

1. This total counted apartment buildings as one unit and would have relocated closer to 80 households.
2. This total counted the removal of 204 feet of Longworth Hall as one commercial relocation and would have relocated 14 commercial tenants within that structure.
3. Total includes 14 tenants relocated due to the removal of 204 feet of Longworth Hall. Two tenants already plan to relocate within the remaining portions of Longworth Hall.

Residential and commercial relocations required for Refined Alternative I (Concept I-W) are shown in Figure 8. Refined Alternative I (Concept I-W) requires 4 residential, 1 partial commercial, and 24 full commercial (including 14 tenants in one structure) relocations. The residential relocations include one single-family home adjacent to the northbound exit ramp to Kyles Lane and three single-family homes directly adjacent to Bullock Street in the Lewisburg neighborhood. Two of the residential relocations in the Lewisburg neighborhood are tenant occupied. The residential relocation near Kyles Lane has already been completed under the 2012 FONSI.

In Kentucky, the relocated businesses include an auto body shop, an auto service shop, a car dealership, a radio tower, and a heating and air conditioning company. The partial relocation in Ohio includes removing a building on property owned by E&T Real Estate. Relocated businesses in Ohio include a printing shop, a fast-food restaurant, the dunnhumby USA headquarters, a vacant bar/night club, and a vacant gas station. The project will remove 204 feet of Longworth Hall, which will require 14 commercial tenants to relocate. The relocated Longworth Hall tenants include office space for six businesses, three recording or photography studios, a vacant night club, an escape room, and storage space for three businesses. Six of the relocated Longworth Hall tenants have short term, month-to-month leases. Impacted structures (including full and partial relocations) are shown in Figure 8.

ODOT is in the process of purchasing the full Longworth Hall property at a mutually agreed upon price and from a willing seller as a result of the right-of-way negotiation process. The building will remain occupied, and only businesses directly impacted by the removal of 204 feet from the building's east end will be relocated. ODOT may use interior space or the exterior grounds surrounding the building during the project's construction, but no impacts to the building's continued use for commercial office, retail, and event space are



anticipated. If project-related activities result in impacts beyond those described above to tenants in Longworth Hall, then ODOT will conduct additional coordination in order for FHWA to determine if reevaluation to meet NEPA requirements is necessary.

The acquisition of property for right-of-way (including residential and business relocations) has been, and will continue to be, in accordance with the Uniform Act. Due to current real estate market conditions, replacement housing of comparable size may not be available at comparable costs. There are existing mechanisms in place to address these concerns. In addition to receiving just compensation for properties acquired to construct the project, displaced property owners and tenants will also receive relocation assistance. There are also provisions within the Uniform Act to ensure that decent, safe, and sanitary comparable replacement housing is within the financial means of the displaced person. When such housing cannot be provided, the Uniform Act provides “housing of last resort.” Housing of last resort, described in 49 CFR § 24.404, is a tool to provide agencies with the flexibility necessary to respond to difficult or unique relocation conditions when there is an insufficient supply of comparable housing. It enables agencies to:

- Exceed the payment amounts set elsewhere in the Uniform Act;
- Construct new houses;
- Modify an existing dwelling to suit the displaced resident’s needs;
- Relocate or rehabilitate a dwelling; and
- Provide unsecured loans or leases to displaced residents.

Refined Alternative I (Concept I-W) only requires four residential relocations. With the exception of the tenants in Longworth Hall, the Ohio businesses have already been relocated and removed under the 2012 FONSI. Ongoing acquisition activities in Kentucky and Ohio have indicated that affected businesses will be able to relocate within the same geographic area if so desired, either in existing structures or new construction. None of the commercial relocations is expected to result in substantial job loss or economic impact, nor are they known to be substantial employers or serve unique needs within the surrounding communities. In addition, avoidance and minimization measures incorporated into Refined Alternative I (Concept I-W) have reduced residential and commercial relocations to the greatest extent practicable. Therefore, Refined Alternative I (Concept I-W) is only expected to result in minor impacts due to residential and commercial relocations. Additional discussion about relocation effects is provided in Sections 4.1.2, 4.1.6, 4.1.7, 4.1.8, and 4.1.9.

4.1.6 Economy and Employment

The 2012 EA/FONSI concluded that the loss of residential and commercial property due to Selected Alternative I would result in decreased revenues from property taxes. It also concluded that the property value of residences close to the I-71/I-75 corridor could decrease due to changes to existing views, noise levels, or access. In addition, the loss of rental properties could result in income loss for property owners. Rental properties left near the widened interstate could also experience reduced potential to be rented due to physical proximity to the highway. Although not expressly stated in the 2012 EA/FONSI, Selected Alternative I would have also provided improved infrastructure to support national freight movement.



Refined Alternative I (Concept I-W) reduces impacts that the 2012 EA/FONSI concluded would result in economic and employment impacts. In addition, enhancements incorporated into Refined Alternative I (Concept I-W) introduce economic and employment benefits. As a result, Refined Alternative I (Concept I-W) is expected to result in net economic and employment benefits, as described in the following sections.

Property Revenues

Refined Alternative I (Concept I-W) reduces the amount of land currently contributing to local property tax revenues that will be converted to transportation right-of-way (see 4.1.1).¹ Furthermore, Refined Alternative I (Concept I-W) substantially reduces number of residential and commercial relocations required to build the project, as described in Section 4.1.5. Residential relocations have been reduced by up to 95 percent, and only two of the residential relocations are tenant occupied. None of the commercial relocations is expected to result in substantial job loss or economic impact. The only major employer required to relocate is the dunnhumby USA headquarters; however, in anticipation of the BSB project, a new expanded headquarters (currently under new ownership and called 84.51°) has already been built about one-half mile east. Given the above, Refined Alternative I (Concept I-W) is expected to have minimal effects on revenues from property taxes or property owner income from rental properties.

Property Values

Refined Alternative I (Concept I-W) incorporates several additional mitigation and enhancement measures that will reduce noise (as described in Section 4.8) and improve aesthetics (as described in Section 4.9) for the communities immediately surrounding the BSB corridor. Furthermore, Refined Alternative I (Concept I-W) is anticipated to have only minor impacts to vehicular access and to improve pedestrian, bicycle, and transit access (as described in Section 4.1.4). Therefore, Refined Alternative I (Concept I-W) addresses the potential visual, noise, and access impacts presented in the 2012 EA/FONSI and is not expected to impact property values or the attractiveness of rental properties near the corridor.

Workforce Development

Refined Alternative I (Concept I-W) incorporates measures for improving employment that were not included in Selected Alternative I (from the 2012 EA/FONSI). During the progressive design-build contract (Phase III of the BSB Corridor Project), KYTC and ODOT will establish separate goals for disadvantaged business enterprise (DBE)² participation in both the design and construction portions of the contract. KYTC and ODOT will also develop an on-the-job training program to offer equal opportunity for the training of minorities, women, and disadvantaged persons to advance their skills toward journeyman status in the highway construction trades. To support those efforts, the project's contract documents will include a 15 percent on-the-job training target. The target will be finalized during the preconstruction phase of the progressive design-build contract and will set aside a percentage of the total work hours for the construction trades (excluding supervisory, shop, and

¹ The land acquisition for Refined Alternative I (Concept I-W) includes additional land owned by the City of Cincinnati that was not quantified in the 2012 EA/FONSI. Because it is city-owned, this land is not considered to be contributing to the local tax base.

² A disadvantaged business enterprise (DBE) is a for-profit small business where individuals who are minority or women or otherwise socially and economically disadvantaged own at least a 51-percent interest and control management and daily business operations (Source: USDOT).



office personnel) for on-the-job training. In addition, KYTC and ODOT will create a workforce development plan to assist candidates seeking employment in the transportation industry or on related infrastructure projects. Workforce development opportunities being discussed include engaging local students in science, technology, engineering, and mathematics opportunities related to the project, apprenticeship programs, and veteran employment programs. These initiatives are anticipated to create jobs, support business development, and support income growth in the greater Cincinnati and Northern Kentucky regions. The scope of the progressive design-build contract is considered to be particularly beneficial in terms of workforce development because it will offer opportunities to progress through multiple steps in project development all in one location and on one project.

In support of the initiatives described above, KYTC and ODOT have formed a BSB Corridor Project Diversity & Inclusion Outreach Committee, which allows local practitioners and leaders to provide input about promoting diversity and inclusion as part of the Phase III contract. For the Phase III progressive design-build contract, KYTC, ODOT, and the design-build team will regularly engage with the BSB Corridor Diversity & Inclusion Outreach Committee to provide updates on the Diversity, Inclusion, and Outreach Plan, with a specific focus on contract requirements such as commercially useful function and wages; goal attainment for DBE participation and on-the-job training opportunities; and workforce diversity requirements. Given the above, Refined Alternative I (Concept I-W) is anticipated to result in net benefits to workforce development and employment in the greater Cincinnati and Northern Kentucky regions.

Regional and National Economy

On a broader scale, Refined Alternative I (Concept I-W) will reduce congestion and improve safety on a critical freight route that carries more than \$1 billion of freight every day and more than \$400 billion of freight every year, an estimated 2 percent of U.S. Gross Domestic Product. Refined Alternative I (Concept I-W) will ensure that the corridor can continue to reliably support economic growth and activity in the region and the nation.

4.1.7 Environmental Justice

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, ethnicity, income, or national origin, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. In 1994, concern about low-income and minority populations bearing an unequal share of adverse health and environmental effects led President Bill Clinton to issue Executive Order 12898, focusing federal agency attention on environmental justice (EJ) issues. In response, the U.S. Department of Transportation (USDOT) and FHWA developed a process to ensure that environmental justice was factored into all transportation-related decisions. KYTC, ODOT, and OKI have also developed EJ guidance. In 2023, President Joe Biden issued Executive Order 14096 to further advance environmental justice for all. Basic principles for addressing EJ for transportation projects include the following:

- Identify minority and low-income populations.
- Analyze the effects on minority and/or low-income populations and determine impacts and benefits. Compare the impacts on minority and/or low-income populations with respect to the impacts on the



overall population. This includes evaluating whether minority and low-income populations receive the same benefits as the overall population.

- Evaluate avoidance, minimization, mitigation, and enhancement measures.
- Identify whether disproportionately high and adverse effects exist.
- Allow communities that could be affected by a project to have full and fair participation in the planning process. This includes allowing people to have access to information and input into the decisions that are made.

The 2012 EA/FONSI evaluated data from the U.S. Census Bureau for the year 2000 at tract and block group levels in both states to identify EJ populations. In Kentucky, a direct mailing survey was also distributed due to the higher number of proposed residential relocations. The burdens and benefits of anticipated impacts resulting from Selected Alternative I (from the 2012 EA/FONSI) were evaluated to determine whether impacts on EJ populations were disproportionately high and adverse.

The factors considered in the 2012 EA and a brief summary of the findings are listed below:

- Residential Relocations: A *Relocation Assistance Program Conceptual Survey (January 2007)* for Kentucky and a *Conceptual Stage Relocation Report (February 2007)* for Ohio were completed for Selected Alternative I (from the 2012 EA/FONSI). Residential relocations, some of which occurred in EJ areas, were only necessary in Kentucky. The evaluation found that housing of comparable prices within the income ranges of displaced residents was available to address all required relocations, although housing of last resort could be necessary for the displacement of low-income residents and renters. The 2012 FONSI included an environmental commitment that the acquisition of property for right-of-way would be in accordance with the Uniform Act.
- Community Facilities: Selected Alternative I (from the 2012 EA/FONSI) impacted Goebel Park/Kenney Shields Park in Kentucky and Queensgate Playground and Ball Field in Ohio. Mitigation measures were documented in a Section 4(f) *de minimis* finding for Goebel Park/Kenney Shields Park and a [Memorandum of Agreement \(MOA\) Between ODOT and the City of Cincinnati Recreation Commission \(CRC\)](#).
- Business Relocations: Selected Alternative I (from the 2012 EA/FONSI) did not require business relocations in EJ areas.
- Neighborhood and Community Cohesion: For Selected Alternative I (from the 2012 EA/FONSI), the majority of the construction fell within the existing right-of-way. Right-of-way acquisition occurred adjacent to the existing right-of-way, which avoided creating isolated pockets of residential households.
- Access/Travel Patterns: In Kentucky, Selected Alternative I (from the 2012 EA/FONSI) altered access to the Lewisburg neighborhood in Covington by closing Lewis Street at Pike Street. Additionally, EJ respondents indicated in a survey that access to public transportation was important, and many residents would be adversely affected if relocated to areas without transit access. Existing public transit



locations were anticipated to remain in place, and future plans for transit would not have been limited by the selected alternative.

- Noise: Noise impacts were identified for Selected Alternative I (from the 2012 EA/FONSI), and noise barriers were recommended in three locations.
- Denial of Benefits and Burdens: The benefits of Selected Alternative (from the 2012 EA/FONSI) included improved safety, regional connections, traffic flow, and corrected geometric deficiencies. EJ populations would not be denied these benefits and would have the same access to them as other populations.

The 2012 EA/FONSI concluded that the project's effects on EJ populations were similar to effects borne by non-EJ communities. No adverse impacts specific only to EJ communities were documented. In addition, overall project effects would not be appreciably more severe or greater in magnitude than effects on non-EJ communities. Therefore, the 2012 EA/FONSI concluded that Selected Alternative I would not result in disproportionately high and adverse effects on minority or low-income populations.

KYTC and ODOT prepared an [Environmental Justice Analysis Report \(January 2024\)](#) to identify beneficial and adverse effects of Refined Alternative I (Concept I-W) on EJ populations (minority or low-income populations); to determine whether Refined Alternative I (Concept I-W) will have a disproportionately high and adverse effect on identified EJ populations; and to document avoidance, minimization, mitigation, and enhancement measures. The following sections summarize the EJ analysis and findings for Refined Alternative I (Concept I-W). Refer to the [Environmental Justice Analysis Report](#) for additional, detailed analysis.

Methodology

The following statutes and guidance documents form the framework for the EJ analysis methodology:

- Presidential Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994).
- Presidential Executive Order 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All (April 21, 2023).
- United States Department of Transportation (USDOT) Order 5610.2C USDOT Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (May 14, 2021).
- FHWA Order 6640.23A FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (June 14, 2012).
- FHWA Guidance on Environmental Justice and NEPA (December 16, 2011).
- Promising Practices for EJ Methodologies in NEPA Reviews: Report of the Federal Interagency Working Group on Environmental Justice & NEPA Committee (Promising Practices Report) (March 2016).



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- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.
 - KYTC Environmental Justice Guidance and Methodologies (2021).
 - ODOT Environmental Justice Guidance (January 2023).
 - Ohio-Kentucky-Indiana (OKI) Regional Council of Governments Participation Plan (February 2022).

This EJ analysis for this supplemental EA has been conducted in accordance with all applicable federal and state guidelines. Where differences in methodology occur, the most conservative and inclusive approach has been followed.

The EJ study area was established in consideration of the project's traffic influence area, natural and human-made geographic boundaries, and general demographic composition. The EJ study area encompasses and is larger than the project area. Expanding the EJ study area beyond the immediate project area provides the most conservative approach to the EJ analysis by capturing the fullest range of potential effects. The EJ study area is shown in Figure 11 and Figure 12.

Population Characteristics

The demographic makeup of the EJ study area was identified using census data from the 5-year American Community Survey estimates for 2016-2020. Demographics were analyzed at the block group level, as defined by the U.S. Census Bureau 2020 decennial census geographic boundaries. In accordance with Executive Order 12898 and the *Promising Practices Report*, minority and low-income populations within the EJ study area were identified using a meaningfully greater analysis, which identifies areas where the minority or low-income population percentage is meaningfully greater than the minority or low-income populations within an established reference community. For this analysis, the EJ study area was chosen as the reference community, and any percentage higher than the reference community was deemed to be meaningfully greater.

Orders issued by USDOT and FHWA define low-income as a person whose median household income is at or below the Department of Health and Human Services guidelines. The EJ analysis for this supplemental EA designates low-income as 1.99 times the poverty thresholds established by the U.S. Census Bureau.¹ This represents a more inclusive definition for low-income that exceeds the minimum federal poverty guidelines and the approach used for the 2012 EA/FONSI and represents a strong commitment by KYTC and ODOT to going above and beyond in addressing EJ on the BSB Corridor Project.

In general, the locations of EJ populations in the EJ study area are similar to the locations identified in the 2012 EA/FONSI. The 2023 analysis identified EJ populations west of I-71/I-75 in Fort Wright and east of I-71/I-75 in the Peaselburg neighborhood that were not identified in the 2012 EA/FONSI. On the other hand, EJ populations in the southern portion of the Lewisburg neighborhood and in the southern portion of the Mainstrasse neighborhood that were identified in the 2012 EA/FONSI were not identified in the 2023 analysis.

¹ <https://www.irp.wisc.edu/resources/what-are-poverty-thresholds-and-poverty-guidelines/>



These changes are likely due to shifting demographics in these areas. In addition, the 2023 analysis utilized data at the census block group level, which is more granular than the census tract data analyzed for the 2012 EA/FONSI. Detailed population characteristics, as documented in the 2023 analysis, are provided in the following sections.

Minority Populations

The U.S. Census Bureau defines minority race and ethnicity as persons who self-identify as one or more of the following: Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and Hispanic or Latino. According to U.S. Census data, 32.5 percent of the population of the EJ study area belongs to a minority group. Table 8 compares the minority population in the EJ study area to the states, counties, and cities in which it is situated. Minority populations are concentrated in the southeastern portion of the EJ study area in Kentucky and throughout the EJ study area in Ohio. In Kentucky, 8 of 47 block groups have minority populations, compared to 20 of 29 block groups in Ohio. Within the EJ study area, 21.8 percent of the population self-identifies as African American, 5.2 percent self-identifies as Hispanic or Latino, 3.5 percent self-identifies as two or more races, 1.7 percent self-identifies as Asian, and 0.2 percent self-identifies as another minority race. The locations of census block groups with minority populations are shown in Figure 11.

Table 8: Population Characteristics – Minority

Geography	Total Population	Minority	
		Population	Percentage
State of Kentucky	4,461,952	710,214	15.92%
State of Ohio	11,675,275	2,533,905	21.70%
Campbell County, KY	93,608	7,467	7.98%
Kenton County, KY	166,552	19,787	11.88%
Hamilton County, OH	815,790	288,846	35.41%
Covington, KY	40,466	9,381	23.18%
Fort Mitchell, KY	8,278	424	5.12%
Fort Wright, KY	5,766	633	10.98%
Park Hills, KY	2,993	636	21.25%
Cincinnati, OH	302,687	156,854	51.82%
EJ Study Area	71,496	23,199	32.45%



Low-Income Populations

According to U.S. Census data, 44.6 percent of the population of the EJ study area falls below 1.99 times the poverty level. Low-income populations are broadly dispersed throughout the EJ study area and are located directly adjacent to the project corridor. Table 9 compares the low-income population in the EJ study area to the states, counties, and cities in which it is situated. In Kentucky, 21 of 47 block groups have low-income populations, compared to 15 of 29 block groups in Ohio. The locations of census block groups with low-income populations are shown in Figure 12.

Unhoused individuals are sometimes present in public spaces in and near the project area, including areas under bridges in the transportation right-of-way. Unhoused individuals who may be present in the project area are transient in nature, and the number of individuals varies at any given time. There are several organizations within the region that provide support to unhoused persons. Within ½-mile of the project area, the David and Rebecca Barron Center for Men provides beds, meals, and support services for men who are unhoused. A Winter Shelter providing shelter to unhoused single men and women operates at the same location between December and February. Neither these facilities nor the support services they provide for unhoused individuals will be impacted by Refined Alternative I (Concept I-W).

If unhoused individuals are impacted by construction, KYTC and ODOT will coordinate with local agencies to notify such individuals through existing state and local processes.

Table 9: Population Characteristics – Low-Income

Geography	Total Population ¹	Low-Income	
		Population	Percentage
State of Kentucky	4,322,881	1,539,596	35.62%
State of Ohio	11,350,378	3,460,459	30.49%
Campbell County, KY	90,118	22,851	25.36%
Kenton County, KY	164,265	41,645	25.35%
Hamilton County, OH	798,152	246,341	30.86%
Covington, KY	39,440	16,203	41.08%
Fort Mitchell, KY	8,231	1,319	16.02%
Fort Wright, KY	5,755	987	17.15%
Park Hills, KY	2,917	930	31.88%
Cincinnati, OH	291,198	131,267	45.08%
EJ Study Area	70,002	31,228	44.61%

1. Totals are for population for whom poverty status is determined.



Figure 11: Minority Populations

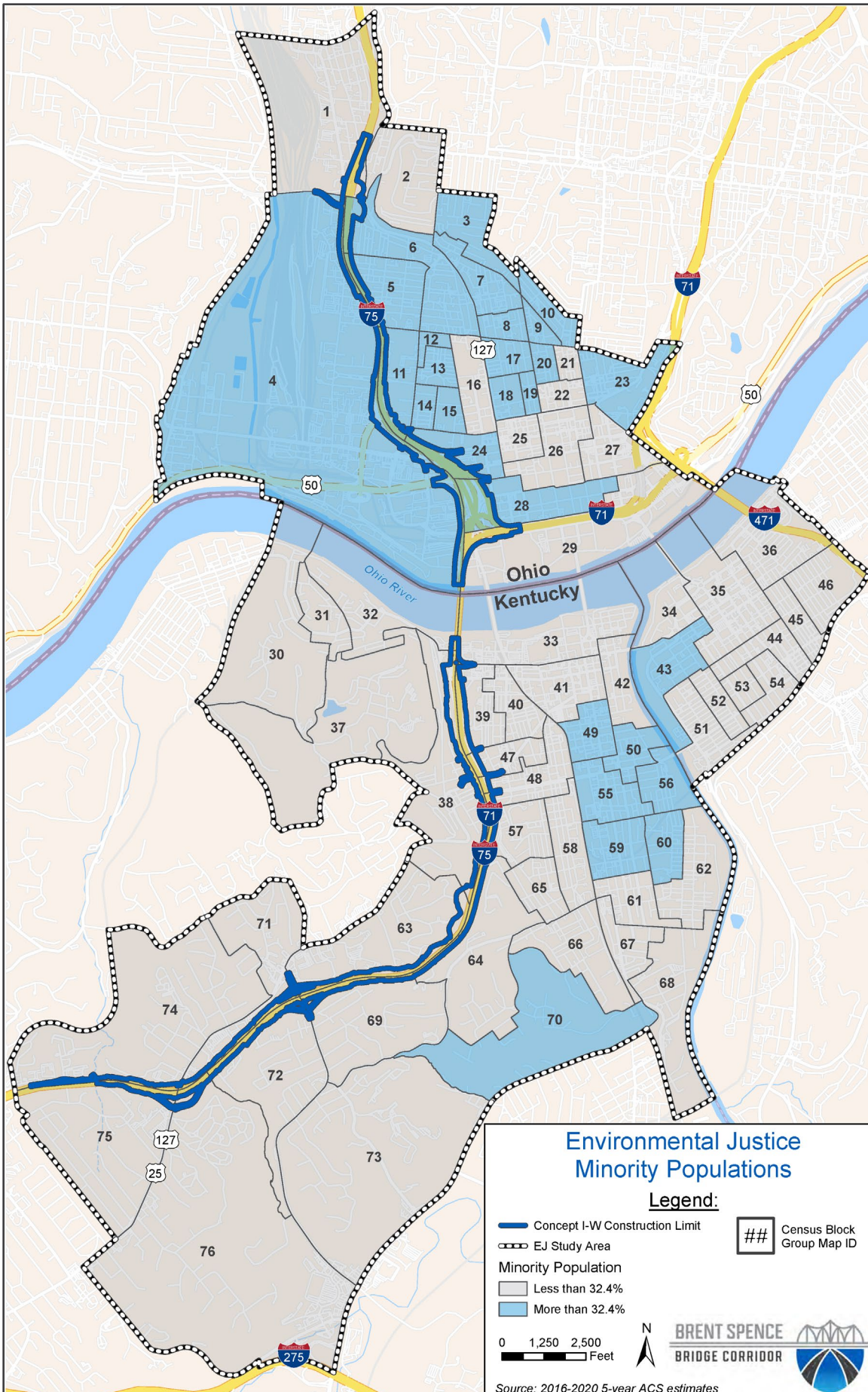


Figure 12: Low-Income Populations

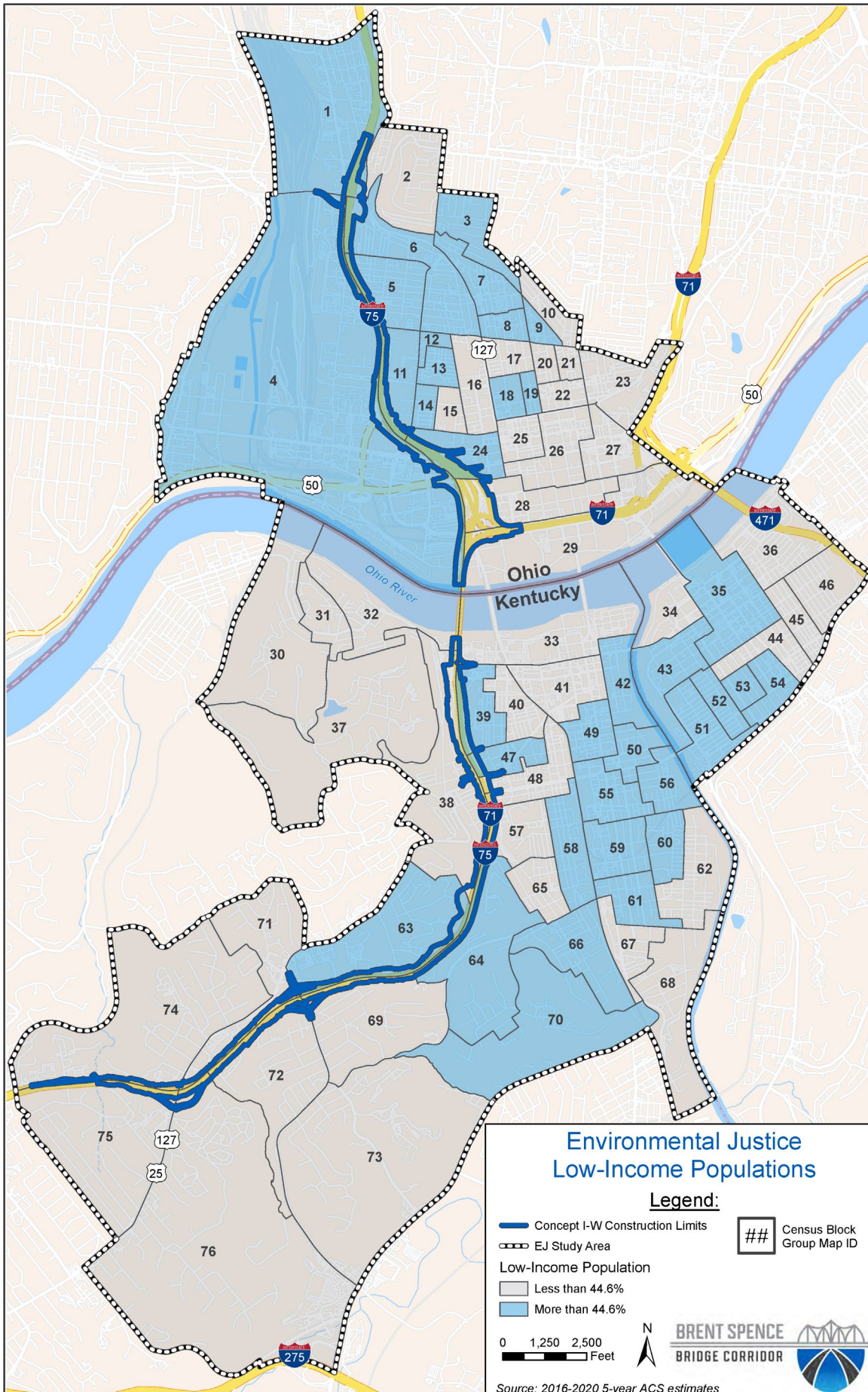
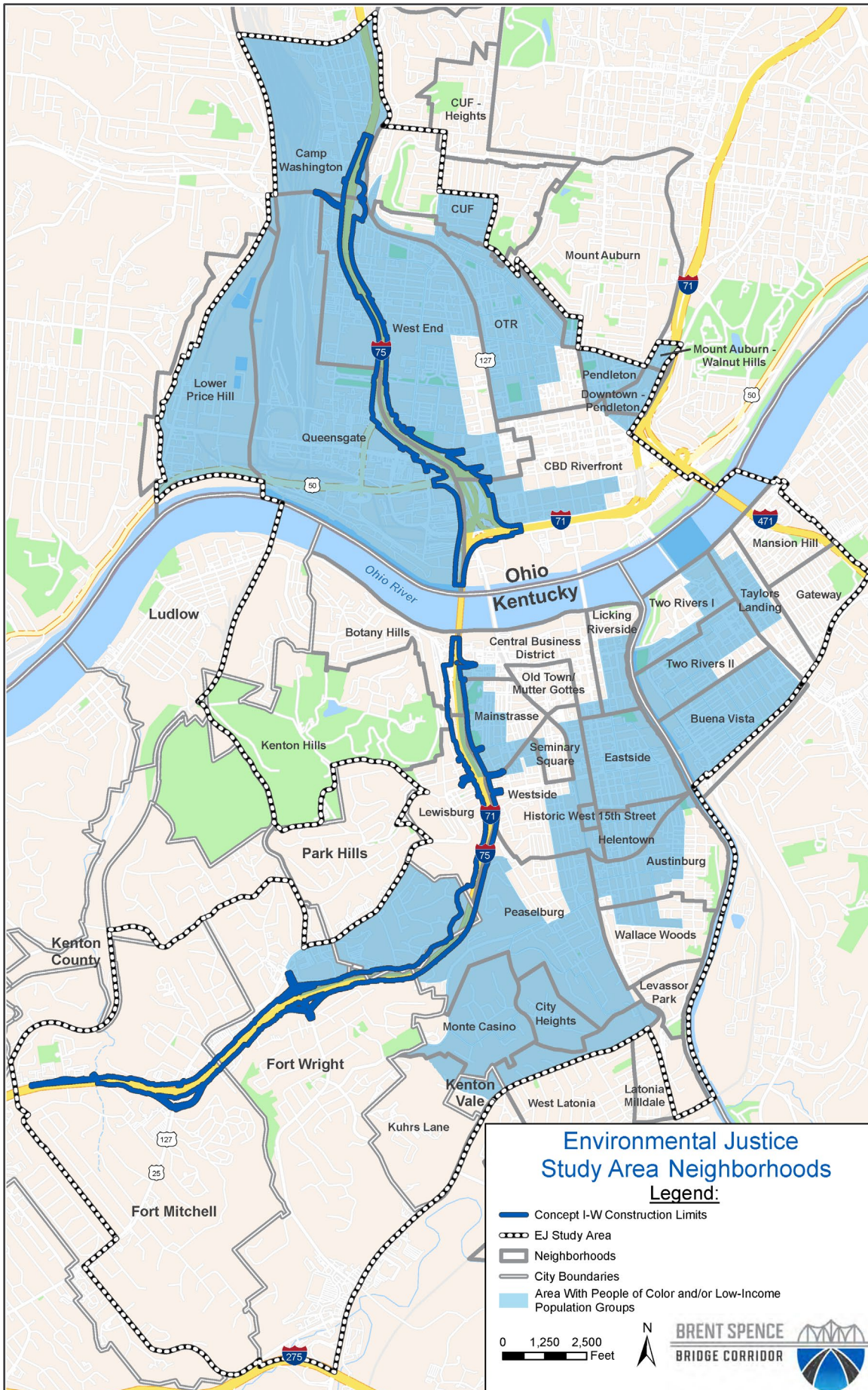


Figure 13: Neighborhoods in the EJ Study Area



Targeted EJ/Neighborhood Outreach

The neighborhoods in the EJ study area are shown in Figure 13. Opportunities for EJ communities to offer feedback about the project occurred during targeted EJ/neighborhood outreach meetings in late 2022 and open-house project update meetings in August 2023. Between November 15, 2022 and December 20, 2022, KYTC and ODOT hosted 16 EJ/neighborhood outreach meetings. These included 12 small-scale targeted EJ outreach meetings in areas directly adjacent to the project's construction limits to share project updates and to offer residents the opportunity to share feedback with the project team. KYTC and ODOT also held one daytime and one evening broad-scale EJ outreach meeting in each state to engage neighborhoods that are near the BSB corridor but will not be directly impacted. Information presented at the meetings included a general project overview, refinements incorporated into the project's design since the 2012 EA/FONSI, and proposed mitigation and enhancement measures. Exhibits on display at the meetings showed the proposed design, including right-of-way, relocated structures, noise barriers, historic properties and districts, parks, wetlands, streams, and multimodal facilities. Renderings and a flyover video illustrating what the finished project might look like were also displayed.

KYTC and ODOT developed a "PublicInput.com" website specific to neighborhoods that was available for the duration of the EJ outreach effort. The site was made available when the first EJ outreach meeting was held, and the comment period ended 16 days after the final meeting. Information about the availability of project materials and the opportunity to comment online through PublicInput.com was available at every in-person EJ outreach meeting and was distributed to each neighborhood group.

A total of 418 people signed in at the meetings, excluding the project team. Comments were accepted on the PublicInput.com site between November 15, 2022 and January 5, 2023. It was viewed 2,559 times, with 218 individuals choosing to engage by submitting comments or responding to polling questions. Demographic questionnaires were available at all in-person EJ neighborhood meetings, and polling questions on the PublicInput.com site sought demographic data of participants. A total of 111 individuals provided demographic information, although not every individual answered every question. Of the individuals who provided demographic information, 5 percent identified as minority, and 15 percent were potentially low-income¹.

Community members generally supported the refinements, mitigation, and enhancements incorporated into Refined Alternative I (Concept I-W), including the reduction of the project footprint, the incorporation of additional noise/visual screening barriers, measures to reduce flooding and combined sewer overflows, new and improved multimodal facilities, additional developable land, and aesthetic features. During the EJ outreach comment period, community members offered additional feedback and suggestions. Every comment was evaluated by the project team, and individual responses were prepared and published on the project website. Furthermore, the project team incorporated several refinements into Refined Alternative I (Concept I-W) in direct response to the comments received, as described in Section 5.1.2. Individual responses to all comments received during the EJ outreach are provided in the project's [Public Involvement Summary](#).

¹ It was not possible to directly correlate all answers on demographic questions to U.S. Census Bureau poverty thresholds due to the ranges of responses offered. For example, household sizes were grouped into 1-2, 3-5, and 6+ persons. If a response fell within the range for low-income (defined as 1.99 times the U.S. Census Bureau poverty threshold), the individual was considered to be potentially low-income.



No additional small pockets of EJ populations were identified during the targeted EJ neighborhood outreach activities. To the extent the project team was able to ascertain, minority and low-income individuals asked questions and offered comments and feedback consistent with other participants in the neighborhood outreach. The project team did not identify any concerns unique to EJ populations. Likewise, unanticipated additional impacts on EJ populations were not identified during the EJ outreach.

EJ communities were also afforded the opportunity to provide feedback during open-house project update meetings that occurred in August 2023 and the associated public comment period. The comments received did not express any concerns unique to EJ communities. Likewise, the project team did not identify any unanticipated additional impacts on EJ populations as a result of the open-house project update meetings.

Minority and low-income individuals will have the opportunity to review this supplemental EA and other project information and provide comments to KYTC and ODOT for 30 days after it is made publicly available. Public hearings scheduled during that time will provide additional opportunities for feedback. Public involvement will also occur during the design and construction of the project. See the *Public Engagement Plan*¹ for additional details about public involvement during the design and construction phases.

For additional information about the targeted EJ/neighborhood outreach meetings, the open-house project update meetings, the public hearings, and ongoing public involvement, including refinements incorporated into Refined Alternative I (Concept I-W) in direct response to the comments and feedback that were gathered, see Sections 5.1.1, 5.1.2, 5.5, and 5.6; the [Public Involvement Summary](#); and the [Environmental Justice Analysis Report](#).

Disproportionately High and Adverse Effect Determination

A disproportionately high and adverse effect on minority and/or low-income populations occurs when an adverse effect is:

- Predominately borne by a minority and/or low-income population; or
- Will be suffered by the minority and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority and/or non-low-income population.²

In accordance with FHWA's *Guidance on Environmental Justice and NEPA (December 16, 2011)*, consideration must be given to avoidance, minimization, and mitigation when evaluating whether an adverse effect to an EJ population will occur. A determination regarding disproportionately high and adverse effects with respect to minority and/or low-income populations is only required if the effects remain adverse after mitigation and benefits are considered. The following sections summarize impacts on and benefits to EJ populations resulting from Refined Alternative I (Concept I-W), including a determination regarding disproportionately high and adverse effects where appropriate. Refer to the [Environmental Justice Analysis Report](#) for additional, detailed analysis.

¹ The project *Public Engagement Plan* is included in Appendix Q of the [Public Involvement Summary](#).

² FHWA Order 6640.23A, June 14, 2012.



Relocations

Refined Alternative I (Concept I-W) requires the relocation of four single-family residences in Kentucky, two of which are tenant occupied. No residential relocations will occur in Ohio. Given the demographics of the EJ study area, there is potential for one or more of the residential relocations to involve a minority or low-income owner or tenant. However, none (0 percent) of the residential relocations is in a census block group with identified EJ populations. In addition, avoidance and minimization measures incorporated into Refined Alternative I (Concept I-W) have reduced the number of required residential relocations by up to 95 percent. Therefore, the potential adverse effects on EJ populations resulting from residential relocations have been avoided and minimized to the greatest extent practicable.

Refined Alternative I (Concept I-W) requires 1 partial and 24 full (including 14 tenants in one structure) commercial relocations. One of the Kentucky commercial relocations is in a census block group with a low-income population. Seventeen (17) of the Ohio commercial relocations are in census block groups with minority populations, low-income populations, or both. In addition, Refined Alternative I (Concept I-W) requires a partial relocation on one Ohio commercial property, which is in a census block group with minority and low-income populations. Commercial relocations in Kentucky include an auto body shop, an auto service shop, a car dealership, a radio tower, and a heating and air conditioning company. In Ohio, relocated businesses include a printing shop, a fast-food restaurant, the dunnhumby USA headquarters, two vacant bar/night clubs, a vacant gas station, office space for six businesses, three recording or photography studios, an escape room, storage space for three businesses, and the removal of one building on property owned by a real estate company. Fourteen (14) of the commercial relocations in Ohio are tenants in Longworth Hall, six of which have short term, month-to-month leases. In addition, two tenants already plan to relocate within the remaining portions of Longworth Hall. With the exception of the tenants in Longworth Hall, the Ohio businesses have already been relocated and removed under the 2012 FONSI. KYTC began acquiring the right-of-way for the project in early 2023. The residential and commercial relocations are anticipated to be complete in 2024. ODOT is in the process of purchasing the full Longworth Hall property at a mutually agreed upon price and from a willing seller as a result of the right-of-way negotiation process. The portions of the building not removed will remain occupied and will continue to be utilized for commercial office, retail, and event space. ODOT may use interior space or the exterior grounds surrounding the building during the project's construction, but no impacts to the building's continued use for commercial office, retail, and event space are anticipated.

Avoidance and minimization measures incorporated into Refined Alternative I (Concept I-W) have reduced the number of required commercial relocations. The only major employer displaced is the dunnhumby USA headquarters. However, a new, expanded headquarters (currently under new ownership and called 84.51°) has been built about one-half mile east in downtown Cincinnati. Ongoing acquisition activities in Kentucky and Ohio have indicated that affected businesses will be able to relocate within the same geographic area if so desired, either in existing structures or new construction. None of the commercial relocations is expected to result in substantial job loss or economic impact, nor are they known to be substantial employers or serve unique needs within EJ communities. Finally, the acquisition of property for right-of-way (including residential and business relocations) has been, and will continue to be, in accordance with the Uniform Act. Housing of last resort will be available to ensure that decent, safe, and sanitary comparable replacement housing is within



the financial means of the displaced person. See Section 4.1.5 for additional information about relocations, including minimization measures incorporated into Refined Alternative I (Concept I-W) and discussion regarding the Uniform Act and housing of last resort.

None of the residential relocations will occur in identified EJ communities. None of the commercial relocations is expected to result in substantial job loss or economic impact, nor are they known to be substantial employers or serve unique needs within EJ communities. In addition, avoidance and minimization measures incorporated into Refined Alternative I (Concept I-W) have reduced residential and commercial relocations in EJ communities. Therefore, adverse relocation effects will not be predominately borne by an EJ population. Given the above, adverse relocation effects on EJ populations are not anticipated to be appreciably more severe or greater in magnitude than the adverse effects that will be suffered by the non-EJ population. Relocations resulting from Refined Alternative I (Concept I-W) will not cause a disproportionately high and adverse effect on EJ populations.

Community Resources

Given the demographics of the EJ study area, the community facilities identified in Section 4.1.3 and historic properties identified in Section 4.5.2 may be utilized by minority and/or low-income individuals. The project team presumed usage of all community resources by all populations. The project team presented anticipated impacts to community resources and solicited feedback during the targeted EJ outreach, and no comments specific to the use of community resources were received.

Information about the right-of-way impacts to community facilities is provided in Section 4.1.3. For ease of reference, Figure 14 shows the locations of impacted Section 4(f) properties in relation to EJ communities. Refined Alternative I (Concept I-W) is not anticipated to impact libraries or cemeteries. Refined Alternative I (Concept I-W) will result in minor impacts to the Hillsdale Subdivision Historic District and the removal of contributing resources within the Lewisburg Historic District; however, neither historic district is located in an area with identified EJ populations. Refined Alternative I (Concept I-W) will also result in minor impacts on the Notre Dame Academy, Beechwood Elementary and High School, the Central Church of the Nazarene, and St. Elizabeth Covington Hospital, which are located in or may serve EJ communities. However, no permanent impacts to the operations of these facilities are anticipated.

Refined Alternative I (Concept I-W) will acquire 0.39 acre of permanent easement and 0.03 acre of new strip right-of-way from the Elberta Apartments Historic District, which is located in a census block group with a low-income population. None of the apartment buildings in the district will be removed, and no residential relocations will occur. The Kentucky State Historic Preservation Officer (SHPO) determined that Refined Alternative I (Concept I-W) will have no adverse effect on the Elberta Apartments Historic District. See Sections 4.5.2 and 4.13.2 for additional details about the Elberta Apartments Historic District. Refined Alternative I (Concept I-W) will result in temporary impacts to the Firefighters Memorial and Ezzard Charles Park, which are in census block groups with minority and low-income populations. However, access to the parks will be maintained at all times, and no permanent impacts will occur. See Sections 4.13.6 and 4.13.8 for additional information about the Firefighters Memorial and Ezzard Charles Park.



Figure 14: Impacted Section 4(f) Properties and EJ Populations - Sheet 1 of 2

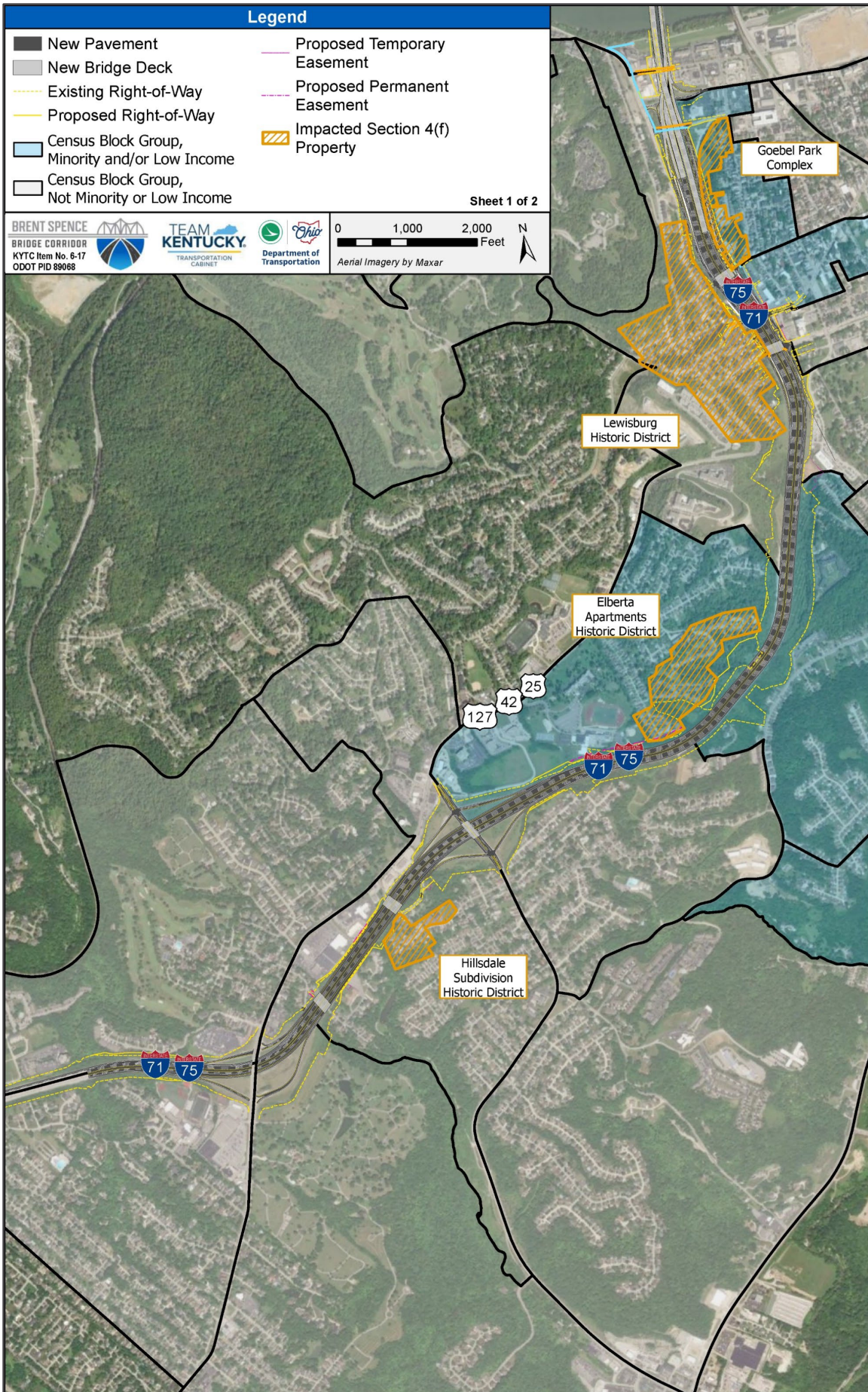
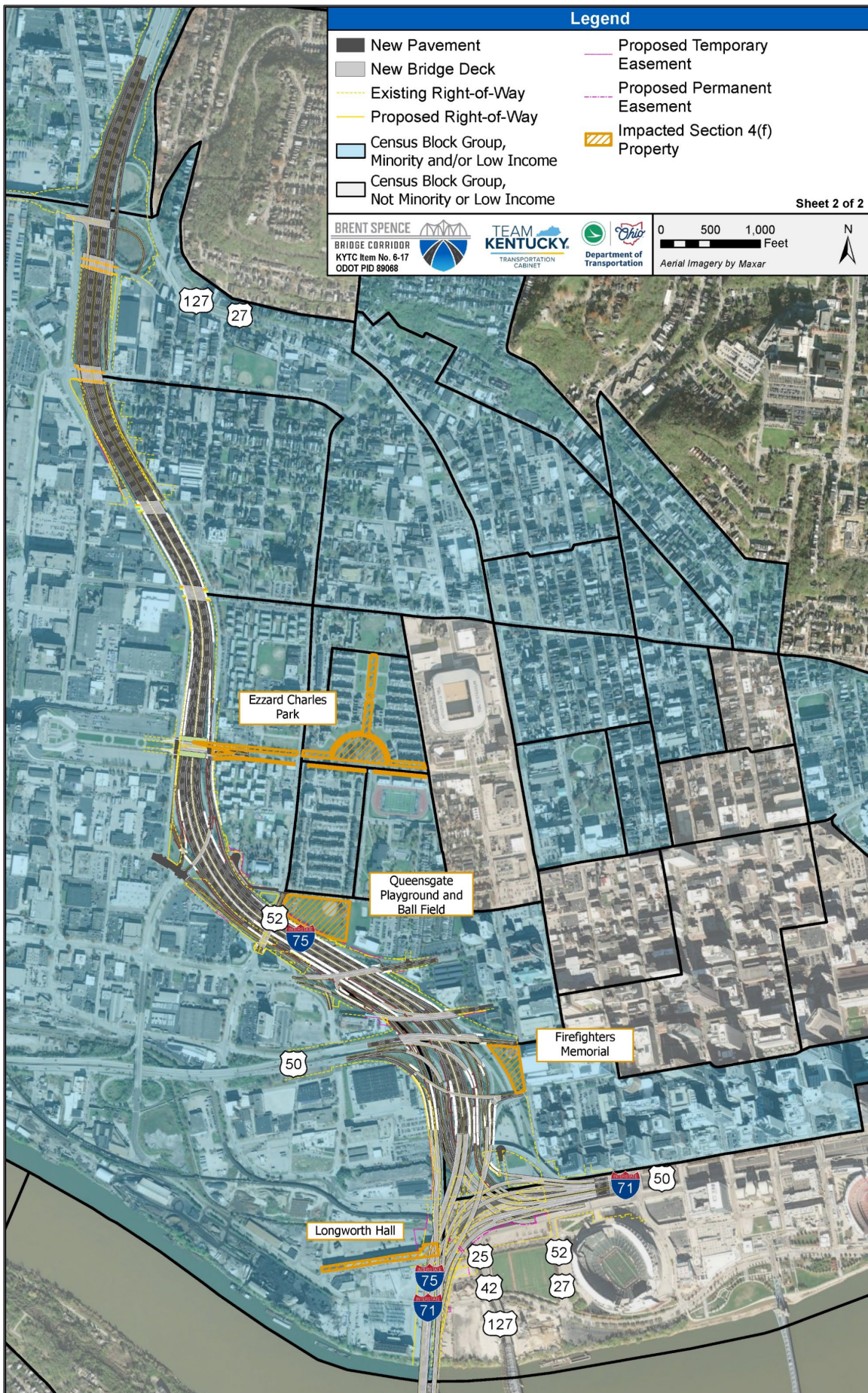


Figure 14: Impacted Section 4(f) Properties and EJ Populations - Sheet 2 of 2



The Goebel Park Complex is located in a census block group with a low-income population. Refined Alternative I (Concept I-W) will acquire 2.84 acres of permanent right-of-way from the Goebel Park Complex, including 360 feet of walking trails, two basketball courts, and associated resources. To mitigate impacts to the Goebel Park Complex, KYTC is returning 2.23 acres of land that is currently occupied by the West 5th Street ramp to the park. Other impacts to the Goebel Park Complex will be mitigated through reconstruction of the walking trail within the complex and funding for a new Goebel Park Complex Master Plan, the replacement and enhancement of the basketball courts or other outdoor recreation facilities within the park, and a relocated outdoor pool and associated facilities or other comparable aquatic facility serving the same purpose within the park. The replacement property is higher in elevation than the portions of the complex that will be acquired by the project and not prone to flooding. In addition, the replacement land is flatter and closer to other prominent park features. Based on these characteristics, the replacement land has greater potential for future enhancements to outdoor recreational activities and amenities within the Goebel Park Complex. The future plans, uses, and locations of facilities in the Goebel Park Complex will be established during the new master planning process, which will be facilitated by the City of Covington and funded by the proposed mitigation measures for the complex. See Section 4.13.3 for additional details about impacts on and mitigation measures for the Goebel Park Complex.

In addition to the mitigation measures listed above, KYTC is proposing noise/visual screening barriers to reduce noise levels in the Goebel Park Complex. During detailed design, KYTC has committed to coordinating the composition of the barriers with the City of Covington to determine where transparent noise barriers would be beneficial to preserve views of Goebel Park from the highway, particularly the Clock Tower located within the park. Furthermore, KYTC has committed to separating all interstate runoff from the existing combined sewer system, which will reduce the frequency of overflow events, including in the Goebel Park Complex. Additional details about noise/visual screening barriers in Kentucky are provided in Section 4.8.1. Additional details about stormwater management are provided in Section 4.12.1.

Longworth Hall is located in a census block group with minority and low-income populations. Refined Alternative I (Concept I-W) will remove 204 feet of Longworth Hall, which is listed on the National Register of Historic Places (NRHP). To mitigate impacts to Longworth Hall under Section 106 of the National Historic Preservation Act (Section 106), ODOT committed to completing repairs, upgrades, restoration work, enhancements, and refurbishment on the portions of the building impacted by construction and the portions of the building to remain. These commitments were documented in a *Programmatic Agreement Among FHWA, ODOT, KYTC, the Ohio SHPO, the Kentucky SHPO, and the City of Covington*. The portions of the building not removed will remain occupied. ODOT is in the process of purchasing the full Longworth Hall property at a mutually agreed upon price and from a willing seller as a result of the right-of-way negotiation process. ODOT may use interior space or the exterior grounds surrounding the building during the project's construction, but no impacts to the building's continued use for commercial office, retail, and event space are anticipated. Likewise, no additional adverse effects to the historic integrity of Longworth Hall are anticipated as a result of ODOT's activities in the building and on the exterior grounds. See Sections 4.5.2 and 4.13.5 for additional details about impacts to and mitigation measures for Longworth Hall.



The Queensgate Playground and Ball Field is located in a census block group with minority and low-income populations. Refined Alternative I (Concept I-W) will acquire 0.72 acre of permanent right-of-way and easement from the Queensgate Playground and Ball Field, including the loss of outfield areas. Trees and shrubs along the southern edge of the park will also be removed during the construction of the highway, retaining wall, and a proposed noise barrier. To mitigate the impacts, ODOT committed to compensating the City of Cincinnati for the land, relocation of recreational facilities, preparation of construction plans for the ball field reconfiguration, and construction monitoring of the mitigation. These commitments were documented in an [MOA Between ODOT and CRC](#) executed on May 5, 2011. ODOT has fulfilled its commitment to compensate the City of Cincinnati for impacts to the Queensgate Playground and Ball Field. ODOT paid \$198,050 to fulfill its financial commitments in the MOA on December 12, 2012. The City of Cincinnati reconfigured the ball fields in 2014. During construction, a proposed 10-foot noise barrier may be installed along the park and highway boundary in lieu of the limited access right-of-way fencing specified in the MOA. If noise public involvement concludes that a noise barrier will not be built, then ODOT has committed to installing the limited access right-of-way fencing as noted above. See Section 4.13.7 for details about mitigation measures for the Queensgate Playground and Ball Field and Section 4.8.2 for additional details about noise barriers in Ohio.

Given the above, the mitigation measures incorporated into Refined Alternative I (Concept I-W) will resolve adverse effects on community resources for EJ populations. Therefore, a determination of disproportionately high and adverse effects is not warranted.

Access, Mobility, and Safety

Refined Alternative I (Concept I-W) includes several features that will improve access, mobility, and safety for vehicular traffic traveling to, from, and within EJ communities. These include additional interstate lanes, the construction of the C-D roadway system, the removal of left-hand exits, standard shoulder widths, extended frontage roads, the reopening of the West 4th Street ramp to the northbound C-D system, the provision of access to northbound I-75 from the Clay Wade Bailey Bridge, the replacement of two, one-way bridges with historic wrong-way crashes on Ezzard Charles Drive with a two-way bridge over I-75, the provision of more direct access to northbound I-75 at Winchell Avenue, and access to Central Parkway and Spring Grove Avenue in the vicinity of the Western Hills Viaduct interchange. Refined Alternative I (Concept I-W) is also anticipated to benefit EJ communities by reducing traffic congestion on the local street networks in those communities. Minor traffic rerouting will occur due to ramp changes in census block groups with minority and/or low-income populations; however, adverse effects are not anticipated because traffic will only need to reroute about one to two city blocks, and sufficient lanes will be provided to maintain acceptable traffic flow.¹

Refined Alternative I (Concept I-W) incorporates new and improved sidewalks, shared-use paths, bike lanes, and a pedestrian bridge in EJ communities. The proposed improvements will directly benefit EJ communities by improving safety; increasing the options available to pedestrians and bicyclists; potentially improving access to employment, healthcare, cultural, recreational, and commercial destinations; improving mobility along I-71/

¹ Preliminary traffic operations were evaluated using planning-level traffic projections for the year 2050. Final traffic operations were vetted and confirmed using certified traffic for the years 2029 and 2049 (see Section 3.8).



I-75; and enhancing community connectivity along and across the I-71/I-75 corridor. In Kentucky, the multimodal facilities will improve access in and between the Westside, Mainstrasse, Lewisburg, Botany Hills, and Covington CBD neighborhoods. In Ohio, the multimodal facilities will improve access in and between the CBD Riverfront, Queensgate, and West End neighborhoods.

Refined Alternative I (Concept I-W) will reduce traffic congestion, improving reliability for local bus routes that use the BSB for 210 trips every weekday, thus benefitting minority and low-income individuals who utilize these transit routes. In addition, new and improved sidewalks, shared-use paths, and bicycle lanes will enhance connections to existing bus stops and routes that are located in and serve EJ communities.

Given the above, Refined Alternative I (Concept I-W) is expected to benefit EJ communities by improving access, mobility, and safety for all modes of transportation within those communities. Adverse effects to access, mobility, and safety will not occur, and a determination of disproportionately high and adverse effects is not warranted. See Section 4.1.4 for additional details about travel patterns and access for vehicles, pedestrians, bicycles, and transit.

Air Quality, Greenhouse Gases and Climate Change, Noise, and Stormwater

Air quality evaluations considered particulate matter that is 2.5 micrometers or less in diameter (PM_{2.5}), carbon monoxide, and ozone. The project area is in attainment with National Ambient Air Quality Standards (NAAQS) for PM_{2.5} and carbon monoxide, and the project is in conformance with the NAAQS for ozone. In addition, a [Quantitative MSAT Analysis Report \(August 2023\)](#) concluded the project is consistent with mobile source air toxics (MSAT) requirements. To further evaluate air quality considerations, KYTC and ODOT completed an emissions burdens analysis that modeled the levels of volatile organic compounds, nitrogen oxides, and PM_{2.5} for 2020 existing, 2050 no-build, and 2050 build scenarios. The analyses concluded that emissions of the analyzed pollutants in the EJ study area would be substantially decreased for both the 2050 no-build and 2050 build scenarios when compared to the 2020 existing scenario. These reductions are primarily due to the implementation of the latest federal emissions standards coupled with fleet turnover.

When the 2050 build scenario is compared to the 2050 no-build scenario, the levels of volatile organic compounds and nitrogen oxides are anticipated to be less or approximately the same throughout the EJ study area, which includes 42 of 76 (55 percent) census block groups with minority and/or low-income populations. When the 2050 build scenario is compared to the 2050 no-build scenario, PM_{2.5} is anticipated to be less or approximately the same in Campbell and Hamilton counties, which include in 27 of 76 (36 percent) census block groups with minority and/or low-income populations. PM_{2.5} is anticipated to be slightly greater (2.8 percent) in Kenton County due to an increase in vehicle miles of travel that will occur throughout the area transportation network when the project is built. The affected areas of Kenton County include 15 of 76 (20 percent) census block groups with minority and/or low-income populations; therefore, the slightly greater level of PM_{2.5} when the 2050 build scenario is compared to the 2050 no-build scenario will not be predominately borne by EJ populations nor is it appreciably more severe or greater in magnitude than the level of PM_{2.5} emissions for the non-EJ population. Given the above, Refined Alternative I (Concept I-W) is not anticipated to result in an adverse effect on air quality in EJ communities. See Section 4.6 for additional information about air quality.



The emissions burdens analysis concluded that greenhouse gas emissions would be substantially decreased for both the 2050 no-build and 2050 build scenarios when compared to the 2020 existing scenario. These reductions are primarily due to the implementation of the latest federal emissions standards coupled with fleet turnover. Greenhouse gas emissions are expected to be slightly greater (0.7 percent) when the 2050 build scenario is compared to the 2050 no-build scenario. This is primarily due to an increase in vehicle miles of travel that will occur throughout the area transportation network when the project is built. In addition, the 0.7 percent difference in greenhouse gas emissions is less than the associated 1.7 percent difference in vehicle miles of travel. The change in greenhouse gas emissions is expected to have minimal effects on climate change in the EJ study area.

Stormwater management measures incorporated into Refined Alternative I (Concept I-W) will promote climate resilience, and the project will be implemented in accordance with KYTC's and ODOT's *Transportation Asset Management Plans*. EJ and non-EJ communities will equally share in the benefits resulting from these efforts to address climate change. Given the above, Concept I-W is not anticipated to result in an adverse effect on greenhouse gas emissions and climate change in EJ communities. See Section 4.7 for additional information about greenhouse gases and climate change.

For Refined Alternative I (Concept I-W), noise impacts are predicted in 21 census block groups in the EJ study area, including 5 (24 percent) census block groups with minority populations and 9 (43 percent) census block groups with low-income populations. To mitigate noise impacts in Kentucky, noise barriers are proposed for areas west of I-71/I-75 between the Dixie Highway interchange and West 4th Street in Covington and east of I-71/I-75 from the southern project terminus to Pike Street in Covington. In addition, KYTC is going above and beyond the parameters of its noise policy and proposing a noise/visual screening barrier to provide noise reduction in the Mainstrasse neighborhood and in the vicinity of the Goebel Park Complex. KYTC has also committed to coordinating with the City of Covington to evaluate the use of transparent noise barriers in some locations to preserve views of Goebel Park from the highway and to preserve views of the skyline and across I-71/I-75 from surrounding neighborhoods. During final design, a noise abatement public meeting and surveys will be conducted with benefited receptors at each location where noise barriers are proposed in accordance with the KYTC *Noise Analysis and Abatement Policy*.

To mitigate noise impacts in Ohio, noise barriers are proposed east of I-75 in the West End neighborhood. The noise barriers will be built from the Queensgate Playground and Ball Field to Linn Street and from south of Freeman Avenue to Bank Street. ODOT has also committed to constructing 57-inch barriers on the Liberty Street, Findlay Street, and Bank Street bridge parapets to further reduce tire pavement noise. During final design and in accordance with the ODOT *Analysis and Abatement of Highway Traffic Noise Policy Statement*, ODOT will conduct noise abatement public involvement with benefited receptors where noise abatement has been determined to be feasible and reasonable.

Noise barriers are proposed to provide noise mitigation and noise/visual screening barriers are proposed to provide enhanced sound reduction in 16 census block groups where noise impacts were identified, including 7 (44 percent) census block groups with minority and/or low-income populations. There are a total of 116



impacted noise sensitive receptors¹ in the 5 census block groups where noise or noise/visual screening barriers are not proposed. These include 36 receptors (31 percent) in census block groups with EJ populations and 80 receptors (69 percent) in census block groups where EJ populations were not identified. Therefore, the majority of the noise impacts where noise or noise/visual screening barriers are not proposed occur in non-EJ communities. See Section 4.8 for additional information about noise, including predicted impacts and proposed mitigation and enhancement measures.

KYTC and ODOT are separating interstate stormwater runoff from combined sewer systems to reduce flooding and combined sewer overflows occurring in the Peaselburg, Mainstrasse, Queensgate, and Camp Washington neighborhoods. In addition, during detailed design, KYTC will work with the City of Covington and Kentucky Sanitation District 1 (SD1) to address surcharging in the Peaselburg neighborhood based on the local design criteria for a 25-year storm. Given the above, Refined Alternative I (Concept I-W) is not anticipated to result in an adverse effect on stormwater runoff in EJ communities. Refined Alternative I (Concept I-W) is anticipated to directly benefit EJ populations by reducing combined sewer overflows and flooding in EJ communities. See Section 4.12.1 for additional details about stormwater.

Given the above, Refined Alternative I (Concept I-W) is not anticipated to result in adverse effects on air quality, greenhouse gases and climate change, or stormwater in EJ communities. Therefore, a determination of disproportionately high and adverse effects for air quality, greenhouse gases and climate change, and stormwater is not warranted.

Noise impacts resulting from Refined Alternative I (Concept I-W) will not be predominately borne by EJ populations. In addition, proposed noise and noise/visual screening barriers will mitigate noise impacts and provide enhanced sound reduction in both EJ and non-EJ communities. Given the above, adverse noise effects on EJ populations are not anticipated to be appreciably more severe or greater in magnitude than the adverse noise effects that will be suffered by the non-EJ population. Therefore, noise impacts will not result in a disproportionately high and adverse effect on EJ populations.

Visual

Refined Alternative I (Concept I-W) will result in minor visual changes due to the new companion bridge over the Ohio River, raising and widening I-71/I-75, the construction of a new C-D roadway system, retaining walls, vegetation removal, and noise barriers. However, the minor visual changes associated with Refined Alternative I (Concept I-W) will not be predominately borne by EJ populations, nor will the effects be appreciably more severe or greater in magnitude than the visual changes experienced by non-EJ populations.

Community members were presented with renderings and other details of the new companion bridge, drawings and details showing elevations of the proposed interstate in Kentucky, renderings and other information about landscaping, and information about noise and noise/visual screening barriers during the targeted EJ outreach and were encouraged to provide comments. Community members generally supported the aesthetic elements incorporated into Refined Alternative I (Concept I-W).

¹ A noise sensitive receptor is an individual site or location that would be sensitive to an increase in noise levels.



KYTC and ODOT are closely coordinating the aesthetic plans for the project with a project Aesthetic Committee. In addition, KYTC is closely coordinating the project aesthetic plans with the Covington Aesthetics Subcommittee and the Fort Wright/Fort Mitchell Aesthetics Subcommittee. ODOT is also coordinating the project aesthetic plans with the Ohio Subcommittee, which includes the City of Cincinnati. Items to be incorporated into the project include landscaping, streetscapes, gateways, and treatments for piers, abutments, retaining walls, and noise barriers. Multiple Aesthetics Committee and Aesthetics Subcommittee meetings will be held during final design to finalize aesthetics plans. The aesthetic enhancements will be located in every EJ community that abuts the BSB corridor. The aesthetics incorporated into Refined Alternative I (Concept I-W) are anticipated to provide direct benefits to EJ communities by improving the visual character of the project corridor and helping to foster vibrant neighborhood spaces in those communities. Given the above, Refined Alternative I (Concept I-W) is not anticipated to result in an adverse effect on the visual character of EJ communities. Therefore, a determination of disproportionately high and adverse effects is not warranted. Refer to the [Environmental Justice Analysis Report](#) for additional information about visual considerations for environmental justice populations. Additional information about visual resources and aesthetics incorporated into the project is provided in Section 4.9.

Workforce Development

KYTC and ODOT are establishing goals for DBE firm participation, mentoring, and support during the project's progressive design-build contract (Phase III). KYTC and ODOT will also develop an on-the-job training program geared toward minorities, women, and disadvantaged persons and a workforce development plan to be implemented during the project's progressive design-build contract (Phase III). While these economic opportunities will be broadly available, EJ populations in the study area will be afforded equal opportunities to share in the benefits. As a result, Refined Alternative I (Concept I-W) is expected to provide direct benefits to EJ populations in terms of job creation, business development, and income growth. Therefore, no adverse effects on the EJ population workforce will occur, and a determination of disproportionately high and adverse effects is not warranted. Additional details about workforce development measures incorporated into Refined Alternative I (Concept I-W) are provided in Section 4.1.6.

Indirect and Cumulative Effects

The relocation of the former dunnhumby USA headquarters helped to create new jobs and economic activity within a 1-mile radius of 17 census block groups with minority and/or low-income populations. In addition, the implementation of Refined Alternative I (Concept I-W) will result in approximately 10 acres of land within an EJ community being freed up and subsequently transferred to the City of Cincinnati for potential redevelopment and/or public use. Opportunities for DBE firm participation, on-the-job training, and workforce development programs incorporated into the project may also indirectly contribute to long-term enhancements in workforce diversity, employment, and income that will benefit EJ populations. Therefore, Refined Alternative I (Concept I-W) is expected to indirectly contribute to job creation, economic development, and long-term workforce enhancements that will benefit EJ populations.

Refined Alternative I (Concept I-W) will have a minor contribution to cumulative business and residential displacements, loss of parkland, and loss of historic resources. These cumulative effects will be experienced by both EJ and non-EJ communities. Given the distribution of the project's direct effects, the cumulative



displacements and loss of parkland and historic resources will not be predominately borne by EJ populations, nor will the effects be appreciably more severe or greater in magnitude than the effects that will be suffered by the non-EJ population. Refined Alternative I (Concept I-W) will not add to or exacerbate any disproportionate adverse effects in the West End community from prior actions or events. In recognition of the history of development in West End, ODOT will work with the City of Cincinnati to identify a location in proximity to the I-75 corridor to install an interpretive display describing the West End community in relation to historic City urban renewal and the original Millcreek Expressway construction. Refined Alternative I (Concept I-W) will improve community cohesion; improve traffic flow and safety for all modes of travel; improve air quality; abate noise; reduce flooding and combined sewer overflows; improve aesthetics; and provide additional economic opportunities, which will help to offset any cumulative effects from past, present, and reasonably foreseeable actions. Therefore, no adverse indirect or cumulative effects on EJ populations will occur, and a determination of disproportionately high and adverse effects is not warranted. Additional details about indirect and cumulative effects, including in the West End neighborhood, are provided in Section 4.10.

Temporary Construction Impacts

Temporary access and mobility, noise, and air quality impacts are anticipated during construction, resulting in adverse effects on both EJ and non-EJ communities. Impacts are anticipated to be the most disruptive in the 24 census block groups that are directly adjacent to the project corridor, 12 (50 percent) of which contain minority and/or low-income populations. However, these impacts will be minimized to the greatest extent practicable through proactive communication with local cities and the public and the development of a Traffic Management Plan, maintenance of traffic (MOT) plans, an Incident Management Plan, a dust control plan and other measures to minimize and prevent discharge of dust, measures to minimize and prevent diesel emissions, an ambient air quality monitoring program, and measures to manage construction noise. These measures will minimize construction-related disruptions in both EJ and non-EJ communities. ODOT has also committed to restore roadways impacted by increased traffic during construction to pre-construction conditions, which will primarily benefit EJ communities. Therefore, the temporary construction impacts will not result in a disproportionately high and adverse effect on EJ populations. See Section 4.11 for additional details about construction impacts, including measures to minimize and mitigate temporary construction impacts.

Conclusion

Table 10 summarizes the adverse effects on non-EJ and EJ populations within the study area. Table 11 summarizes benefits for non-EJ and EJ populations in the study area.

Based on the above discussion and analysis and summarized in the below tables, the temporary and permanent adverse effects to EJ populations will be minor, will not be predominately borne by EJ populations, and are not appreciably more severe or greater in magnitude than those experienced by non-EJ populations. In addition, EJ communities have been, and will continue to be, provided full and fair participation in the transportation decision-making process. Therefore, Refined Alternative I (Concept I-W) will not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23A. Furthermore, several avoidance, minimization, mitigation, and enhancement measures have been incorporated into Refined Alternative I (Concept I-W) to reduce adverse effects and provide additional benefits.



Table 10: Summary of Adverse Effects on Non-EJ and EJ Populations

Evaluation Area	Adverse Effects		Disproportionately High and Adverse? ¹
	Non-EJ Population	EJ Population	
Relocations	Adverse effects due to residential and commercial relocations.	Adverse effects due to residential and commercial relocations.	No
Community Resources	No adverse effects when mitigation for parks and historic resources is considered.	No adverse effects when mitigation for parks and historic resources is considered.	N/A
Access and Mobility			
Vehicular	No adverse effects.	No adverse effects.	N/A
Pedestrian and Bicycle	No adverse effects.	No adverse effects.	N/A
Transit	No adverse effects.	No adverse effects.	N/A
Safety	No adverse effects.	No adverse effects.	N/A
Environmental			
Air Quality	No adverse effects.	No adverse effects.	N/A
Greenhouse Gases and Climate Change	No adverse effects.	No adverse effects.	N/A
Noise	Minor adverse effects due to noise impacts in a small number of areas where noise or noise/visual screening barriers are not proposed.	Minor adverse effects due to noise impacts in a small number of areas where noise or noise/visual screening barriers are not proposed.	No
Stormwater	No adverse effects.	No adverse effects.	N/A
Visual	No adverse effects when benefits and enhancements are considered.	No adverse effects when benefits and enhancements are considered.	N/A
Workforce Development	No adverse effects.	No adverse effects.	N/A
Indirect and Cumulative	No adverse effects when benefits, mitigation, and enhancements are considered.	No adverse effects when benefits, mitigation, and enhancements are considered.	N/A
Temporary Construction	Temporary adverse effects due to increased traffic, reduced access, and construction dust and noise.	Temporary adverse effects due to increased traffic, reduced access, and construction dust and noise.	No

1. In accordance FHWA's Guidance on Environmental Justice and NEPA (December 16, 2011), a determination regarding disproportionately high and adverse effects is only warranted if the effects remain adverse after mitigation and benefits are considered.



Table 11: Summary of Benefits for Non-EJ and EJ Populations

Evaluation Area	Anticipated Benefits		Equally Share in Benefits?
	Non-EJ Population	EJ Population	
Relocations	None.	None.	N/A
Community Resources	Replacements and enhancements to park facilities.	Replacements and enhancements to park facilities.	Yes
Access and Mobility			
Vehicular	Improved traffic flow and access.	Improved traffic flow and access.	Yes
Pedestrian and Bicycle	New and improved multimodal facilities.	New and improved multimodal facilities.	Yes
Transit	Improved transit connections and reliability for transit on I-71/I-75.	Improved transit connections and reliability for transit on I-71/I-75.	Yes
Safety	Improved safety for vehicles, pedestrians, and bicyclists.	Improved safety for vehicles, pedestrians, and bicyclists.	Yes
Environmental			
Air Quality	Reduced vehicle emissions over existing conditions.	Reduced vehicle emissions over existing conditions.	Yes
Greenhouse Gases and Climate Change	Reduced greenhouse gas emissions over existing conditions, improved climate resilience.	Reduced greenhouse gas emissions over existing conditions, improved climate resilience.	Yes
Noise	Reduced noise due to additional noise/visual screening barriers above and beyond policy requirements.	Reduced noise due to additional noise/visual screening barriers above and beyond policy requirements.	Yes
Stormwater	Reduced flooding and combined sewer overflows.	Reduced flooding and combined sewer overflows.	Yes
Visual	Improved aesthetics.	Improved aesthetics.	Yes
Workforce Development	Job creation and opportunities for business development and income growth.	Job creation and opportunities for business development and income growth.	Yes
Indirect and Cumulative	Indirect enhancements in long-term workforce diversity, employment, and income growth.	Indirect enhancements in long-term workforce diversity, employment, and income growth. Installation of an interpretive display describing the West End community in relation to historic City urban renewal and the original Millcreek Expressway construction.	Yes
Temporary Construction	None.	None.	N/A



4.1.8 Socioeconomic Groups

The 2012 EA/FONSI included a brief qualitative discussion about effects on older adults, persons with disabilities, and zero-car households, and concluded that Selected Alternative I was not expected to result in changes to access or mobility for these populations or groups.

KYTC and ODOT prepared a [Socioeconomic Technical Report \(January 2024\)](#) to further evaluate the project's effects on older adults, individuals with limited English proficiency (LEP), adults with disabilities, and zero-car households. The following sections summarize the socioeconomic analysis and findings for Refined Alternative I (Concept I-W). Refer to the [Socioeconomic Technical Report](#) for additional, detailed analysis.

Methodology

The following statutes and guidance documents form the framework for the socioeconomic analysis methodology:

- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.
- Age Discrimination Act of 1975.
- Americans with Disabilities Act of 1990.
- Presidential Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency (August 11, 2000).
- USDOT Policy Guidance Concerning Recipients' Responsibilities to Limited English Proficient (LEP) Persons (December 12, 2005).
- ODOT Public Involvement Manual for NEPA and the Project Development Process (PDP) (January 6, 2020).
- KYTC Public Involvement Process for Statewide Transportation Planning and Project Delivery (2020).
- OKI Participation Plan (February 2022).

The socioeconomic analysis for this supplemental EA was conducted in accordance with applicable federal and state guidelines. Where differences in methodology occur, the most conservative and inclusive approach was followed. The communities considered in the analysis include:

- Older adults (over age 64);
- Individuals with LEP;¹
- Adults with disabilities;² and
- Zero-car households.

¹ Limited English proficiency is defined as speaking English "not well" or "not at all," according to the U.S. Census Bureau.

² U.S. census disability data is only available for persons age 18 and over.

The demographic makeup of the socioeconomic study area was identified using 5-year American Community Survey estimates for 2016-2020. This data was the most current available at the time of the analysis and provides the overall percentage of older adults, individuals with LEP, adults with disabilities, and zero-car households in each census block group. The overall percentage of identified socioeconomic groups was also calculated for the socioeconomic study area and the cities, counties, and states that intersect the socioeconomic study area.

For consistency across analyses, the study area for the socioeconomic analysis is the same study area that was used for the EJ analysis, which is discussed in Section 4.1.7. The socioeconomic study area encompasses and is larger than the project study area for this supplemental EA, which allows for a conservative approach that captures the fullest range of potential effects on various socioeconomic groups. The socioeconomic study area is shown in Figure 15, Figure 16, Figure 17, and Figure 18.

Population Characteristics

Consistent with the EJ analysis methodology, socioeconomic population groups within the study area were identified using a meaningfully greater analysis, which identifies areas where the percentage of older adults, individuals with LEP, adults with disabilities, or zero-car households is meaningfully greater than the same population group within an established reference community. The socioeconomic study area was chosen as the reference community for the meaningfully greater analysis.

Demographics were analyzed at the block group level, as defined by the U.S. Census Bureau 2020 decennial census geographic boundaries. The meaningfully greater threshold for identifying populations of older adults, individuals with LEP, adults with disabilities, and/or zero-car households was any block group that contained a higher percentage of a specific socioeconomic group than the overall socioeconomic study area.

In the socioeconomic study area, 32 of 76 census block groups have populations of older adults, 17 block groups have populations of individuals with LEP, 38 block groups have populations of adults with disabilities, and 33 block groups have populations of zero-car households. These communities are broadly dispersed throughout the socioeconomic study area, and some are located directly adjacent to the project corridor. Detailed population characteristics are presented in the following sections.

Older Adults (Over Age 64)

According to U.S. census data, adults over age 64 make up 11.7 percent of the population of the socioeconomic study area. Table 12 compares the population of older adults in the socioeconomic study area to the states, counties, and cities in which it is situated. In Kentucky, 25 of 47 block groups have older adult populations, compared to 7 of 29 block groups in Ohio. The locations of census block groups with populations of older adults are shown in Figure 15.



Table 12: Population Characteristics – Older Adults

Geography	Total Population	Older Adults (Over Age 64)	
		Population	Percentage
State of Kentucky	4,461,952	729,928	16.36%
State of Ohio	11,675,275	1,990,621	17.05%
Campbell County, KY	93,608	14,811	15.82%
Kenton County, KY	166,552	23,915	14.36%
Hamilton County, OH	815,790	125,679	15.41%
Covington, KY	40,466	5,258	12.99%
Fort Mitchell, KY	8,278	1,132	13.67%
Fort Wright, KY	5,766	1,015	17.60%
Park Hills, KY	2,993	444	14.83%
Cincinnati, OH	302,687	37,738	12.47%
Socioeconomic study area	71,496	8,333	11.66%

Limited English Proficiency

According to U.S. census data, 1.3 percent of the population of the socioeconomic study area has LEP. Table 13 compares individuals with LEP in the socioeconomic study area to the states, counties, and cities in which it is situated. Of the 17 block groups that exceed the socioeconomic study area average, 14 are located in Kentucky, and 3 are in Ohio. There are 7 block groups with an LEP population greater than 5 percent, with 3 of those having an LEP population greater than 10 percent; the highest proportion of LEP individuals in a block group is 16.9 percent. Of these 7 block groups, 86 percent of the LEP population speak Spanish, 7.9 percent speak an Asian or Pacific Island (API) language, and 5.7 percent speak a non-Indo European, non-API language. Spanish speakers are present in 6 of the 7 block groups with an LEP population greater than 5 percent, while API and other language speakers are each located entirely within 1 block group.¹ The locations of census block groups with populations of individuals with LEP are shown in Figure 16.

¹ This census block group is located in Covington, about 1.25 miles south of the Ohio River and 0.5 miles east of the BSB corridor (see Figure 16, Map ID 49).



Table 13: Population Characteristics – Limited English Proficiency

Geography	Total Population (Age 5 and Over)	Limited English Proficiency (Age 5 and Over)	
		Population	Percentage
State of Kentucky	4,188,377	42,989	1.03%
State of Ohio	10,982,292	115,238	1.05%
Campbell County, KY	88,253	330	0.37%
Kenton County, KY	155,589	1,772	1.14%
Hamilton County, OH	762,550	9,877	1.30%
Covington, KY	37,488	792	2.11%
Fort Mitchell, KY	7,675	33	0.43%
Fort Wright, KY	5,559	16	0.29%
Park Hills, KY	2,817	0	0.00%
Cincinnati, OH	281,075	4,327	1.54%
Socioeconomic study area	66,332	874	1.32%

Adults with Disabilities

According to U.S. census data, adults with disabilities make up 16.5 percent of the population of the socioeconomic study area. Table 14 compares adults with disabilities in the socioeconomic study area to the states, counties, and cities in which it is situated. In Kentucky, 28 of 47 block groups populations of adults with disabilities, compared to 10 of 29 block groups in Ohio. The locations of census block groups with populations of adults with disabilities are shown in Figure 17.

Table 14: Population Characteristics – Adults with Disabilities

Geography	Total Population (18 Years and Older)	Adults with Disabilities (18 Years and Older)	
		Population	Percentage
State of Kentucky	3,330,918	705,961	21.19%
State of Ohio	8,796,379	1,475,726	16.78%
Campbell County, KY	70,987	10,882	15.33%
Kenton County, KY	125,252	20,293	16.20%
Hamilton County, OH	613,316	87,095	14.20%
Covington, KY	30,798	5,901	19.16%
Fort Mitchell, KY	6,052	980	16.19%
Fort Wright, KY	4,513	674	14.93%
Park Hills, KY	2,358	330	13.99%
Cincinnati, OH	226,754	34,852	15.37%
Socioeconomic study area	54,777	9,038	16.50%



Zero-Car Households

According to U.S. census data, 22.7 percent of the households in the socioeconomic study area do not have reliable access to a vehicle. Table 15 compares zero-car households in the socioeconomic study area to the states, counties, and cities in which it is situated. In Kentucky, 17 of 47 block groups have populations of zero-car households, compared to 16 of 29 block groups in Ohio. The locations of census block groups with populations of zero-car households are shown in Figure 18.

Table 15: Population Characteristics – Zero-Car Households

Geography	Total Occupied Households	No Access to Vehicles	
		Households	Percentage
State of Kentucky	1,748,053	122,132	6.99%
State of Ohio	4,717,226	365,855	7.76%
Campbell County, KY	37,197	2,718	7.31%
Kenton County, KY	64,544	4,723	7.32%
Hamilton County, OH	344,588	37,864	10.99%
Covington, KY	17,397	3,204	18.42%
Fort Mitchell, KY	3,331	157	4.71%
Fort Wright, KY	2,333	35	1.50%
Park Hills, KY	1,277	44	3.45%
Cincinnati, OH	138,696	26,387	19.03%
Socioeconomic study area	32,557	7,387	22.69%

Targeted Neighborhood Outreach

Opportunities for members of diverse socioeconomic populations and groups to offer feedback about the project occurred during neighborhood outreach meetings in late 2022 and open-house project update meetings in August 2023. Between November 15, 2022 and December 20, 2022, KYTC and ODOT conducted targeted neighborhood outreach in conjunction with the EJ outreach. As described in Section 4.1.7, the targeted outreach included 12 small-scale targeted outreach meetings in areas directly adjacent to the project's construction limits and one daytime and one evening broad-scale outreach meeting in each state to engage neighborhoods that are near the BSB corridor but will not be directly impacted. A PublicInput.com website was also established to support the targeted outreach activities by providing project information, materials from the neighborhood meetings, and the opportunity to offer feedback.

Meetings were scheduled at venues in each neighborhood that were accessible by transit and by persons with disabilities. Advertising materials included information in Spanish offering translation and interpretation services. In addition, information about the meeting was printed in Spanish and distributed in the Lewisburg and Botany Hills neighborhoods based on feedback from a Project Advisory Committee member. Comment forms were also available in both Spanish and English. Finally, the PublicInput.com site provided a "translate" button on the home screen to automatically translate the website text into Spanish and several other languages.

Figure 15: Populations of Older Adults

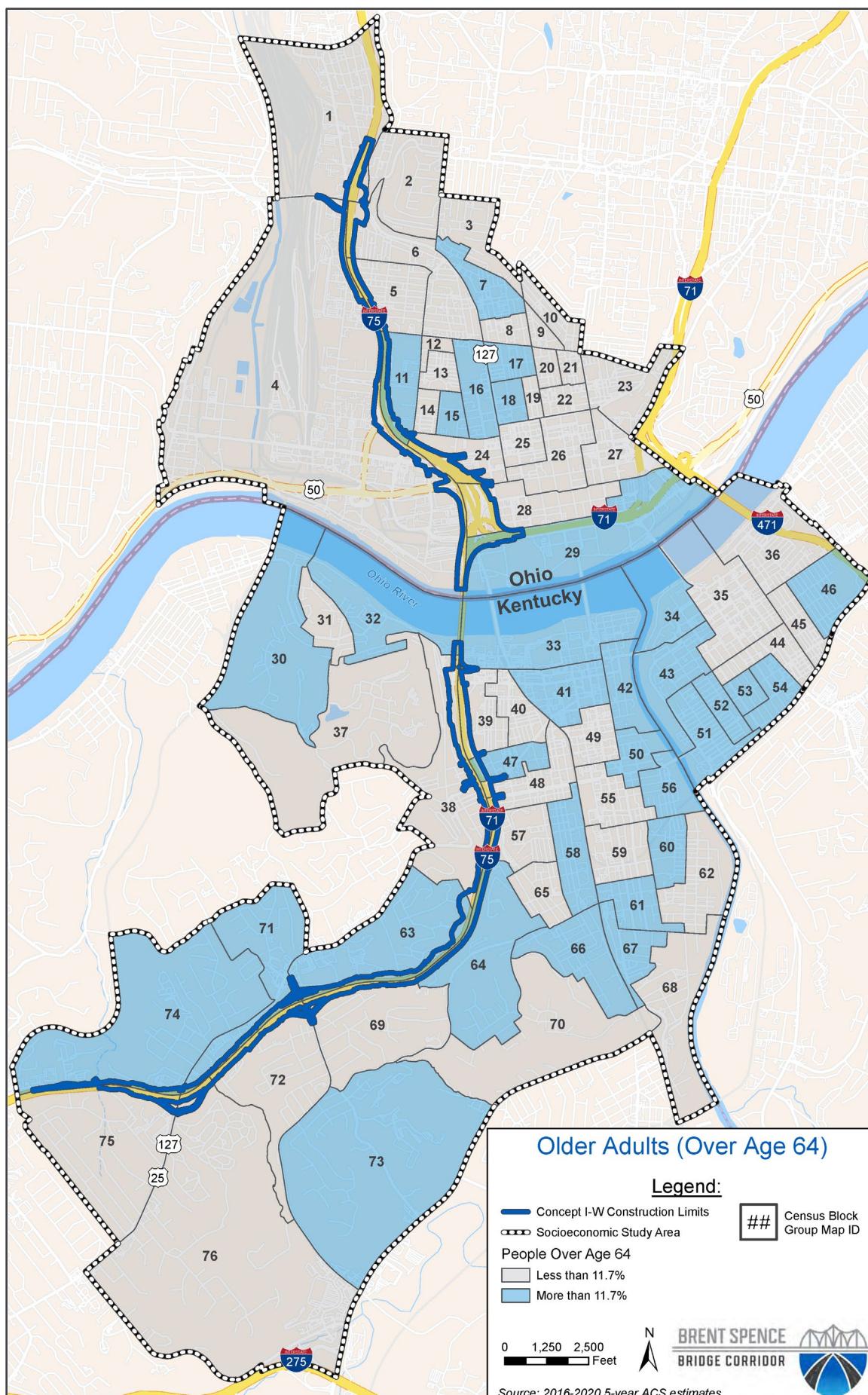


Figure 16: Populations of Individuals with Limited English Proficiency

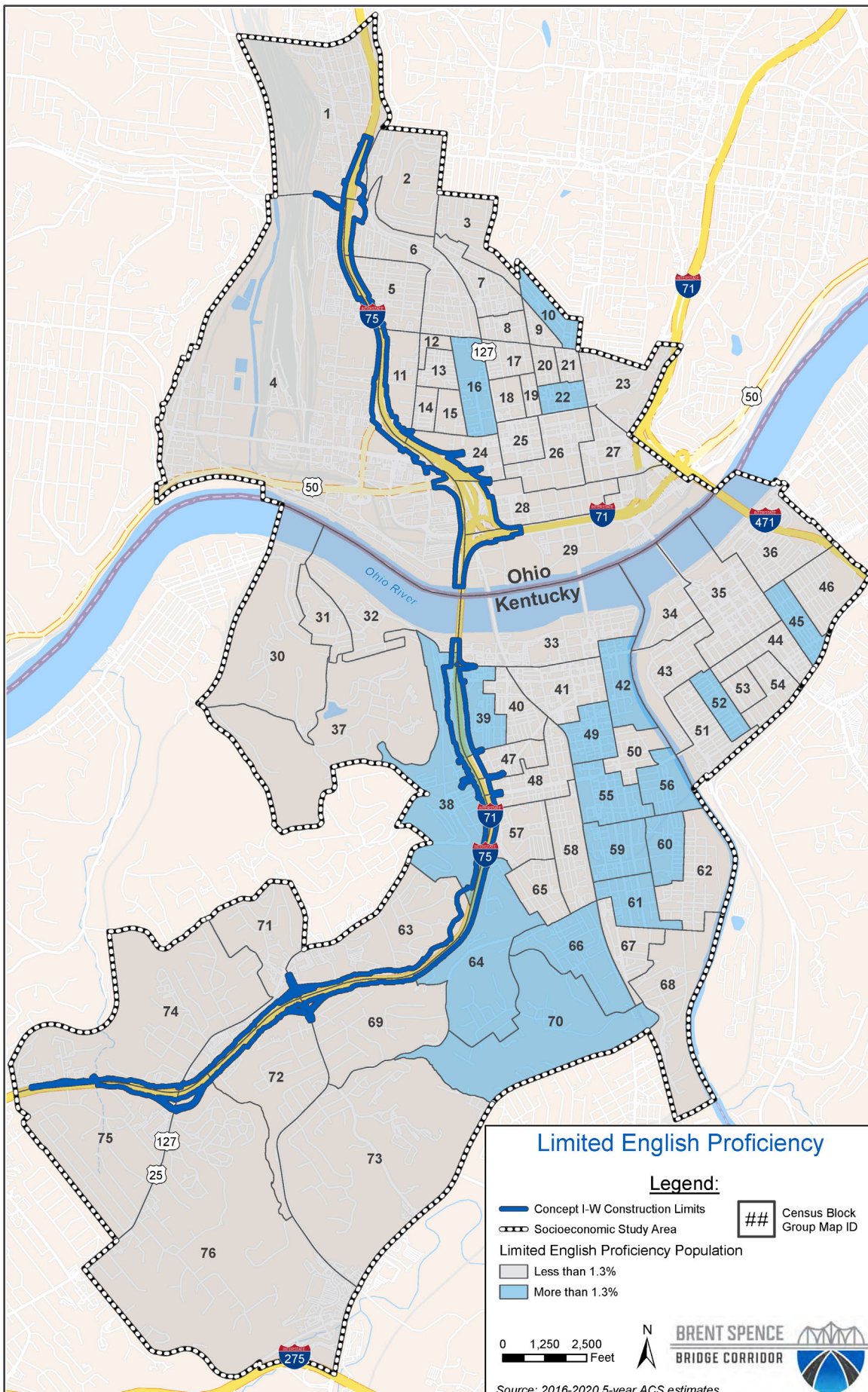


Figure 17: Populations of Adults with Disabilities

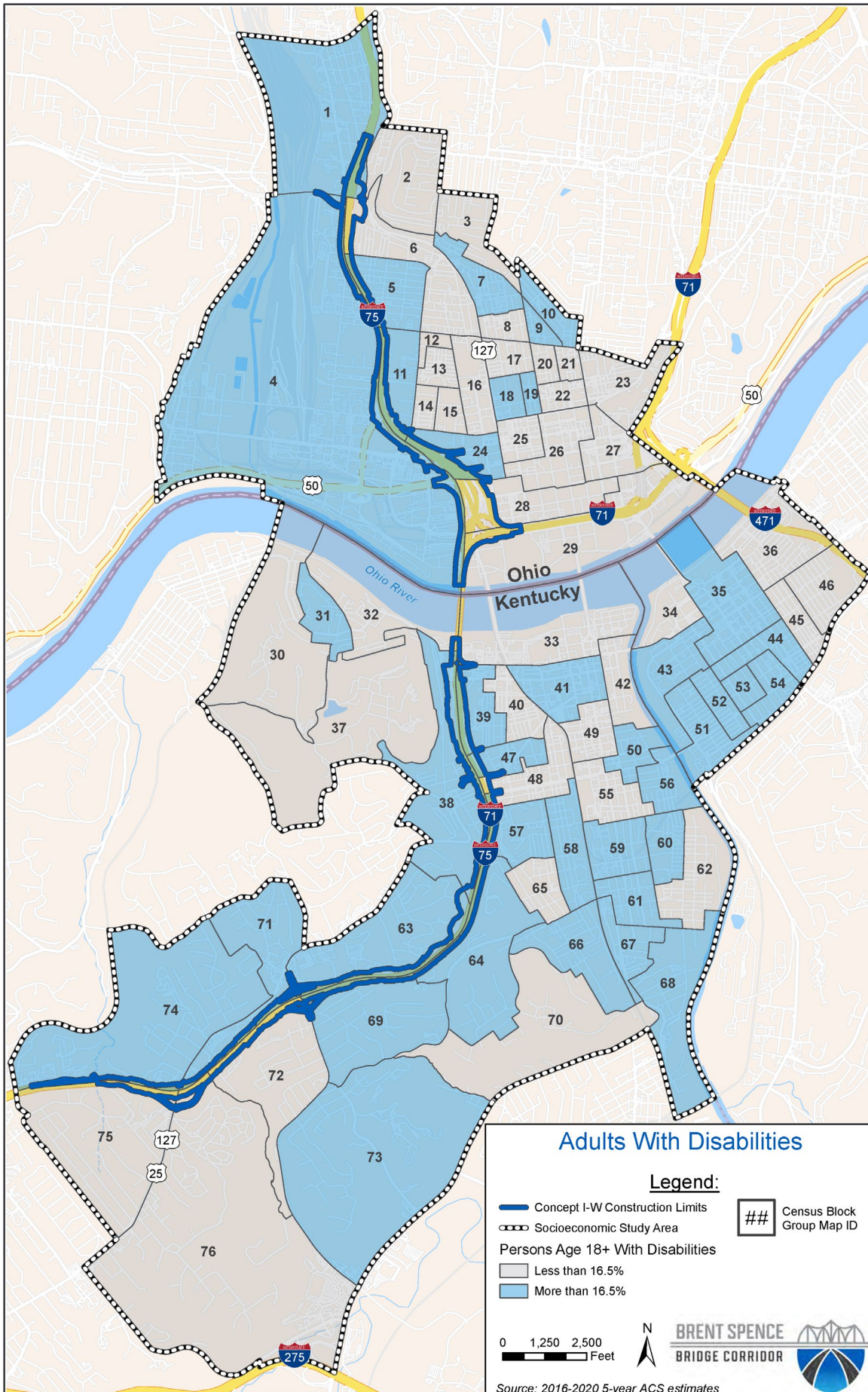
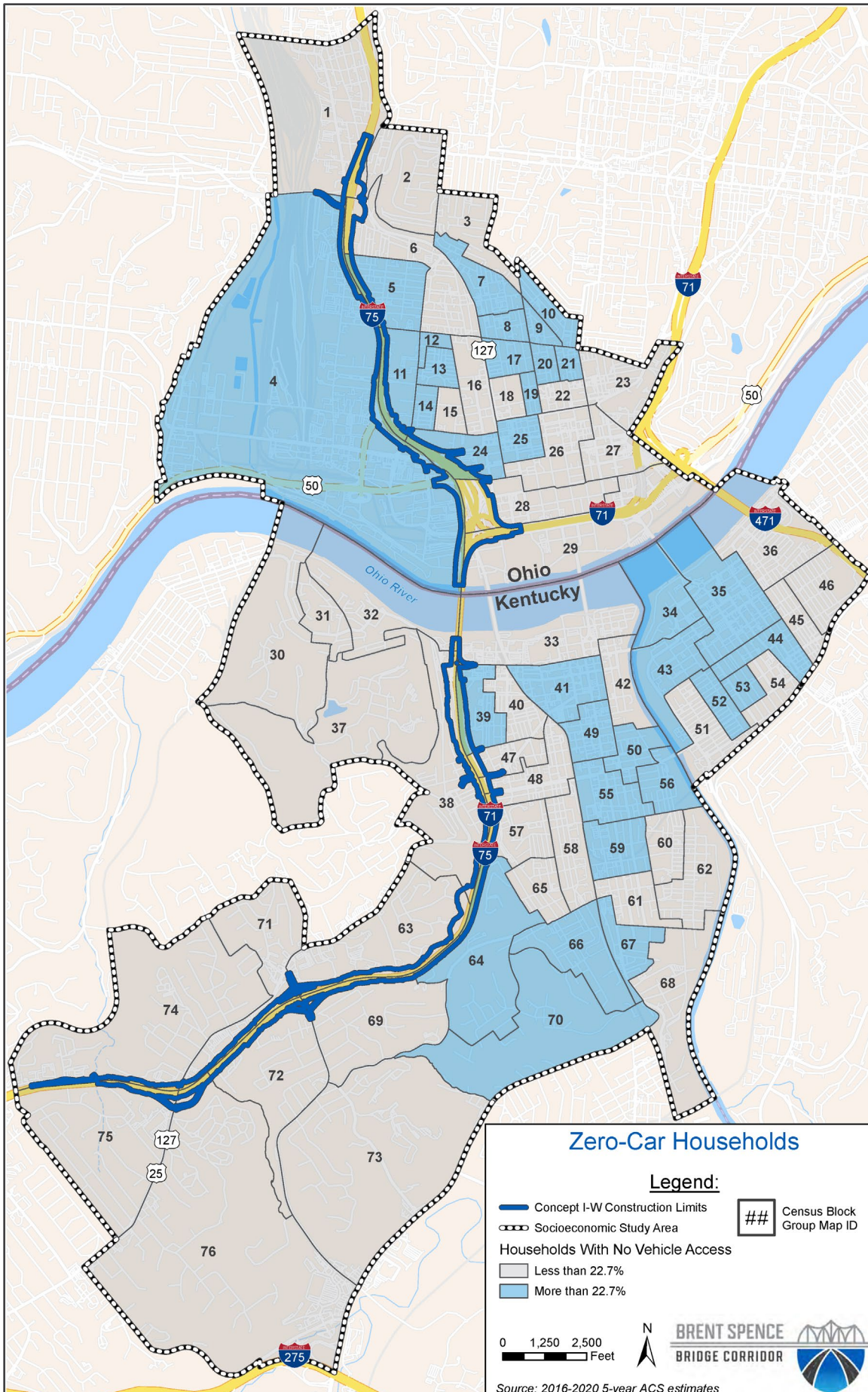


Figure 18: Populations of Zero-Car Households



A total of 418 people signed in at the meetings, excluding the project team. The PublicInput.com site was viewed 2,559 times, with 218 individuals choosing to engage by submitting comments or responding to polling questions. Demographic questionnaires were available at all in-person neighborhood meetings, and polling questions on the PublicInput.com site sought demographic data of participants. A total of 111 individuals provided demographic information, although not every individual answered every question. Of the individuals who provided demographic information, 35 percent were from households with one or more older adult, and 8 percent were from households with one or more persons with a disability (regardless of age). All participants in the neighborhood outreach indicated English as their primary language, and no requests for translation services were received. Only one response was received regarding the individual's primary mode of transportation, and that response indicated a personal automobile.

Community members generally supported the refinements, mitigation, and enhancements incorporated into Refined Alternative I (Concept I-W), including the reduction of the footprint, the incorporation of additional noise/visual screening barriers, measures to reduce flooding and combined sewer overflows, new and improved multimodal facilities, additional developable land, and aesthetic features. During the targeted outreach comment period, community members offered additional feedback and suggestions. Every comment was evaluated by the project team. Individual responses were published on the project website and are also included in the project's [Public Involvement Summary](#). The project team incorporated several refinements into Refined Alternative I (Concept I-W) in direct response to the comments received, as described in Section 5.1.2.

No additional small pockets of older adults, individuals with LEP, adults with disabilities, or zero-car households were identified during the targeted neighborhood outreach activities. To the extent the project team was able to ascertain, questions, comments, and feedback were consistent across all socioeconomic groups. The project team did not identify any concerns unique to populations of older adults, individuals with LEP, adults with disabilities, or zero-car households. Likewise, unanticipated additional community impacts were not identified during the neighborhood outreach.

Members of all socioeconomic populations and groups were also afforded the opportunity to provide feedback during open-house project update meetings that occurred in August 2023 with an associated 30-day public comment period. The comments received did not express any concerns unique to older adults, individuals with LEP, adults with disabilities, or zero-car households. Likewise, the project team did not identify any unanticipated additional impacts on these population groups as a result of the open-house project update meetings.

Members of all socioeconomic groups will have the opportunity to review this supplemental EA and other project information and provide comments to KYTC and ODOT for 30 days after it is made publicly available. Public hearings scheduled during that time period will provide additional opportunities for feedback. Public involvement will also occur during the design and construction of the project. See the *Public Engagement Plan*¹ for addition details about public involvement during the design and construction phases.

For additional information about the targeted neighborhood outreach meetings, the open-house project update meetings, the public hearings, and ongoing public involvement, including refinements incorporated into Refined

¹ The project *Public Engagement Plan* is included in Appendix Q of the [Public Involvement Summary](#).



Alternative I (Concept I-W) in direct response to the comments and feedback that were gathered, see Sections 5.1.1, 5.1.2, 5.5, and 5.6; the [Public Involvement Summary](#); and the [Socioeconomic Technical Report](#).

Summary of Effects

The following sections summarize the effects of Refined Alternative I (Concept I-W) on populations of older adults, individuals with LEP, adults with disabilities, and zero-car households.

Relocations

The residential and commercial relocations required for Refined Alternative I (Concept I-W) will occur in census block groups with populations of older adults, individuals with LEP, adults with disabilities, and/or zero-car households, as shown in Table 16.

Table 16: Relocations by Socioeconomic Population Group

State	Refined Alternative I (Concept I-W) Relocations	Relocations in Census Block Groups by Population Group			
		Older Adults	Limited English Proficiency	Adults with Disabilities	Zero-Car Households
Kentucky					
Residential	4 units	0 units	3 units	3 units	0 units
Commercial ¹	5 full, 0 partial	1 full, 0 partial	3 full, 0 partial	3 full, 0 partial	1 full
Ohio					
Residential	0 units	0 units	0 units	0 units	0 units
Commercial ¹	19 full, 1 partial	3 full, 0 partial	0 full, 0 partial	16 full, 1 partial	16 full, 1 partial
Total					
Residential	4 units	0 units	3 units	3 units	0 units
Commercial ¹	24 full, 1 partial	4 full, 0 partial	3 full, 0 partial	19 full, 1 partial	17 full, 1 partial

1. Commercial relocations are expressed as full and partial acquisitions.

Refined Alternative I (Concept I-W) requires only four single-family residential relocations, two of which are tenant occupied. Commercial relocations in Kentucky include an auto body shop, an auto service shop, a car dealership, a radio tower, and a heating and air conditioning company. In Ohio, relocated businesses include a printing shop, a fast-food restaurant, the dunnhumby USA headquarters, two vacant bar/night clubs, a vacant gas station, office space for six businesses, three recording or photography studios, an escape room, storage space for three businesses, and the removal of one building on property owned by a real estate company. Fourteen (14) of the commercial relocations in Ohio are tenants in Longworth Hall, six of which have short term, month-to-month leases. The only major employer displaced is the dunnhumby USA headquarters. However, a new, expanded headquarters (currently under new ownership and called 84.51°) has been built in downtown Cincinnati, about one-half mile east of its previous location. Ongoing acquisition activities in Kentucky have indicated that affected businesses will be able to relocate within the same geographic area if so desired, either in existing structures or new construction. None of the commercial relocations is expected to result in substantial job loss or economic impact, nor are they known to be substantial employers of older



adults, individuals with LEP, adults with disabilities, or zero-car households or serve unique needs within these communities.

The acquisition of property for right-of-way (including residential and business relocations) has been, and will continue to be, in accordance with the Uniform Act. During the right-of-way acquisition process, KYTC and ODOT will provide assistance finding relocation properties with suitable accommodations for older adults, persons with disabilities, and multimodal access, as necessary. Translation services will also be offered to facilitate the relocation process for persons with LEP. No person displaced by this project will be required to move from a displaced dwelling unless comparable replacement housing is available to that person. If necessary, housing of last resort will be utilized to provide the flexibility necessary to respond to difficult or unique relocation conditions.

Given the above, the relocations associated with Refined Alternative I (Concept I-W) are expected to result in minimal impacts on populations of older adults, individuals with LEP, adults with disabilities, and zero-car households. See Section 4.1.5 for additional information about relocations, including minimization measures incorporated into Refined Alternative I (Concept I-W) and discussion regarding the Uniform Act and housing of last resort.

Community Resources

The right-of-way impacts to community facilities are discussed in Section 4.1.3. Refined Alternative I (Concept I-W) results in minor impacts on schools, places of worship, and a hospital that may be utilized by or serve older adults, individuals with LEP, adults with disabilities, and members of zero-car households. However, no temporary or permanent impacts to the operations of these community facilities are anticipated. Refined Alternative I (Concept I-W) also requires minor amounts of right-of-way from the Hillsdale Subdivision Historic District, which does not have any identified socioeconomic populations or groups, and the Elberta Apartments Historic District, which is situated in a census block group with populations of older adults and adults with disabilities. However, Refined Alternative I (Concept I-W) will have no adverse effect on these historic districts. See Sections 4.5.2, 4.13.1, and 4.13.2 for additional details about the Hillsdale Subdivision Historic District and the Elberta Apartments Historic District. Refined Alternative I (Concept I-W) will also result in minor temporary impacts to the Firefighters Memorial and Ezzard Charles Park, which are situated in census block groups with populations of older adults, adults with disabilities, and/or zero-car households. However, access to the parks will be maintained at all times, and no permanent impacts will occur. See Sections 4.13.6 and 4.13.8 for additional information about the Firefighters Memorial and Ezzard Charles Park.

Refined Alternative I (Concept I-W) will impact the Goebel Park Complex, the Lewisburg Historic District, historic Longworth Hall, and the Queensgate Playground and Ball Field, which are located within and serve communities with older adults, individuals with LEP, adults with disabilities, and/or zero-car households. However, mitigation measures have been incorporated into Refined Alternative I (Concept I-W) to offset impacts to these community resources. The impacts and mitigation measures as well as proposed enhancements for each are summarized below:

- Goebel Park Complex – Refined Alternative I (Concept I-W) will acquire 2.84 acres of permanent right-of-way acquired, including 360 feet of walking trails, two basketball courts, and associated resources from the Goebel Park Complex. Impacts will be mitigated through the provision of replacement land;



reconstruction of the walking trail within the complex; and a financial commitment from KYTC for the development of a new Goebel Park Complex Master Plan, replacement and enhancement of the basketball courts or other outdoor recreation facilities within the park, and a relocated outdoor pool and associated facilities or other comparable aquatic facility serving the same purpose within the park. Noise/visual screening barriers are also proposed to provide enhanced sound reduction in the complex. In addition, the separation of interstate runoff from the combined sewer system will reduce flooding and combined sewer overflows in the complex. See Sections 4.8.1, 4.12.1, and 4.13.3 for additional details about impacts and mitigation and enhancement measures affecting the Goebel Park Complex.

- Lewisburg Historic District – Refined Alternative I (Concept I-W) will remove three houses along Bullock Street between West 12th Street and Pike Street in the Lewisburg Historic District. Impacts will be mitigated through the recordation of removed structures; the establishment of a \$1.2 million grant program to improve and rehabilitate the façades of residential and commercial properties in the Lewisburg Historic District; and the protection, monitoring, and repair of historic structures from vibration during construction. Noise barriers are also proposed to mitigate noise impacts. See Sections 4.5.2, 4.8.1, and 4.13.4 for additional details about impacts and mitigation measures for the Lewisburg Historic District.
- Longworth Hall – Refined Alternative I (Concept I-W) will remove 204 feet of the Longworth Hall building. Impacts will be mitigated by the completion of repair, upgrade, restoration, enhancement, and refurbishment on the portions of the building impacted by construction and the portions of the building to remain. ODOT is in the process of purchasing the full Longworth Hall property from a willing seller. ODOT’s potential use of the interior and exterior of the building will not cause additional adverse effects to the building or affect its continued use or access. See Sections 4.5.2 and 4.13.5 for additional details about the impacts and mitigation measures for Longworth Hall.
- Queensgate Playground and Ball Field – Refined Alternative I (Concept I-W) will acquire 0.72 acre of permanent right-of-way and easement from the park, including the loss of outfield areas. Trees and shrubs along the southern edge of the park will also be removed during the construction of the highway, retaining wall, and a proposed noise barrier. Impacts were mitigated by compensating the City of Cincinnati for the land, relocation of recreational facilities, preparation of construction plans for the ball field reconfiguration, and construction monitoring of the mitigation. A noise barrier is also proposed to mitigate noise impacts. If noise public involvement concludes that a noise barrier will not be built, then ODOT has committed to installing limited access right-of-way fencing along the park and highway boundary. See Sections 4.8.2 and 4.13.7 for details about impacts and mitigation measures for the Queensgate Playground and Ball Field.

Given the surrounding demographics, the community resources identified above may be utilized by all socioeconomic groups and disadvantaged communities. The project team presumed usage of all community resources by all populations. In consideration of the mitigation and enhancement measures incorporated into the design, Refined Alternative I (Concept I-W) is not anticipated to impact community resources that are utilized by or serve populations of older adults, individuals with LEP, adults with disabilities, and/or zero-car households; rather, the mitigation measures and other enhancement measures incorporated into Refined Alternative I (Concept I-W) will provide additional improvements to parks and historic resources in these communities.



Access, Mobility, and Safety

Refined Alternative I (Concept I-W) includes several features that will improve access, mobility, and safety for vehicular traffic traveling to, from, and within communities with populations of older adults, individuals with LEP, adults with disabilities, and/or zero-car households. These include additional interstate lanes, the construction of the C-D roadway system, the removal of left-hand exits, standard shoulder widths, extended frontage roads, the reopening of the West 4th Street ramp to the northbound C-D system, the provision of access to northbound I-75 from the Clay Wade Bailey Bridge, the replacement of one-way bridges with historic wrong-way crashes on Ezzard Charles Drive with a two-way bridge over I-75, the provision of more direct access to northbound I-75 at Winchell Avenue, and access to Central Parkway and Spring Grove Avenue in the vicinity of the Western Hills Viaduct interchange. Refined Alternative I (Concept I-W) is also anticipated to benefit socioeconomic populations and groups by reducing traffic congestion on the local street networks in those communities. Minor traffic rerouting will occur due to ramp changes in census block groups with populations of older adults, individuals with LEP, adults with disabilities, and/or zero-car households; however, traffic will only need to reroute about one to two city blocks, and sufficient lanes will be provided to maintain acceptable traffic flow.

Refined Alternative I (Concept I-W) incorporates new and improved pedestrian and bicycle infrastructure in communities with older adults, individuals with LEP, adults with disabilities, and/or zero-car households. The proposed improvements will directly benefit these communities by increasing the options available to pedestrians and bicyclists, which will enhance community connectivity along and across the I-71/I-75 corridor and may improve access to transit, employment, healthcare, cultural, recreational, and commercial destinations. Furthermore, new bicycle lanes and shared-use paths will support future planned improvements of regional pedestrian and bicycle networks. In Kentucky, the multimodal facilities will improve access in and between the Westside, Mainstrasse, Lewisburg, Botany Hills, and Covington CBD neighborhoods. In Ohio, the multimodal facilities will improve access in and between the CBD Riverfront, Queensgate, and West End neighborhoods.

Refined Alternative I (Concept I-W) will reduce traffic congestion, improving reliability for local bus routes that use the BSB for 210 trips every weekday, thus benefitting older adults, individuals with LEP, adults with disabilities, and members of zero-car households who utilize these transit routes. In addition, new and improved sidewalks, shared-use paths, and bicycle lanes will enhance connections to existing bus stops and routes that are located in and serve these communities.

Given the above, Refined Alternative I (Concept I-W) is anticipated to directly benefit access, mobility, and safety for populations of older adults, individuals with LEP, adults with disabilities, and zero-car households. See Section 4.1.4 for additional details about travel patterns and access for vehicles, pedestrians, bicycles, and transit.

Air Quality, Greenhouse Gases and Climate Change, Noise, and Stormwater

Air quality evaluations considered PM_{2.5}, carbon monoxide, and ozone. The project area is in attainment with NAAQS for PM_{2.5} and carbon monoxide, and the project is in conformance with NAAQS for ozone. In addition, a [Quantitative MSAT Analysis Report](#) concluded the project is consistent with MSAT requirements. To further evaluate air quality considerations, KYTC and ODOT completed an emissions burdens analysis that modeled



the levels of volatile organic compounds, nitrogen oxides, and PM2.5 for 2020 existing, 2050 no-build, and 2050 build scenarios. The analyses concluded that emissions of the analyzed pollutants in the socioeconomic study area would be substantially decreased for both the 2050 no-build and 2050 build scenarios when compared to the 2020 existing scenario. These reductions are primarily due to the implementation of the latest federal emissions standards coupled with fleet turnover.

When the 2050 build scenario is compared to the 2050 no-build scenario, the levels of volatile organic compounds and nitrogen oxides are anticipated to be less or approximately the same throughout the socioeconomic study area. This includes 60 of 76 census block groups with older adults, individuals with LEP, adults with disabilities, and/or zero-car households. When the 2050 build scenario is compared to the 2050 no-build scenario, PM2.5 is anticipated to be less or approximately the same in Campbell and Hamilton counties, which includes 32 of 76 (42 percent) census block groups with older adults, individuals with LEP, adults with disabilities, and/or zero-car households. When the 2050 build scenario is compared to the 2050 no-build scenario, PM2.5 is anticipated to be slightly greater (2.8 percent) in Kenton County due to an increase in vehicle miles of travel that will occur throughout the area transportation network when the project is built. The affected areas of Kenton County include 28 of 76 (37 percent) census block groups with older adults, individuals with LEP, adults with disabilities, and/or zero-car households. Given the above, Refined Alternative I (Concept I-W) is not anticipated to further degrade, and may improve, overall air quality for populations of older adults, individuals with LEP, adults with disabilities, and zero-car households. See Section 4.6 for additional information about air quality studies completed for the project.

The emissions burdens analysis concluded that greenhouse gas emissions would be substantially decreased for both the 2050 no-build and 2050 build scenarios when compared to the 2020 existing scenario. These reductions are primarily due to the implementation of the latest federal emissions standards coupled with fleet turnover. Greenhouse gas emissions are expected to be slightly greater (0.7 percent) when the 2050 build scenario is compared to the 2050 no-build scenario. This is primarily due to an increase in vehicle miles of travel that will occur throughout the area transportation network when the project is built. In addition, the 0.7 percent difference in greenhouse gas emissions is less than the associated 1.7 percent difference in vehicle miles of travel. The change in greenhouse gas emissions is expected to have minimal effects on climate change in the socioeconomic study area.

Stormwater management measures incorporated into Refined Alternative I (Concept I-W) will promote climate resilience, and the project will be implemented in accordance with KYTC's and ODOT's *Transportation Asset Management Plans*. These measures will support efforts to reduce the effects of greenhouse gas emissions and climate change. Given the above, Refined Alternative I (Concept I-W) is not anticipated to appreciably impact greenhouse gas emissions and climate change for populations of older adults, individuals with LEP, adults with disabilities, and zero-car households. See Section 4.7 for additional information about greenhouse gases and climate change.

For Refined Alternative I (Concept I-W) noise impacts are predicted in 21 census block groups in the socioeconomic study area, including 17 census block groups with populations of older adults, individuals with LEP, adults with disabilities, and/or zero-car households. Noise barriers are proposed to provide noise mitigation and noise/visual screening barriers are proposed to provide enhanced sound reduction in 16 census block groups where noise impacts were identified, including 14 census block groups with populations of older



adults, individuals with LEP, adults with disabilities, and/or zero-car households. There are a total of 116 impacted noise sensitive receptors in the 5 census block groups where noise or noise/visual screening barriers are not proposed. Only 7 of these 116 receptors are located in census block groups with older adults, individuals with LEP, adults with disabilities, and/or zero-car households. Therefore, Refined Alternative I (Concept I-W) will not result in substantial noise impacts on populations of older adults, individuals with LEP, adults with disabilities, or zero-car households. See Section 4.8 for additional information about noise, including predicted impacts and proposed mitigation and enhancement measures.

KYTC and ODOT are separating interstate stormwater runoff from combined sewer systems to reduce flooding and combined sewer overflows occurring in the Peasenburg, Mainstrasse, Queensgate, and Camp Washington neighborhoods. In addition, during detailed design, KYTC will work with the City of Covington and Kentucky Sanitation District 1 (SD1) to address surcharging in the Peasenburg neighborhood based on the local design criteria for a 25-year storm. Given the above, Refined Alternative I (Concept I-W) is anticipated to benefit populations of older adults, individuals with LEP, adults with disabilities, and zero-car households by reducing flooding and combined sewer overflows in their communities. See Section 4.12.1 for additional details about stormwater.

Given the above, and in consideration of the mitigation and enhancement measures incorporated into Refined Alternative I (Concept I-W), net environmental benefits are expected for populations of older adults, individuals with LEP, adults with disabilities, and zero-auto households.

Visual

Refined Alternative I (Concept I-W) will result in minor visual changes in communities with older adults, individuals with LEP, adults with disabilities, and/or zero-car households due to the new companion bridge over the Ohio River, raising and widening I-71/I-75, the construction of a new C-D roadway system, retaining walls, vegetation removal, and noise and noise/visual screening barriers.

Community members were presented with renderings and other details of the new companion bridge, drawings and details showing elevations of the proposed interstate in Kentucky, renderings and other information about landscaping, and information about noise and noise/visual screening barriers during the targeted neighborhood outreach and were encouraged to provide comments. Community members generally supported the aesthetic elements incorporated into Refined Alternative I (Concept I-W).

KYTC and ODOT are closely coordinating the aesthetic plans for the project with a project Aesthetic Committee. In addition, KYTC is closely coordinating the project aesthetic plans with the Covington Aesthetics Subcommittee and the Fort Wright/Fort Mitchell Aesthetics Subcommittee. ODOT is also coordinating the project aesthetic plans with the Ohio Subcommittee, which includes the City of Cincinnati. Items to be incorporated into the project include landscaping, streetscapes, gateways, and treatments for piers, abutments, retaining walls, and noise barriers. Communities with older adults, individuals with LEP, adults with disabilities, and zero-car households will receive the same opportunities for aesthetic enhancements as the general population.

While minor visual changes are anticipated, the aesthetic features incorporated into Refined Alternative I (Concept I-W) are anticipated to provide direct benefits for communities of older adults, individuals with LEP,



adults with disabilities, and zero-car households by improving the visual character of the project corridor and helping to foster vibrant neighborhood spaces in those communities. Therefore, Refined Alternative I (Concept I-W) is expected to result in net visual benefits for populations of older adults, individuals with LEP, adults with disabilities, and zero-car households. Information about visual resources and aesthetics incorporated into the project is provided in Section 4.9.

Workforce Development

KYTC and ODOT are establishing goals for DBE firm participation, mentoring, and support during the project's progressive design-build contract (Phase III). KYTC and ODOT will also develop an on-the-job training program geared toward minorities, women, and disadvantaged persons and a workforce development plan to be implemented during the project's progressive design-build contract (Phase III). While project-related DBE participation, on-the-job training, and workforce development opportunities will be broadly available, members of diverse socioeconomic groups will be afforded equal opportunities to share in these benefits. Although workforce development opportunities may not be as beneficial to persons who do not actively participate in the workforce, such as some older adults or some adults with disabilities, Refined Alternative I (Concept I-W) is expected to provide direct benefits to diverse socioeconomic groups in terms of job creation, business development, and income growth. Additional details about workforce development measures incorporated into Refined Alternative I (Concept I-W) are provided in Section 4.1.6.

Indirect and Cumulative Effects

The relocation of the former dunnhumby USA headquarters helped to create new jobs and economic activity within a 1-mile radius of 21 census block groups with older adults, individuals with LEP, adults with disabilities, and/or zero-car households. In addition, Refined Alternative I (Concept I-W) will free up approximately 10 acres of land that will be transferred to the City of Cincinnati for potential redevelopment and/or public use adjacent to census block groups with populations of older adults, adults with disabilities, and/or zero-car households. Opportunities for DBE firm participation, on-the-job training, and workforce development programs incorporated into Refined Alternative I (Concept I-W) may also indirectly contribute to long-term enhancements in workforce diversity, employment, and income for these communities. Therefore, Refined Alternative I (Concept I-W) is not expected to result in a change in utilization of community resources; rather, net beneficial indirect effects on populations of older adults, individuals with LEP, adults with disabilities, and zero-car households are expected.

Refined Alternative I (Concept I-W) will improve community cohesion, improve traffic flow and safety for all modes of travel, improve air quality, abate noise, reduce flooding and storm sewer overflows, improve aesthetics, and provide additional economic opportunities, which will help to offset any cumulative effects from past, present, and reasonably foreseeable actions. Refined Alternative I (Concept I-W) will have a minor contribution to cumulative business and residential displacements and loss of parkland and historic resources. These cumulative effects will be experienced across all socioeconomic groups, including populations of older adults, individuals with LEP, adults with disabilities, and zero-car households. Additional details about indirect and cumulative effects are provided in Section 4.10.



Temporary Construction Impacts

Temporary access and mobility, noise, and air quality impacts are anticipated across all socioeconomic groups during construction. Temporary construction impacts are anticipated to be the most disruptive in the 24 census block groups that are directly adjacent to the project corridor. These areas contain 17 census block groups with populations of older adults, individuals with LEP, adults with disabilities, and/or zero-car households. However, these impacts will be minimized to the greatest extent possible through proactive communication with local cities and the public, as will be detailed in the *Public Engagement Plan* and the project communications plan. Temporary construction impacts will also be minimized through the development of plans for vibration protection, monitoring, and repair; a Traffic Management Plan; MOT plans for all modes of travel; an Incident Management Plan; a dust control plan and other measures to minimize and prevent discharge of dust; measures to minimize and prevent diesel emissions; an ambient air quality monitoring program; and measures to manage construction noise. ODOT has also committed restore roadways impacted by increased traffic during construction to pre-construction conditions. These measures will minimize construction-related disruptions on all socioeconomic groups, including populations of older adults, individuals with LEP, adults with disabilities, and zero-car households.

Given the above, temporary construction impacts on populations of older adults, individuals with LEP, adults with disabilities, and zero-car households will be temporary in nature and minimized to the greatest extent possible.

Conclusion

Refined Alternative I (Concept I-W) will result in residential and commercial relocations, minor impacts to community facilities, minor permanent changes in travel patterns, noise impacts, minor visual changes, a minor contribution to cumulative business and residential displacements and loss of parkland and historic resources, and temporary construction impacts on populations of older adults, individuals with LEP, adults with disabilities, and zero-car households. However, mitigation measures incorporated into Refined Alternative I (Concept I-W) will minimize and offset impacts. Furthermore, enhancement measures coupled with other features incorporated into Refined Alternative I (Concept I-W) will benefit older adults, individuals with LEP, adults with disabilities, and zero-car households by improving traffic flow and access; reducing traffic congestion; enhancing pedestrian, bicycle, and transit connections; improving safety for all modes of travel; improving local air quality; reducing greenhouse gas emissions; improving climate resilience; reducing traffic noise; reducing flooding and combined sewer overflows; improving aesthetics; creating jobs; providing opportunities for DBE firm participation, on-the-job training, and workforce development; and indirectly providing long-term enhancements in workforce diversity, employment, and income. All communities have been, and will continue to be, provided full and fair participation in the transportation decision-making process. When avoidance, minimization, mitigation, and enhancement measures are considered, impacts on older adults, individuals with LEP, adults with disabilities, and zero-car households will include relocations, a minor contribution to cumulative business and residential displacements and loss of parkland and historic resources, and temporary construction impacts. Given the balance of impacts and benefits, Refined Alternative I (Concept I-W) is expected to result in net benefits for populations of older adults, individuals with LEP, adults with disabilities, and zero-car households (see Table 17).



Table 17: Summary of Anticipated Adverse Impacts and Benefits

Evaluation Area	Anticipated Adverse Impacts	Anticipated Benefits
Relocations	<ul style="list-style-type: none"> Minimal impact from residential and commercial relocations. 	<ul style="list-style-type: none"> None.
Community Resources	<ul style="list-style-type: none"> No impacts when mitigation is considered. 	<ul style="list-style-type: none"> Additional benefits from mitigation and enhancement measures in the Lewisburg Historic District, the Goebel Park Complex, and the Queensgate Playground and Ball Field.
Access and Mobility		
Vehicular	<ul style="list-style-type: none"> Minor changes in travel patterns with similar access accommodated. 	<ul style="list-style-type: none"> Improved traffic flow and access. Reduced traffic congestion.
Pedestrian and Bicycle	<ul style="list-style-type: none"> No impacts. 	<ul style="list-style-type: none"> New and improved multimodal facilities.
Transit	<ul style="list-style-type: none"> No impacts. 	<ul style="list-style-type: none"> Improved transit connections and reliability for transit on I-71/I-75.
Safety	<ul style="list-style-type: none"> No impacts. 	<ul style="list-style-type: none"> Improved vehicular, pedestrian, and bicycle safety.
Environmental		
Air Quality	<ul style="list-style-type: none"> No impacts. 	<ul style="list-style-type: none"> Improved local air quality due to reduced emissions compared to existing conditions.
Greenhouse Gases and Climate Change	<ul style="list-style-type: none"> Minimal impacts. 	<ul style="list-style-type: none"> Reduced greenhouse gas emissions compared to existing conditions. Improved climate resilience.
Noise	<ul style="list-style-type: none"> No substantial impacts when mitigation and enhancements are considered. 	<ul style="list-style-type: none"> Reduced traffic noise.
Stormwater	<ul style="list-style-type: none"> No impacts. 	<ul style="list-style-type: none"> Reduced flooding. Reduced combined sewer overflows.
Visual	<ul style="list-style-type: none"> Minor visual changes. 	<ul style="list-style-type: none"> Improved aesthetics and visual character.
Workforce Development	<ul style="list-style-type: none"> No impacts. 	<ul style="list-style-type: none"> Job creation. Opportunities for DBE firm participation, on-the-job training, and workforce development.
Indirect and Cumulative	<ul style="list-style-type: none"> No indirect impacts. Minor cumulative residential and commercial displacements and loss of parkland and historic properties. 	<ul style="list-style-type: none"> Indirect enhancements in long-term workforce diversity, employment, and income growth.
Temporary Construction	<ul style="list-style-type: none"> Minor short-term impacts to access and mobility, noise, and air quality minimized to the greatest extent practicable. 	<ul style="list-style-type: none"> None.



4.1.9 Disadvantaged Communities

Presidential Executive Order 14008: Tackling the Climate Crisis at Home and Abroad (January 27, 2021) established the Justice40 initiative, supporting a comprehensive approach to advancing equity. In November 2022, the Council on Environmental Quality released the Climate and Economic Justice Screening Tool (CEJST)¹ to aid in the identification of disadvantaged communities. The tool uses datasets that are indicators of burdens in eight categories:

- **Climate Change:** Communities in census tracts that are at or above the 90th percentile for expected agriculture loss rate or expected building loss rate or expected population loss rate or projected flood risk or projected wildfire risk.
- **Energy:** Communities in census tracts that are at or above the 90th percentile for energy cost or PM2.5 in the air.
- **Health:** Communities in census tracts that are at or above the 90th percentile for asthma or diabetes or heart disease or low life expectancy.
- **Housing:** Communities in census tracts that experienced historic underinvestment or are at or above the 90th percentile for housing cost or lack of green space or lack of indoor plumbing or lead paint.
- **Legacy Pollution:** Communities in census tracts that have at least one abandoned mine land or formerly used defense sites, or are at or above the 90th percentile for proximity to hazardous waste facilities or proximity to Superfund sites (National Priorities List) or proximity to Risk Management Plan facilities.
- **Transportation:** Communities in census tracts that are at or above the 90th percentile for diesel particulate matter exposure or transportation barriers, or traffic proximity and volume.
- **Water and Wastewater:** Communities that are in census tracts that are at or above the 90th percentile for underground storage tanks (USTs) and releases or wastewater discharge.
- **Workforce Development:** Communities that are in census tracts that are at or above the 90th percentile for linguistic isolation or low median income or poverty or unemployment.

The Justice40 Initiative and the CEJST were established after the 2012 EA/FONSI; therefore, the effects of Selected Alternative I (Concept I-W) on disadvantaged communities under these initiatives were not evaluated.

KYTC and ODOT further evaluated the effects of Refined Alternative I (Concept I-W) on disadvantaged communities, with an emphasis on the categories of burden identified above, in the [Socioeconomic Technical Report](#). The following sections summarize the analysis and findings. Refer to the [Socioeconomic Technical Report](#) for additional, detailed analysis.

¹ <https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5>



Methodology

A community is designated as disadvantaged by the CEJST if it is in a census tract that is (1) at or above the threshold for one or more categories of burden, and (2) at or above the threshold for an associated socioeconomic burden (such as low-income or education level). In addition, a census tract that is completely surrounded by disadvantaged communities and is at or above the 50th percentile for low income is also considered disadvantaged by the CEJST.¹ The CEJST was used to identify the locations of disadvantaged populations in the study area used for the socioeconomic analyses (see Section 4.1.8). Because the socioeconomic study area boundary is based on census block groups, which are smaller geographic units than census tracts, a slightly larger area was considered for the disadvantaged community analysis; however, the entirety of the socioeconomic study area was covered by this analysis. The socioeconomic study area is shown in Figure 19.

Population Characteristics

Of the 36 census tracts that intersect the socioeconomic study area, 21 are categorized as disadvantaged communities in at least one category of burden. Every category is represented in the socioeconomic study area, including housing, health, transportation, workforce development, legacy pollution, energy, water and wastewater, and climate change. Table 18 summarizes the disadvantaged census tracts in Kentucky and Ohio. A map of disadvantaged communities in the socioeconomic study area is provided in Figure 19.

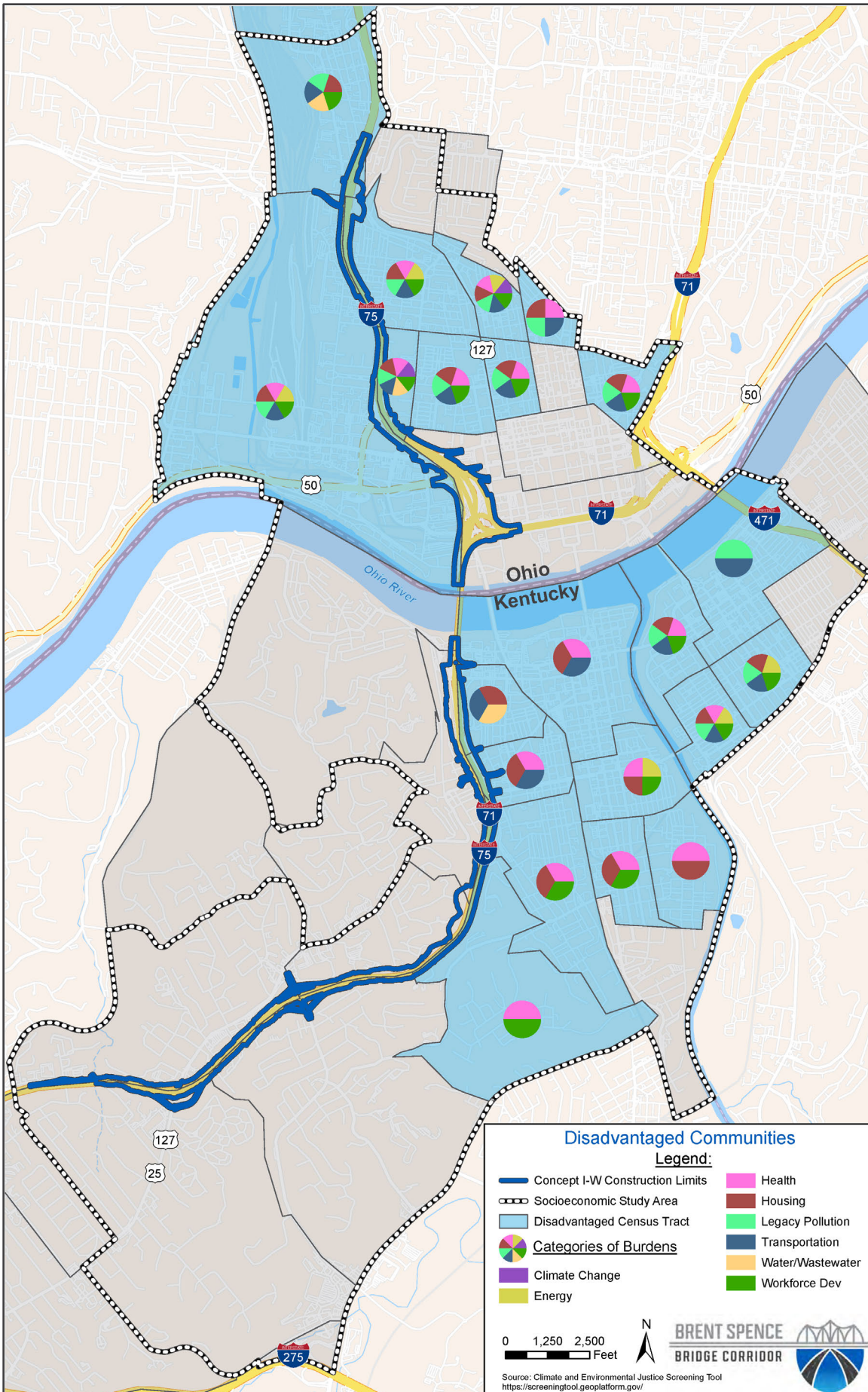
Table 18: Disadvantaged Census Tracts by Category of Burden

Category of Burden	Number of Census Tracts		
	Kentucky	Ohio	Total
Housing	10	8	18
Health	9	8	17
Transportation	7	9	16
Workforce Development	7	8	15
Legacy Pollution	4	9	13
Energy	3	3	6
Water and Wastewater	1	2	3
Climate Change	0	2	2

¹ <https://screeningtool.geoplatform.gov/en/methodology>



Figure 19: Disadvantaged Communities



Targeted Neighborhood Outreach

As described in Sections 4.1.7 and 4.1.8, KYTC and ODOT conducted targeted EJ/neighborhood outreach between November 15, 2022 and December 20, 2022. The targeted outreach included 12 small-scale outreach meetings in areas directly adjacent to the project's construction limits and one daytime and one evening broad-scale outreach meeting in each state to engage neighborhoods that are near the BSB corridor but will not be directly impacted. A PublicInput.com website was also established to support the targeted outreach activities by providing project information, materials from the neighborhood meetings, and the opportunity to offer feedback. KYTC and ODOT also held two open-house project update meetings in August 2023 that provided additional opportunities for disadvantaged communities to learn about the project and offer feedback.

Comments received during the targeted neighborhood outreach and other public involvement activities may be related to categories of burden for disadvantaged communities as follows:

- Energy – Comments about air quality concerns associated with increased traffic.
- Transportation – Comments about the desire for additional transit, multimodal accommodations, and improved connections across I-75 to reduce transportation barriers.
- Water and wastewater – Comments about flooding in the Peaselburg neighborhood and the Goebel Park Complex.
- Workforce development – Comments about the desire to create additional developable land, which could increase employment opportunities.

The project team evaluated all comments received, and responses are provided in the [Public Involvement Summary](#). Furthermore, the project team incorporated several refinements into Refined Alternative I (Concept I-W) in direct response to the comments received, as described in Section 5.1.2.

Members of disadvantaged communities will have the opportunity to review this supplemental EA and other project information and provide comments to KYTC and ODOT for 30 days after it is made publicly available. Public hearings scheduled during that time will provide additional opportunities for feedback. Public involvement will also occur during the design and construction of the project. See the [Public Engagement Plan](#)¹ for additional details about public involvement during the design and construction phases.

For additional information about the targeted EJ/neighborhood outreach meetings, the open-house project update meetings, the public hearings, and ongoing public involvement, including refinements incorporated into Refined Alternative I (Concept I-W) in direct response to the comments and feedback that were gathered, see Sections 5.1.1, 5.1.2, 5.5, and 5.6; the [Public Involvement Summary](#); and the [Socioeconomic Technical Report](#).

Summary of Effects

A summary of how Refined Alternative I (Concept I-W) is anticipated to address categories of burden for disadvantaged communities in the socioeconomic study area is included below.

¹ The project [Public Engagement Plan](#) is included in Appendix Q of the [Public Involvement Summary](#).



Climate change

Refined Alternative I (Concept I-W) will not cause changes in agriculture loss rate, expected building loss rate, population loss rate, projected flood risk, or projected wildfire risk. Therefore, Refined Alternative I (Concept I-W) will not further contribute to the climate change category of burden in disadvantaged communities.

Energy

The energy category of burden includes energy cost and exposure to PM2.5 in the air. Refined Alternative I (Concept I-W) is not anticipated to affect household energy costs in the socioeconomic study area. While the project area is in attainment with NAAQS for PM2.5, KYTC and ODOT completed an emissions burdens analysis to further evaluate air quality considerations. The emissions burdens analysis modeled the levels of PM2.5 in the socioeconomic study area for 2020 existing, 2050 no-build, and 2050 build scenarios.¹ The analyses concluded that emissions of PM2.5 in the socioeconomic study area would be substantially decreased for both the 2050 no-build and 2050 build scenarios when compared to the existing scenario. These reductions are primarily due to the implementation of the latest federal emissions standards coupled with fleet turnover.

When the 2050 build scenario is compared to the 2050 no-build scenario, PM2.5 is anticipated to be less or approximately the same in Campbell and Hamilton counties, which include 5 census tracts with an energy category of burden. In Kenton County, PM2.5 is anticipated to be slightly greater (2.8 percent) due to an increase in vehicle miles of travel that will occur throughout the area transportation network when the project is built. Kenton County includes only one census tract with an energy category of burden. Therefore, Refined Alternative I (Concept I-W) is not anticipated to further degrade, and may improve, overall PM2.5 levels in disadvantaged communities. Additional details about PM2.5 and the emission burdens analysis are provided in Sections 4.6.3 and 4.6.5.

Refined Alternative I (Concept I-W) includes new and rebuilt pedestrian and bicycle facilities on local streets that are parallel to or cross I-71/I-75. Improving access for pedestrians and bicyclists may help to reduce reliance on vehicular travel that contributes to particulate matter in the air. The pedestrian and bicycle facilities included in Refined Alternative I (Concept I-W) will connect to existing transit routes and stops, which may help to reduce particulate matter in the air by supporting mass transit options. Additional details about travel and access for pedestrians, bicycles, and transit are provided in Section 4.1.4.

Given the above, Refined Alternative I (Concept I-W) is anticipated to address the energy category of burden by reducing PM2.5 in the air.

Health

The new and rebuilt pedestrian and bicycle facilities incorporated into Refined Alternative I (Concept I-W) provide improved options for active transportation, improve access to transit, and may improve access to

¹ The affected network modeled for the emissions burdens analysis was slightly larger than and contained the full extents of the socioeconomic study area.



healthcare destinations. Additional information about pedestrian, bicycle, and transit travel and access is provided in Section 4.1.4.

KYTC and ODOT conducted an emissions burdens analysis that concluded Refined Alternative I (Concept I-W) will improve traffic flow and reduce traffic congestion and vehicle idling in the area transportation network, which is expected to reduce vehicle emissions and improve local air quality. When the 2050 build scenario is compared to the 2050 no-build scenario, the levels of volatile organic compounds and nitrogen oxides are anticipated to be less or approximately the same throughout the socioeconomic study area. This includes 17 census tracts with a health category of burden (which includes asthma).

When the 2050 build scenario is compared to the 2050 no-build scenario, PM2.5 is anticipated to be less or approximately the same in Campbell and Hamilton counties, which include 10 census tracts with a health category of burden. In Kenton County, PM2.5 is anticipated to be slightly greater (2.8 percent) due to an increase in vehicle miles of travel that will occur throughout the area transportation network when the project is built. Kenton County includes 7 census tracts with a health category of burden. Therefore, Refined Alternative I (Concept I-W) is not anticipated to further degrade, and may improve, overall air quality in disadvantaged communities. Additional details about the emission burdens analysis are provided in Section 4.6.5.

Given the above, Refined Alternative I (Concept I-W) will not further contribute to the health category of burden; rather, Refined Alternative I (Concept I-W) may result in potential better health outcomes for those with asthma, diabetes, heart disease, or low life expectancy due to improved access to healthcare destinations, improved options for active transportation, and improved air quality due to improved traffic flow and reduced vehicle idling.

Housing

Refined Alternative I (Concept I-W) is not anticipated to affect housing cost, lack of indoor plumbing, or lead paint. Proposed mitigation and enhancements in parks will preserve green space in the project area. Section 106 mitigation measures for the Lewisburg Historic District established in a *Programmatic Agreement Among FHWA, ODOT, KYTC, the Ohio SHPO, the Kentucky SHPO, and the City of Covington* include the implementation of a grant program to improve and rehabilitate the façades of residential properties and vibration protection, monitoring, and repair of residential structures in the historic district. Although the Lewisburg neighborhood is not identified as a disadvantaged community, the measures to mitigate adverse effects to historic properties will help to address historic underinvestment in this area. Therefore, Refined Alternative I (Concept I-W) will not contribute to, and may help to address, the housing category of burden. Additional details about the mitigation measures for the Lewisburg Historic District are provided in Section 4.5.2.

Legacy Pollution

Refined Alternative I (Concept I-W) will acquire land that has been subject to historic contamination by regulated materials. During construction, KYTC and ODOT will remove and properly dispose of regulated solid waste, petroleum-contaminated soil and water, and USTs. In addition, Refined Alternative I (Concept I-W) requires the relocation of the West End Substation in the Queensgate neighborhood. As part of those



relocation efforts, Duke Energy is remediating contamination on the site of the West End Substation under the Ohio Environmental Protection Agency (OEPA) Voluntary Action Program. These activities to address historic contamination are in a disadvantaged community with a legacy pollution burden. The management, proper disposal, and remediation of regulated materials addresses the legacy pollution category of burden for disadvantaged communities and represents a beneficial effect of Refined Alternative I (Concept I-W). Additional information about regulated materials is provided in Section 4.4.

Transportation

Refined Alternative I (Concept I-W) includes several features that will improve access, mobility, and safety for vehicular traffic traveling to, from, and within disadvantaged communities. These include additional interstate lanes, the construction of the C-D roadway system, the removal of left-hand exits, standard shoulder widths, extended frontage roads, the reopening of the West 4th Street ramp to the northbound C-D system, the provision of access to northbound I-75 from the Clay Wade Bailey Bridge, the replacement of one-way bridges with historic wrong-way crashes on Ezzard Charles Drive with a two-way bridge over I-75, the provision of more direct access to northbound I-75 at Winchell Avenue, and access to Central Parkway and Spring Grove Avenue in the vicinity of the Western Hills Viaduct interchange. Refined Alternative I (Concept I-W) is also anticipated to benefit disadvantaged communities by reducing traffic congestion on the local street networks in those communities. Minor traffic rerouting will occur due to ramp changes in census tracts with disadvantaged communities; however, traffic will only need to reroute about one to two city blocks, and sufficient lanes will be provided to maintain acceptable traffic flow.¹ Additional details about vehicular travel and access are provided in Section 4.1.4.

Refined Alternative I (Concept I-W) incorporates new and improved pedestrian and bicycle infrastructure in disadvantaged communities. The proposed improvements will directly benefit these communities by increasing the options available to pedestrians and bicyclists, which will enhance community connectivity along and across the I-71/I-75 corridor and may improve access to transit, employment, healthcare, cultural, recreational, and commercial destinations. Furthermore, new bicycle lanes and shared-use paths will support future planned improvements of regional pedestrian and bicycle networks. Additional details about pedestrian, bicycle, and transit travel and access are provided in Section 4.1.4.

An emissions burdens analysis concluded Refined Alternative I (Concept I-W) will reduce vehicle emissions and improve local air quality when compared to existing conditions, including in 16 census tracts with a transportation category of burden. Additional details about the emission burdens analysis are provided in Section 4.6.5.

Given the above, Refined Alternative I (Concept I-W) is anticipated to reduce transportation barriers for all modes of travel and improve local air quality, which will address the transportation category of burden for disadvantaged communities.

¹ Preliminary traffic operations were evaluated using planning-level traffic projections for the year 2050. Final traffic operations were vetted and confirmed using certified traffic for the years 2029 and 2049 (see Section 3.8).



Water and Wastewater

During construction, KYTC and ODOT will remove and dispose of regulated solid waste, petroleum-contaminated soil and water, and USTs. In addition, the relocation of the West End Substation in the Queensgate neighborhood has resulted in the remediation of historic contamination on the site. Although the disadvantaged community where these activities will occur does not have a water and wastewater burden as identified by the CEJST, addressing historic contamination is still expected to improve water and wastewater conditions. This is particularly noteworthy because the community is bordered on two sides by census tracts that have been determined by the CEJST to have water and wastewater burdens. Additional information about regulated materials is provided in Section 4.4.

KYTC and ODOT have committed to separating all interstate runoff from combined sewer systems in the project area, and KYTC has committed to addressing surcharging in the Peaselburg neighborhood. These measures will reduce combined sewer overflow events and flooding in disadvantaged communities. See Section 4.12.1 for further details about stormwater management. In addition, the mitigation measures to address impacts to the Goebel Park Complex will reduce the potential for flooding in the complex by providing replacement land that is at a higher elevation than the low-lying, flood-prone land that is impacted. See Sections 4.8.1, 4.12.1, and 4.13.3 for additional details about impacts and mitigation and enhancement measures affecting the Goebel Park Complex.

Given the above, Refined Alternative I (Concept I-W) will address the water and wastewater category of burden by removing USTs and contaminated soil and reducing flooding and combined overflow events in and around disadvantaged communities.

Workforce Development

KYTC and ODOT are establishing goals for DBE firm participation, mentoring, and support during the project's progressive design-build contract (Phase III). KYTC and ODOT will also develop an on-the-job training program geared toward minorities, women, and disadvantaged persons and a workforce development plan to be implemented during the project's progressive design-build contract (Phase III). While project-related DBE participation, on-the-job training, and workforce development opportunities will be broadly available, members of disadvantaged communities will be afforded equal opportunities to share in these benefits. Additional details about workforce development measures incorporated into Refined Alternative I (Concept I-W) are provided in Section 4.1.6.

Refined Alternative I (Concept I-W) may indirectly improve economic and employment opportunities for disadvantaged communities. In anticipation of the project, the dunhumbly USA headquarters (currently under new ownership and called 84.51°) relocated to a new, expanded site about one-half mile east and within a 1-mile radius of 8 census tracts with disadvantaged communities. The new headquarters anchored additional street-level commercial spaces that generated further economic growth in downtown Cincinnati. In addition, Refined Alternative I (Concept I-W) reconfigures several ramps which frees up approximately 10 acres of land for potential redevelopment and/or public use directly adjacent to the Cincinnati CBD and adjacent to census tracts with disadvantaged communities. Finally, the establishment of goals for DBE firm participation,



mentoring and support; an on-the-job training program; and a workforce development plan could indirectly contribute to long-term enhancements in workforce diversity, employment, and income that will benefit members of disadvantaged communities. Additional information about the indirect effects of Refined Alternative I (Concept I-W) is provided in Section 4.10.1.

Given the above, Refined Alternative I (Concept I-W) will help to address the workforce development category of burden for disadvantaged communities by creating or indirectly contributing to DBE participation, development, and support; on-the-job training; a workforce development plan; future development potential, jobs, and economic activity; and future redevelopment opportunities.

Conclusion

Based on the analysis summarized above, Refined Alternative I (Concept I-W) is not anticipated to further contribute to burdens for disadvantaged communities and incorporates several features that will help to address existing energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development burdens experienced in these communities.

The measures incorporated into Refined Alternative I (Concept I-W) to address existing burdens are anticipated to be the most beneficial in the 17 census tracts that are directly adjacent to the project corridor. Of these, 10 (59 percent) have been identified as disadvantaged communities by the CEJST.

4.1.10 Children

The 2012 EA/FONSI did not expressly address the potential effects of Selected Alternative I on children (18 years or under), who may be at greater risk from environmental contaminants due to unique activity patterns, behavior, and biology.¹ Areas within approximately 500 feet of the BSB corridor that are utilized by groups of children are listed below and shown in Figure 20:

- Beechwood Elementary and High School (KY), including a baseball field, a football field, and tennis courts;
- Central Church of the Nazarene (KY), including a small playground;
- Notre Dame Academy (KY), including tennis courts, a soccer field and track, and a baseball field;
- St. Elizabeth Covington Hospital (KY), including a family birthplace;
- Neighborhood park in Lewisburg (KY), including a playground, a picnic table, and benches;
- Prince of Peace Catholic School (KY), including a small, fenced area with play equipment;
- Goebel Park Complex (KY), including a dog park, walking trails, basketball courts, a neighborhood pool, a playground, and picnic tables;
- Queensgate Playground and Ball Field (OH), including an all-star baseball field and two playgrounds;

¹ United States Environmental Protection Agency. (October 5, 2021). *2021 Policy on Children's Health*. Retrieved from <https://www.epa.gov/system/files/documents/2021-10/2021-policy-on-childrens-health.pdf>.



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- Community Action Agency Head Start (OH), including two playgrounds;
 - Lincoln Recreation Center (OH), including a neighborhood pool, basketball courts, a playground, and a tennis court;
 - Cincinnati Job Corps (OH), which provides workforce training and dormitories for persons aged 16-24 years;
 - Wade Walk Baseball Field (OH), including two baseball fields; and
 - Sands Playground (OH), including a playground and a paved multipurpose play area.

Refined Alternative I (Concept I-W) will acquire right-of-way from the Beechwood Elementary and High School, the Central Church of the Nazarene, Notre Dame Academy, St. Elizabeth Covington Hospital, the Goebel Park Complex, and the Queensgate Playground and Ball Field. However, no permanent impacts to the operations of these facilities are anticipated. Additional information about the right-of-way impacts to these community facilities is provided in Section 4.1.3.

Air quality evaluations considered PM2.5, carbon monoxide, and ozone. The project area is in attainment with NAAQS for PM2.5 and carbon monoxide, and the project is in conformance with NAAQS for ozone. In addition, a [Quantitative MSAT Analysis Report](#) concluded the project is consistent with MSAT requirements.

To further evaluate air quality considerations, KYTC and ODOT completed an emissions burdens analysis that modeled the levels of volatile organic compounds, nitrogen oxides, and PM2.5 for 2020 existing, 2050 no-build, and 2050 build scenarios for Refined Alternative I (Concept I-W). The analyses concluded that emissions would be substantially reduced for both the 2050 no-build and 2050 build scenarios when compared to the existing scenario, including in areas utilized by children.

When the 2050 build scenario is compared to the 2050 no-build scenario, the levels of volatile organic compounds and nitrogen oxides are anticipated to be less or remain substantially unchanged throughout the project area. PM2.5 is anticipated to be less or approximately the same in Hamilton County, which includes the areas utilized by children within approximately 500 feet of the BSB corridor in Ohio. PM2.5 is anticipated to be slightly greater (2.8 percent) in Kenton County, which includes the areas utilized by children within approximately 500 feet of the BSB corridor in Kentucky. The slightly greater levels of PM2.5 in Kenton County is due to an increase in vehicle miles of travel that will occur throughout the area transportation network when the project is built.

Given the above, Refined Alternative I (Concept I-W) is not anticipated to further degrade, and may improve, overall air quality in areas utilized by children. See Section 4.6 for additional information about air quality studies completed for the project.

Noise analyses prepared for Refined Alternative I (Concept I-W) identified noise impacts in the vicinity of the Beechwood Elementary and High School, the Central Church of the Nazarene, Notre Dame Academy, St. Elizabeth Covington Hospital, the neighborhood park in Lewisburg, Prince of Peace Catholic School, the Goebel Park Complex, and the Queensgate Playground and Ball Field. Proposed noise barriers and noise/visual screening barriers will address impacts and reduce noise levels for children who utilize these areas. Minor noise impacts were also identified for one of the playgrounds at the Community Action Agency



Head Start, but the noise analysis concluded that a noise barrier at this location is not feasible. The Head Start building is located adjacent to I-75, and a retaining wall is required to minimize property impacts in this area. Constructing a noise barrier behind the retaining wall would require additional right-of-way from the Head Start property, including potential impacts to parking areas. A noise barrier in this area would also impact the pedestrian connection to the new pedestrian bridge over Winchell Avenue. See Section 4.8 for additional details about the noise analyses and commitments for proposed noise and noise/visual screening barriers.

Temporary dust and air quality impacts may affect children in the project area during construction. To minimize and mitigate these effects, KYTC and ODOT will develop and implement an outdoor ambient air quality monitoring program during construction for the following areas that are utilized by groups of children:

- In the vicinity of Beechwood Elementary and High School in Kentucky;
- In the vicinity of Notre Dame Academy in Kentucky;
- East and west of I-71/I-75 between Edgecliff Road and West 5th Street in Kentucky (including St. Elizabeth Covington Hospital, neighborhood park in Lewisburg, Prince of Peace Catholic School, and the Goebel Park Complex); and
- East and west of I-75 between 9th Street and Findlay Street in Ohio (including Queensgate Playground and Ball Field, Community Action Agency Head Start, Lincoln Recreation Center, Cincinnati Job Corps, Wade Walk Baseball Field, and Sands Playground).

The outdoor ambient air quality monitoring program will provide children with greater protections against temporary air quality impacts during construction by providing continuous monitoring of air quality in areas utilized by children. If the data show that air quality levels are approaching a concern level that may result in an exceedance of the 24-hour NAAQS for PM_{2.5}, the 1-hour NAAQS for nitrogen dioxide, or the 8-hour NAAQS for carbon monoxide, then project-related operational and/or mechanical deficiencies will be identified and corrected, as required, if they are determined to be contributing factors. If the data result in any air quality levels that exceed the above-stated NAAQS for PM_{2.5}, nitrogen dioxide, or carbon monoxide that are caused by project-related emissions, then the applicable construction activities will be suspended until the deficiencies are identified and corrected. Additional details about the outdoor ambient air quality monitoring program are provided in Section 4.11.7.

Children may also be subjected to short-term, temporary noise impacts associated with the construction phase of Refined Alternative I (Concept I-W). Construction noise will generate temporary noise impacts on adjacent and nearby properties, including areas utilized by groups of children. Construction noise will be emitted intermittently by a range of construction equipment at varying levels of intensity based on the types of operations being performed and the number of pieces of equipment in operation at any given time.

During design development, in addition to evaluating parameters such as cost, schedule, access, traffic impacts, safety, risk, etc., the project team has committed to considering construction noise abatement in areas where noise sensitive receptors are present, including areas utilized by groups of children. Examples of design decisions that could address construction noise impacts include foundation type selection, installation methodology, storage and staging areas, phasing of work, timing for noise barrier construction, MOT, and incentives.



Figure 20: Areas Used by Children Age 18 and Under - Sheet 1 of 8

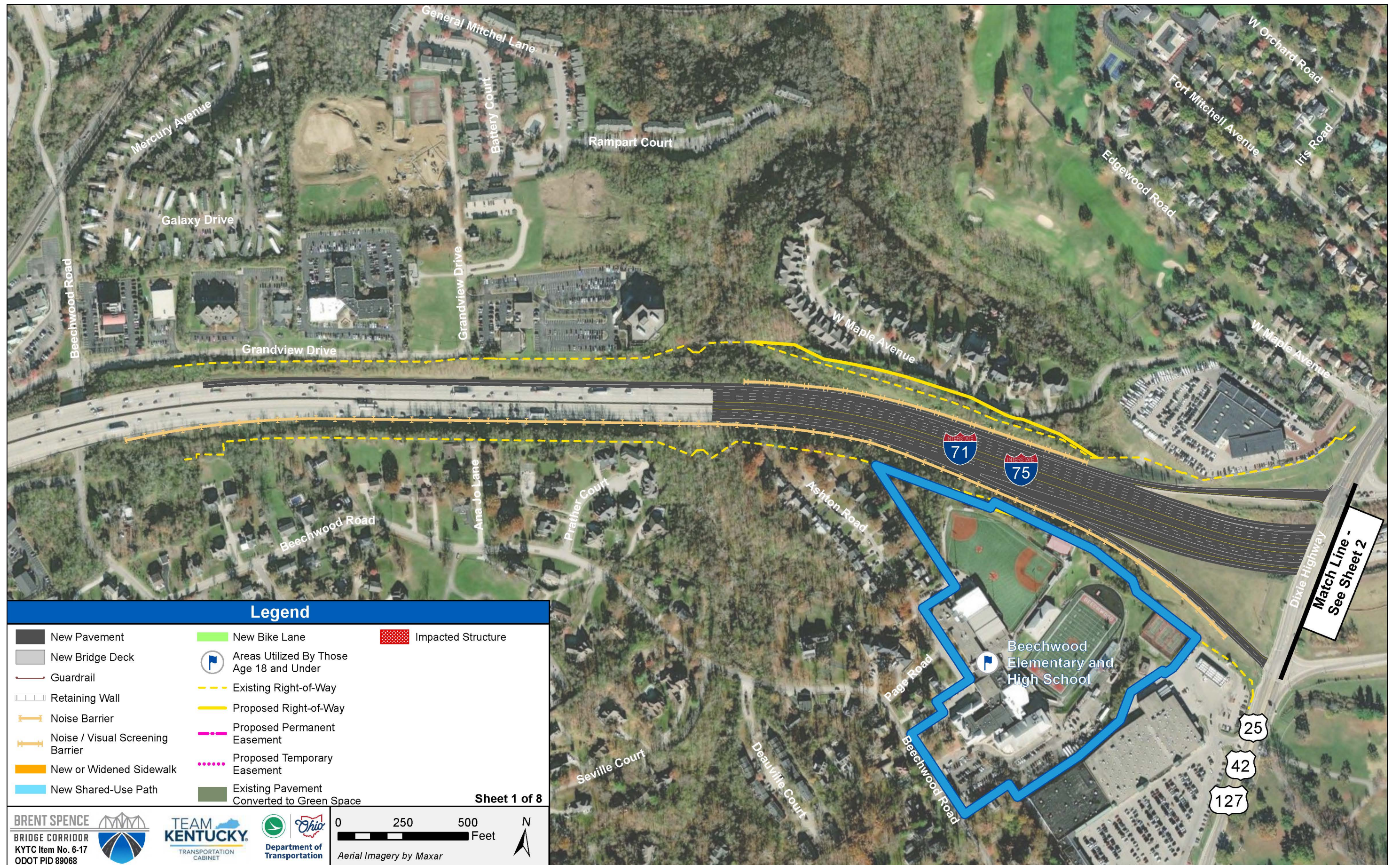


Figure 20: Areas Used by Children Age 18 and Under - Sheet 2 of 8

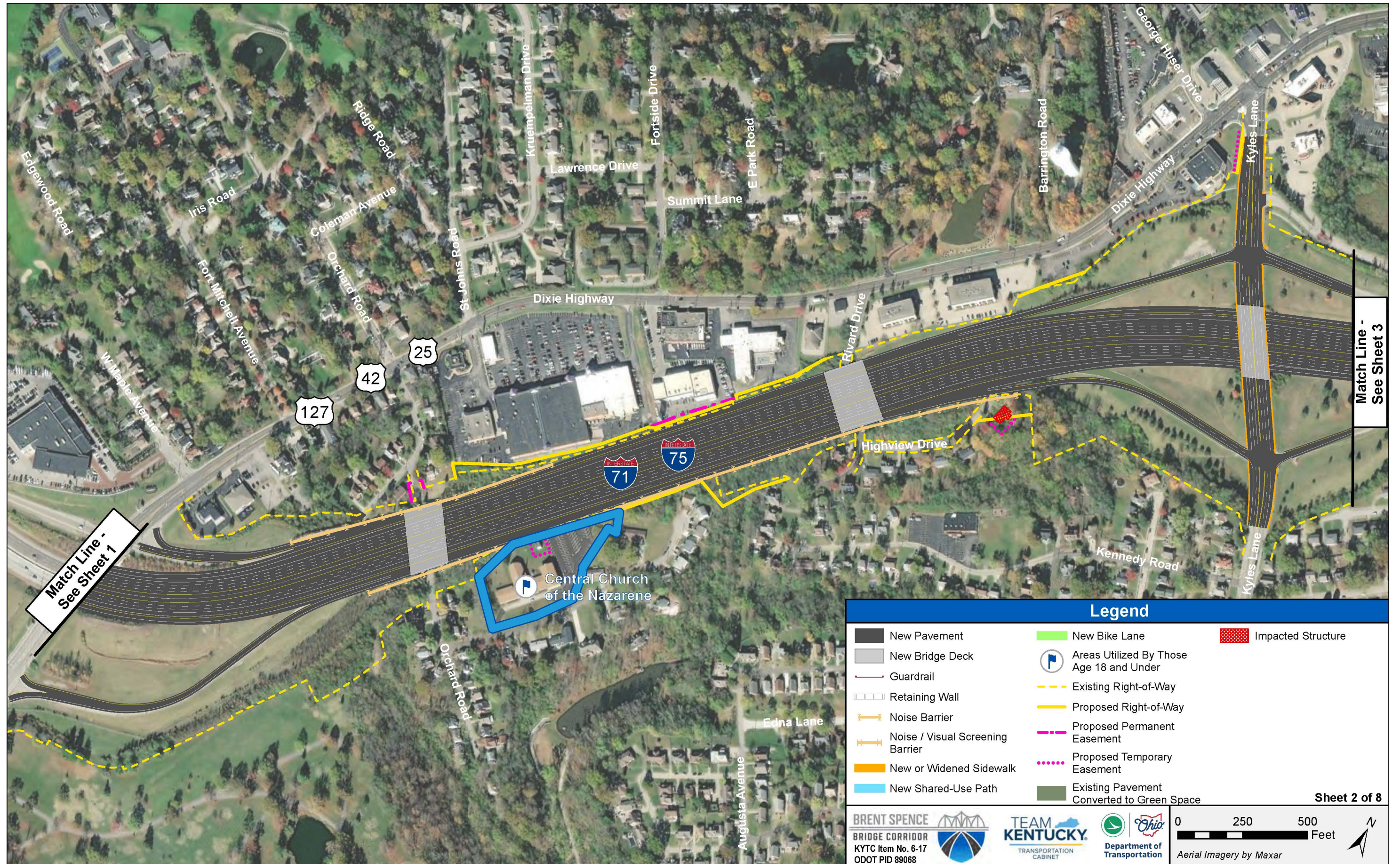


Figure 20: Areas Used by Children Age 18 and Under - Sheet 3 of 8



Legend		
	New Pavement	
	New Bridge Deck	
	Guardrail	
	Retaining Wall	
	Noise Barrier	
	Noise / Visual Screening Barrier	
	New or Widened Sidewalk	
	New Shared-Use Path	

Sheet 3 of 8

 KYTC Item No. 6-17 ODOT PID 89068	 TRANSPORTATION CABINET		 Aerial Imagery by Maxar	
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Figure 20: Areas Used by Children Age 18 and Under - Sheet 4 of 8

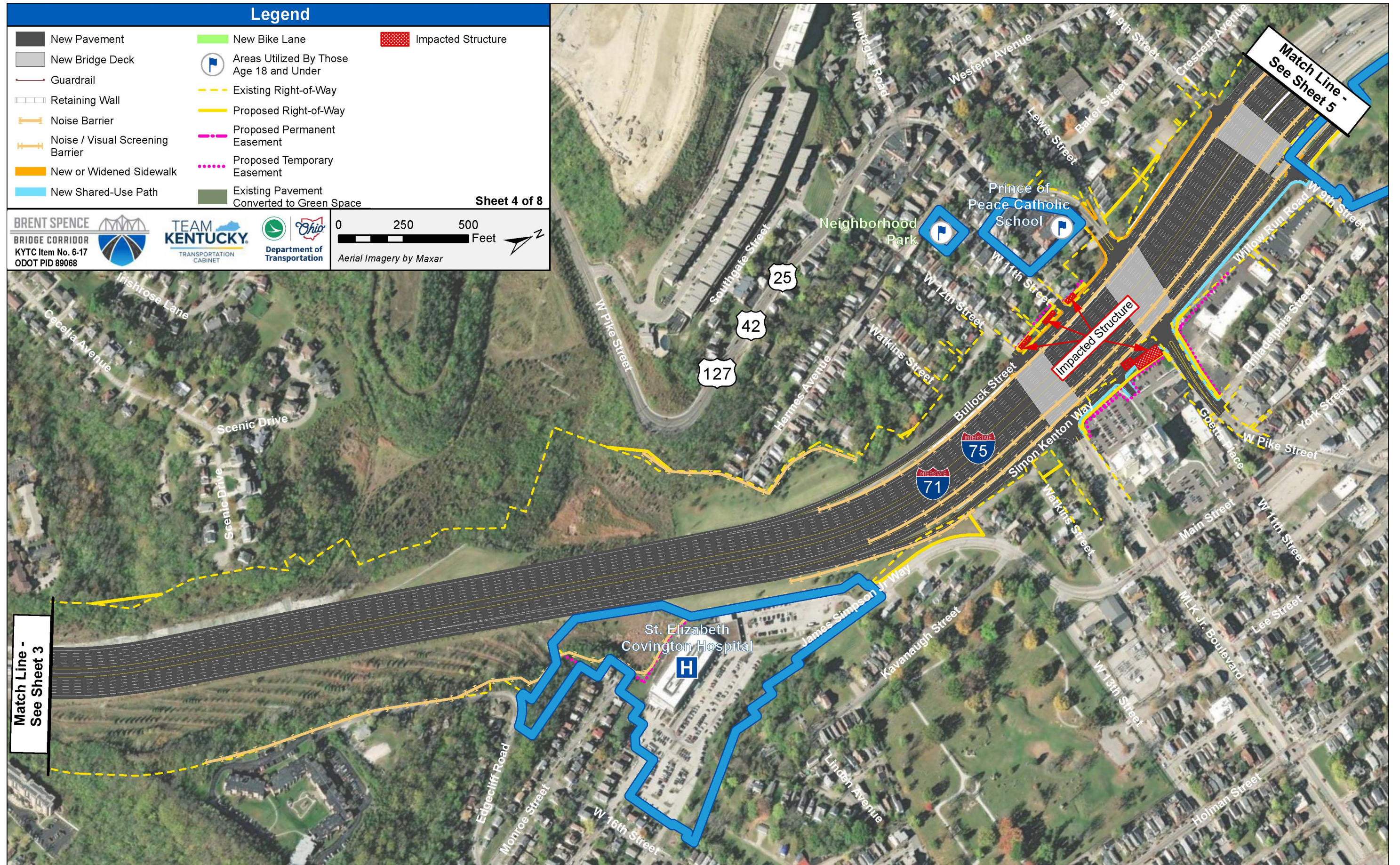


Figure 20: Areas Used by Children Age 18 and Under - Sheet 5 of 8

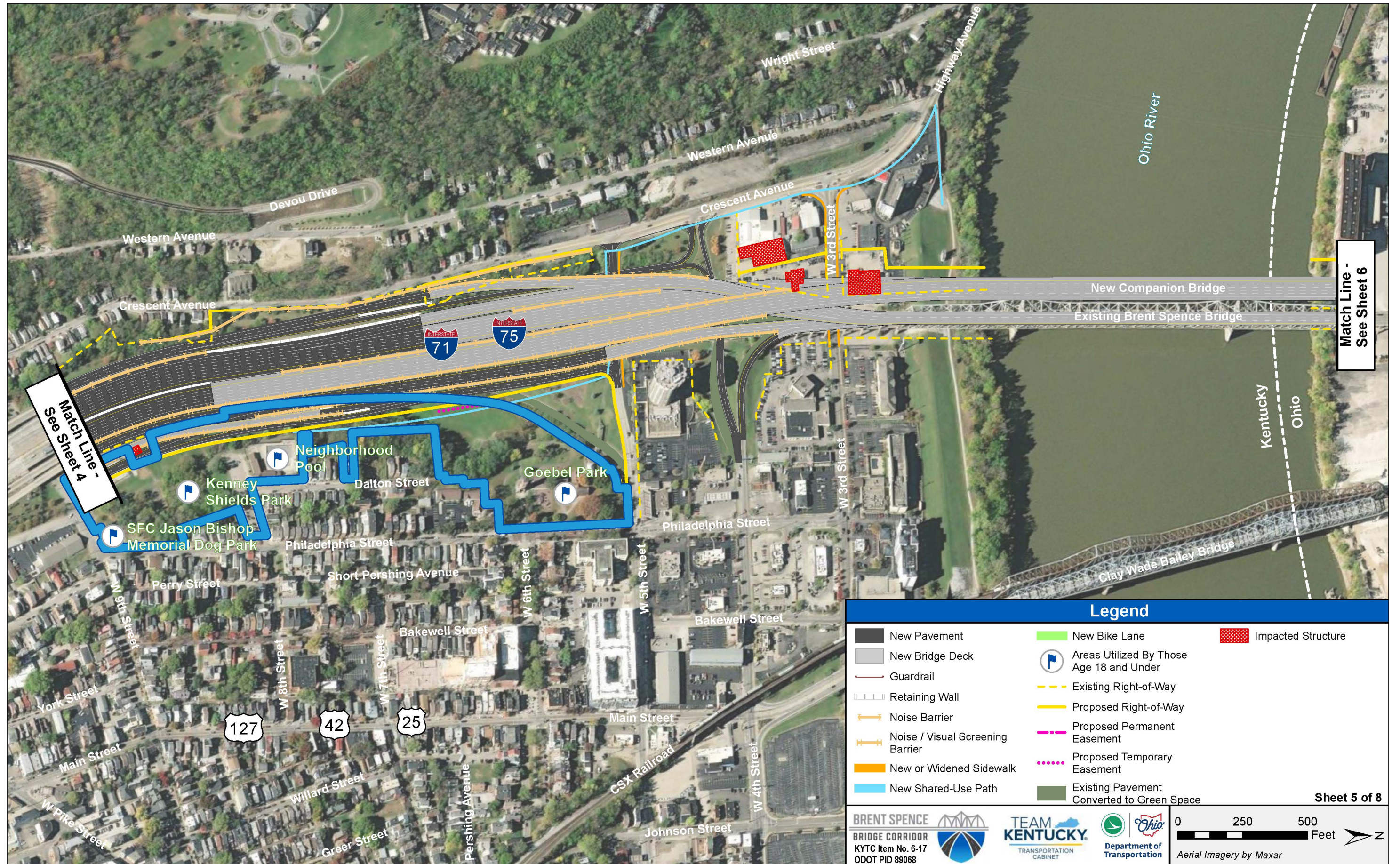


Figure 20: Areas Used by Children Age 18 and Under - Sheet 6 of 8

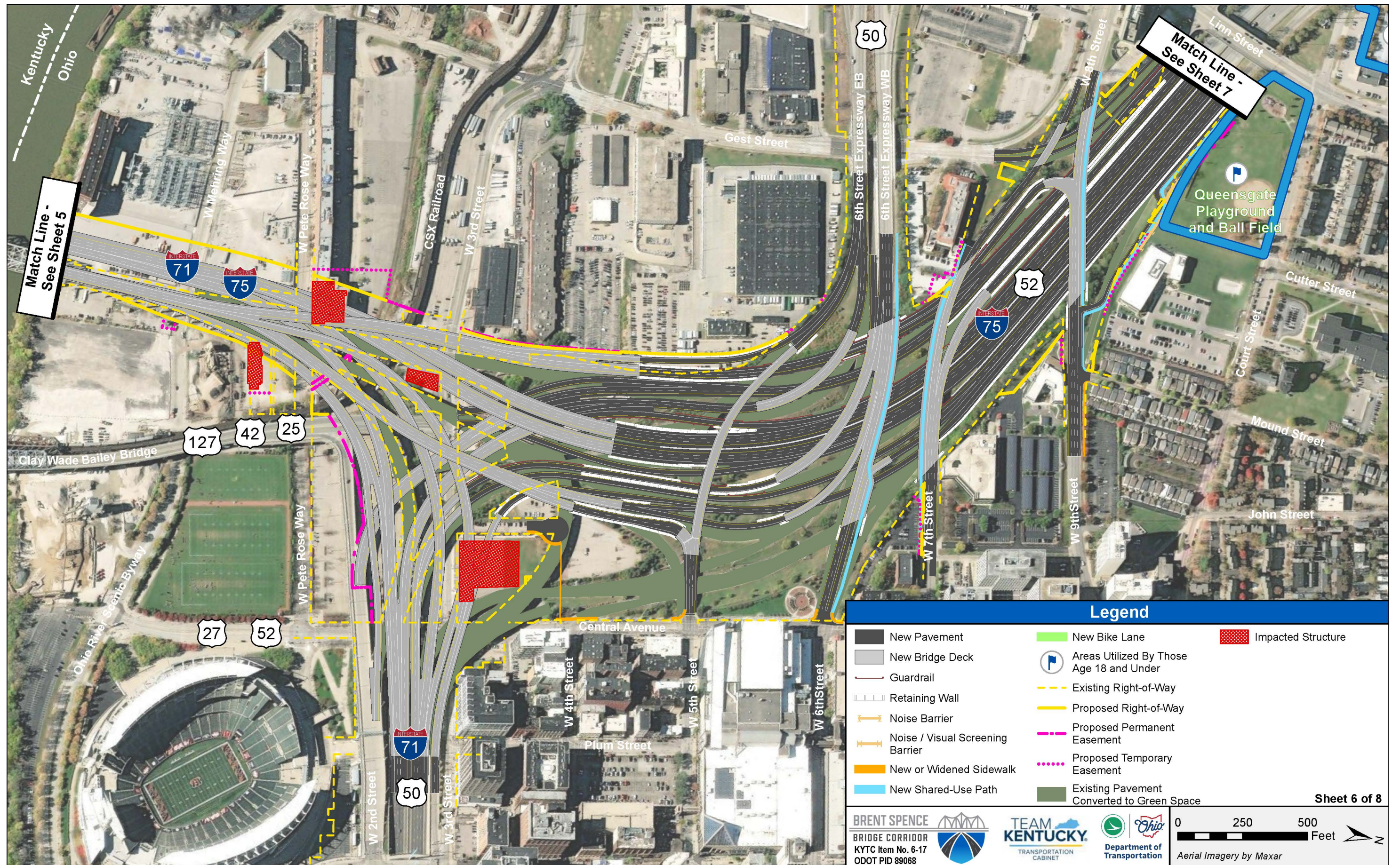


Figure 20: Areas Used by Children Age 18 and Under - Sheet 7 of 8

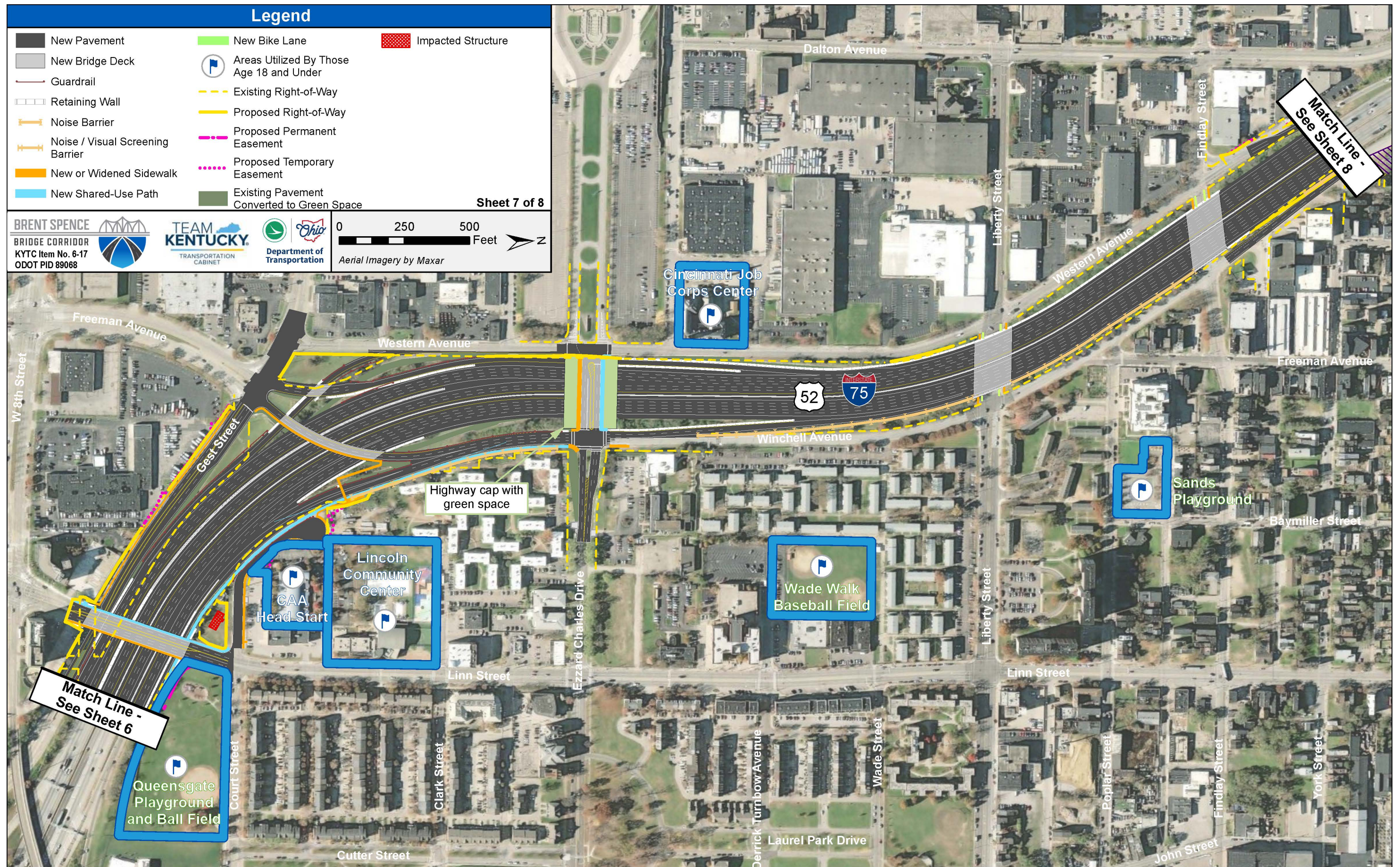
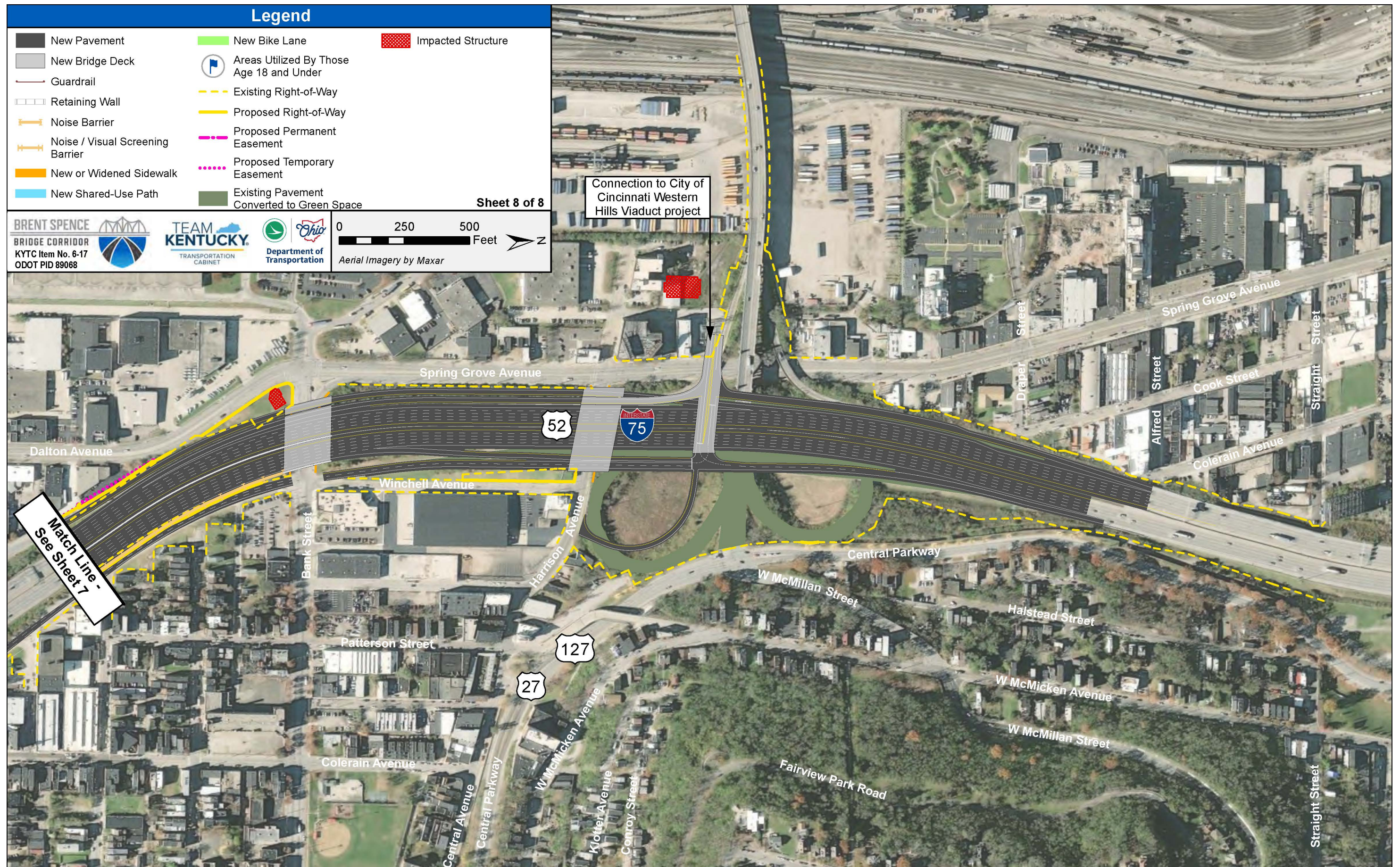


Figure 20: Areas Used by Children Age 18 and Under - Sheet 8 of 8



During construction, KYTC and ODOT will implement measures to minimize construction noise in noise sensitive areas, including areas utilized by groups of children. The project staff will be educated on noise sensitive receptors, including location, type, hours of operation, and any prior concerns communicated. Measures that will be implemented to minimize construction noise include careful selection of equipment to be utilized, utilization of well-maintained motorized equipment and muffler systems, selection of haul routes that will cause the least disturbance to noise sensitive receptors, use of existing and temporary features to shield noise sensitive receptors from construction activities, and scheduling of work to minimize noise impacts on noise sensitive receptors. Additional details about measures to minimize construction noise are provided in Sections 4.11.5 and 4.11.7.

Refined Alternative I (Concept I-W) will not permanently impact operations or facilities that are utilized by children. Furthermore, the project is not expected to degrade, and may improve, air quality in areas utilized by children. Noise barriers and noise/visual screening barriers incorporated into the project's environmental commitments will reduce noise levels in areas utilized by children. Finally, an outdoor ambient air quality monitoring program and measures to reduce construction noise incorporated into the project's environmental commitments will provide greater protections against temporary air quality and noise impacts during construction in and near areas utilized by children. Therefore, Refined Alternative I (Concept I-W) is not expected to result in permanent impacts on children; temporary impacts that may be experienced by children during construction will be minimized to the greatest extent practicable.

4.2 Ecological Resources

The following sections discuss changes related to wetlands, streams and rivers, terrestrial habitat, threatened or endangered species, floodplains, geological features, and drinking water that have occurred since the 2012 EA/FONSI; potential impacts to those resources related to Refined Alternative I (Concept I-W); and proposed avoidance, minimization, and mitigation measures for those resources.

4.2.1 Wetlands

The 2012 EA/FONSI documented six wetlands in the project study area totaling 1.57 acres. In 2022, KYTC and ODOT conducted new ecological surveys to document changes in field conditions since the original ecological surveys were prepared. The updated ecological surveys conducted in 2022 only studied areas to be impacted by construction of Refined Alternative I (Concept I-W).

The 2022 ecological surveys identified two wetlands totaling 2.38 acres in Kentucky (wetland 6 and wetland 8) and no wetlands in Ohio. The wetlands and impact areas are shown in Figure 8. Wetland 6 is a small emergent wetland dominated by cattails. A poor quality perennial stream flows into wetland 6, which is a stormwater retention area for I-71/I-75. Wetland 8 is an emergent wetland dominated by cattails. A poor quality intermittent stream flows into wetland 8, which is also a stormwater retention area for I-71/I-75.



As shown in Table 19, Selected Alternative I (from the 2012 EA/FONSI) impacted 1.38 acres of wetlands. Refined Alternative I (Concept I-W) permanently impacts all 2.38 acres of delineated wetlands, which includes the entire areas for wetlands 6 and 8. The stormwater retention function of wetlands 6 and 8 will be maintained. The increase in wetland impacts is due to an increase in the acreage of wetlands present in the project area since 2012 and due to the reconstruction of existing stormwater retention basins (classified as wetlands), which were not specifically considered in the 2012 EA/FONSI.

Table 19: Wetland Impacts

Wetland ¹	Selected Alternative I (from 2012 EA/FONSI)			Refined Alternative I (Concept I-W)		
	Cowardin Class	Total Size (acres)	Impacted Area (acres)	Cowardin Class	Total Size (acres)	Impacted Area (acres)
Wetland 1	Emergent	0.03	0.00	Not impacted ²	Not impacted ²	Not impacted ²
Wetland 2	Emergent	0.02	0.00	Not impacted ²	Not impacted ²	Not impacted ²
Wetland 3	Emergent	0.90	0.90	Not impacted ²	Not impacted ²	Not impacted ²
Wetland 4	Emergent	0.03	0.03	Not impacted ²	Not impacted ²	Not impacted ²
Wetland 5	Emergent	0.14	0.00	Not impacted ²	Not impacted ²	Not impacted ²
Wetland 6	Emergent	0.05	0.05	Emergent	0.81	0.81
Wetland 7	Emergent	0.16	0.00	Not impacted ²	Not impacted ²	Not impacted ²
Wetland 8	Emergent	0.40	0.40	Emergent	1.57	1.57
Total	--	1.73	1.38	--	2.38	2.38

1. All wetlands are in Kentucky. There are no wetlands in the Ohio portions of the project area.
2. Due to design refinements, these wetlands are no longer impacted.

In accordance with Executive Order 11990, new construction should not take place in wetlands unless there are no practicable alternatives to such construction and the proposed action includes all practicable measures to minimize harm to wetlands. As documented in the 2012 EA/FONSI, the No-Build Alternative is not practicable because it would not improve traffic flow or safety, would not correct existing geometric deficiencies, and would result in serious impacts to the traveling public and the region's economy. Completely avoiding wetland impacts would require shifting the I-71/I-75 mainline in Kentucky, which would substantially increase project costs and would create greater impacts to existing homes and businesses and stormwater management facilities east of the highway. Therefore, completely avoiding the wetlands was not practicable. The project includes environmental commitments that require the resident engineer and contractor to develop best management practices (BMPs) prior to onsite activities to ensure continuous erosion control to protect water quality throughout the construction and post-construction period, which will minimize potential for impacts to wetlands. Further avoidance and minimization efforts will be investigated during the project's progressive design-build contract and the permitting process.

Mitigation measures for wetland impacts may involve the debit of credits from KYTC's Bath County/Ova Arnett advanced mitigation site. While the mitigation measures will be finalized in coordination with the U.S. Army



Corps of Engineers (USACE) and the Kentucky Division of Water (KDOW) during the permitting process, compensatory mitigation for wetlands may require up to eight adjusted mitigation units.¹ Sufficient credits to mitigate wetland impacts for Refined Alternative I (Concept I-W) are presently available at the Bath County/Ova Arnett mitigation site.² The credits will be used to offset unavoidable impacts to wetlands in the lower Licking River watershed, Northern Kentucky mitigation service area. The Bath County/Ova Arnett advanced mitigation site restored wetland habitat functions to previously farmed land in the same river basin (Licking River) and mitigation service area (Northern Kentucky) as the impacted wetlands.

Should there be insufficient credits at the Bath County/Ova Arnett mitigation site, KYTC will make the necessary purchase of wetland adjusted mitigation units from the In-Lieu Fee Mitigation Program administered by the Kentucky Department of Fish and Wildlife Resources (KDFWR). All in-lieu fee credits purchased from KDFWR are used to repair and restore wetlands in the same service area as the impacted wetlands (the lower Licking River/Northern Kentucky mitigation service area).

Based on the above, it was determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action [Refined Alternative I (Concept I-W)] includes all practicable measures to minimize harm to wetlands that may result from such use. Additional information regarding wetlands is provided in the [Stream and Wetland Summary Memorandum \(KY\) \(May 2023\)](#) and the [Level 1 Ecological Survey Report \(OH\) \(October 2022\)](#). Additional information about permitting and mitigation for wetland impacts is provided in Section 4.15.

4.2.2 Streams and Rivers

The 2012 EA/FONSI identified the Ohio River, 4 perennial streams, 12 intermittent streams, and 1 ephemeral stream in the study area. In 2022, KYTC and ODOT conducted ecological surveys to document changes in field conditions since the original ecological surveys were prepared. The updated ecological surveys conducted in 2022 only studied areas to be impacted by construction of Refined Alternative I (Concept I-W).

The 2022 ecological surveys identified nine streams – three perennial streams (including the Ohio River), five intermittent streams, and one jurisdictional ditch. Of the nine streams identified, six were also identified in the 2012 EA/FONSI. Of these, one stream was classified as poor quality intermittent in both 2012 and 2022; two streams that were classified as poor quality intermittent in 2012 are now classified as poor quality perennial; and three streams that were classified as ephemeral in 2012 are now classified as poor quality perennial. The updated ecological surveys also identified two new intermittent streams and one new

¹ Adjusted mitigation units are the number of credits needed to compensate for project impacts to waters of the United States (including wetlands and streams/rivers). The determination of the required number of adjusted mitigation units considers factors such as the type, quality, and function of the resource.

² Credit availability is based on a review of USACE's Regulatory In-Lieu Fee and Bank Information Tracking System (https://ribits.ops.usace.army.mil/ords/f?p=107:10::::P10_BANK_ID:1137, accessed November 30, 2023).



jurisdictional ditch, which were determined to be of poor quality. The rivers and streams and impact areas are shown in Figure 8.

Table 20 provides a description of the rivers and streams in the project area and the anticipated impacts to each for Refined Alternative I (Concept I-W).¹ Table 21 presents a summary comparison of impacts to streams and rivers for Selected Alternative I (from the 2012 EA/FONSI) and Refined Alternative I (Concept I-W).

Further avoidance and minimization of impacts to streams and rivers will be investigated during the project's progressive design-build contract and the permitting process. Mitigation measures for unavoidable stream impacts are anticipated to involve the purchase of adjusted mitigation unit credits from the approved USACE mitigation bank in the watershed, the Licking River Mitigation Bank² operated by Ecosystem Investment Partners. While the mitigation measures will be finalized in coordination with USACE, KDOW, and OEPA during the permitting process, KYTC has secured sufficient credits to provide mitigation for the estimated stream and river impacts for Refined Alternative I (Concept I-W). All adjusted mitigation unit credits purchased from the Licking River Mitigation Bank represent restored ecological functions to streams in the appropriate mitigation service area of the unavoidable stream and river impacts (lower Licking River watershed/Northern Kentucky mitigation service area).

BMPs will be developed by the resident engineer and contractor prior to onsite activities to ensure continuous erosion control throughout the construction and post-construction period. Under existing conditions, all of the runoff from the I-71/I-75 corridor in Kentucky flows into a combined sewer system, creating flooding in surrounding areas and contributing to overflow events. Furthermore, elevated water levels can cause the Ohio River to backflow into the combined sewer system, leading to flooding in the Goebel Park Complex. While only runoff from new impervious area is required to be separated, KYTC has committed to separating all interstate runoff from the existing combined sewer system. Modeling shows that these separation efforts will substantially reduce the volume flowing into the combined sewer system, reducing the frequency of combined sewer overflows into surrounding waterways. In Ohio, existing combined sewers flood Mill Creek with sewage during extreme rain events. ODOT is coordinating with the Metropolitan Sewer District (MSD) to build storm sewers that will separate I-75 runoff from combined sewers and reduce the frequency of combined sewer overflows into Mill Creek. ODOT will also provide BMPs to address water quality treatment requirements in Ohio. These measures are anticipated to result in long-term improvements to water quality in the project area.

Additional information regarding streams and rivers is provided in the [Stream and Wetland Summary Memorandum \(KY\)](#) and the [Level 1 Ecological Survey Report \(OH\)](#). Further details about stormwater management are provided in Section 4.12.1. Additional information about permitting and mitigation for stream and river impacts is provided in Section 4.15.

¹ The 2012 EA/FONSI and supporting documentation did not provide individual stream impact quantities for Selected Alternative I.

² EIP-KSWMBI-III Licking River Stream Mitigation Bank Site (LRL-2017-405)



Table 20: Refined Alternative I (Concept I-W) Streams and Rivers Impacts

Stream	Description	Total Length / Area	Refined Alternative I (Concept I-W) Impacts ¹
PER 1 (KY)	Poor quality perennial stream that flows under I-71/I-75 and into Pleasant Run Creek	307 linear feet / 0.070 acre	134 linear feet / 0.031 acre (permanent)
INT 14 (KY)	Poor quality intermittent stream that flows into stream PER 1	696 linear feet / 0.080 acre	355 linear feet / 0.041 acre (permanent)
PER 2 (KY)	Poor quality perennial stream that flows into Banklick Creek	674 linear feet / 0.124 acre	64 linear feet / 0.012 acre (permanent)
JD 15 (KY)	Poor quality jurisdictional ditch that flows into stream PER 2	0.015 acre	0.015 acre (permanent)
INT 17 (KY)	Poor quality intermittent stream that flows into wetland 6	125 linear feet / 0.020 acre	125 linear feet / 0.020 acre (permanent)
INT 18 (KY)	Poor quality intermittent stream that flows into stream INT 17	43 linear feet / 0.006 acre	43 linear feet / 0.006 acre (permanent)
INT 6 (KY)	Poor quality intermittent stream that flows into stream INT 17	163 linear feet / 0.022 acre	163 linear feet / 0.022 acre (permanent)
INT 19 (KY)	Poor quality intermittent stream that flows into wetland 8	134 linear feet / 0.018 acre	134 linear feet / 0.018 acre (permanent)
Ohio River (KY/OH) (PER 3)	General high quality perennial stream, warm water habitat aquatic life use designation, traditionally navigable waterway	Not determined	350 linear feet / 1.940 acres (permanent) 283 linear feet / 1.854 acres (temporary)

1. A comparison to the impacts for Selected Alternative I is not available because the 2012 EA/FONSI and supporting documentation did not quantify impacts for individual streams.

Table 21: Streams and Rivers Impact Summary

Resource	Selected Alternative I (from 2012 EA/FONSI) Impacts	Refined Alternative I (Concept I-W) Impacts
Jurisdictional Ditch	0.00 acre	0.015 acre (permanent)
Intermittent Stream	3,340 linear feet	820 linear feet / 0.107 acre (permanent)
Ephemeral Stream	0 linear feet	0 linear feet / 0.000 acre
Perennial Stream	3.8 acres ¹	548 linear feet / 1.983 acres (permanent) 283 linear feet / 1.854 acres (temporary)

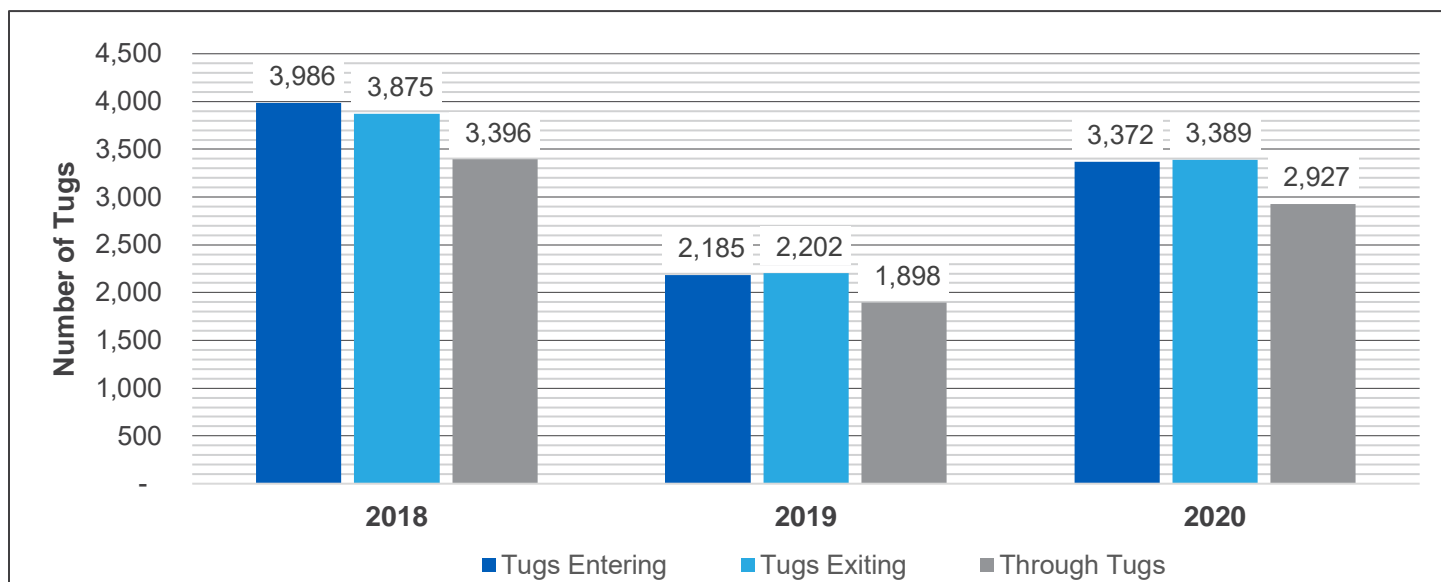
1. The 2012 EA/FONSI estimated impacts to the Ohio River – a perennial stream – in acres of disturbance anticipated for pier construction. An impact length was not provided in the 2012 EA/FONSI; however, the impact length is expected to be similar for Selected Alternative I (from the 2012 EA/FONSI) and Refined Alternative I (Concept I-W).



Ohio River

The Ohio River is a commercially navigable waterway that is an important component of the waterway freight network that transports a wide range of commodities in and through the OKI region. The stretch of the river flowing through the project area is referred to as the “Markland Pool,” which is bookended by the Captain Anthony Meldahl Locks and Dam, approximately 35 miles upstream of the existing BSB, and the Markland Locks and Dam, approximately 60 miles downstream of the existing BSB. Barges dock at several industrial properties immediately upstream and downstream of the existing BSB, and the Port of Cincinnati is located less than one mile downstream of the project area. The vessels passing under I-71/I-75 are typically towboats (tugs) that maneuver flotillas of barges along the river. A typical barge is 195 feet long by 35 feet wide, and 15 barges are generally aggregated into a flotilla tow that is 1,000 feet long and 105 feet wide, conveying about 26,250 tons of cargo. In the project area, flotillas of barges require room to maneuver to align with the next bridge and do not enter on a tangent. Commercial traffic in the Markland Pool stretch of the Ohio River is provided in Figure 21. Riverboat cruises also utilize the Ohio River in the project area, with four cruise companies located within 2.5 miles upstream and downstream of the existing BSB.¹ In addition, the Lewis and Clark National Historic Trail, which is administered by NPS, follows the historic outbound and inbound routes of the Lewis and Clark Expedition of 1803-1806 from Pittsburgh, Pennsylvania to the Pacific Ocean and includes the portion of the Ohio River in the project area.

Figure 21: Markland Pool Total Annual Tugs by Direction



Source: United States Army Corps of Engineers. (2018-2020). [Data sets].

¹ Source: [Ohio-Kentucky-Indiana Regional Council of Governments Freight Plan](#)



Selected Alternative I (from the 2012 EA/FONSI) would not have required any in-water work related to the existing BSB and would have placed piers for the new companion bridge within the Ohio River. The main span length for the new companion bridge was 1,000 feet with an under clearance of no lower than 532 feet in elevation.

Similar to Selected Alternative I (from the 2012 EA/FONSI), the rehabilitation and reconfiguration of the existing BSB incorporated into Refined Alternative I (Concept I-W) will not require any in-water work. The existing BSB will maintain its current vertical clearance above the Ohio River, although it is 0.4 feet less than the current standard required vertical clearance. The new companion bridge will be either an arch or a cable-stayed structure. For either bridge type, two new piers will be constructed in the Ohio River, and the under clearance will be no lower than 532 feet in elevation, which accounts for fluctuations in the river levels due to seasonal flow and provides additional clearance to accommodate river cruise ships. The main span length may be reduced from 1,000 feet to a minimum of 870 feet based on preliminary coordination with USCG (see Appendix B, Permitting); however, the navigation opening will be no narrower than the existing BSB, and the south pier will be no more than 75 feet from land to provide maneuverability within the channel. Highway and aesthetic lighting incorporated into the new companion bridge and/or the existing BSB will be designed to avoid interference with river navigation.

During detailed design, soil and geotechnical borings will be conducted in the river bottom. The new companion bridge may be constructed using temporary access fills and barge-mounted equipment. River traffic will be maintained during design and construction, although temporary restrictions in the navigation channel may be required to conduct geotechnical borings and to erect portions of the new structure. No adverse effects to commerce on the Ohio River are anticipated to result from the design and construction of Refined Alternative I (Concept I-W). Because navigation within the Ohio River will be maintained, impacts to the recreational use of the Lewis and Clark National Historic Trail are expected to be minor. Access restrictions and temporary vertical and horizontal limits during project-related activities for design and construction will be coordinated with USCG and USACE during the permitting process, which is discussed further in Section 4.15. During design and construction, KYTC and ODOT have committed to notifying NPS of any access restrictions affecting the Lewis and Clark National Historic Trail prior to any project-related activities affecting the Ohio River. KYTC and ODOT will also install appropriate signage to alert users of the trail of project-related activities or access restrictions in the Ohio River. Additional details about the Lewis and Clark National Historic Trail are provided Sections 4.5.2 and 4.13.11.

4.2.3 Terrestrial Habitat

Land use in the project area has not substantially changed since 2012. The 2012 EA/FONSI documented that Selected Alternative I impacted 52 acres of wooded habitat, including 28 acres of mixed-age woods, 10 acres of young woods, and 14 acres of old field. Based on the ecological surveys conducted in 2022, Refined Alternative I (Concept I-W) will impact 90.00 acres of forested areas, including 85.62 acres of upland and 4.38 acres of riparian forested areas. The difference in estimated impacts to forested areas for Refined Alternative I (Concept I-W) is due to the application of the most recent KYTC and ODOT ecological survey



guidance, which have been updated since the 2012 EA/FONSI. Refined Alternative I (Concept I-W) does not impact more land than Selected Alternative I (from the 2012 EA/FONSI); rather, the overall land impacts are reduced. The 90.00 acres of forested area impacted by Refined Alternative I (Concept I-W) includes 74.20 acres of forested habitat (69.82 acres of upland forest and 4.38 acres of riparian forest) in Kentucky and 15.80 acres of upland forest in Ohio.

The terrestrial habitat impacted for Refined Alternative I (Concept I-W), including areas within the existing right-of-way, is approximately 466 acres. In comparison, there are approximately 787.5 acres of similar forested habitat within the 7,566.1 acres within 1 kilometer of the project area. The percentage of area inside the project footprint containing forested habitat (19 percent) is more than the percentage of forested area within 1 kilometer of the project (10 percent); however, a large portion of the forested habitat impacted by Refined Alternative I (Concept I-W) is located within the existing right-of-way, is near to the existing interstate, and is near or within highly developed urban areas.

The removal of up to 90.00 acres of forested habitat will result in the loss of potential foraging or maternity areas for the Indiana bat, the northern long-eared bat (NLEB), and the tricolored bat. The removal of up to 4.38 acres of riparian habitat will result in the loss of potential foraging areas for the gray bat. Measures incorporated into the project to minimize and mitigate impacts to threatened or endangered bat species will also minimize and mitigate impacts to terrestrial habitat. These include minimizing tree removal and mitigating habitat loss in Kentucky through a contribution to the Imperiled Bat Conservation Fund (IBCF). The IBCF will offset project-related impacts to terrestrial habitats by acquiring and protecting forested habitat, providing habitat management and improvement, and providing focused research and monitoring efforts. See Section 4.2.4 for additional details related to these minimization and mitigation measures.

Additional information regarding land use and terrestrial habitat is provided in the [Biological Assessment \(October 2022\)](#).

4.2.4 Threatened or Endangered Species

The following sections discuss changes related to federally or state listed threatened or endangered species that have occurred since the 2012 EA/FONSI.

Federally Listed Species

The 2012 EA/FONSI included environmental commitments to complete effect determinations for the Indiana bat and for mussel species within the Ohio River following field reviews and coordination with resource agencies. In 2022, KYTC and ODOT evaluated the areas to be impacted by Refined Alternative I (Concept I-W) for federally listed species and documented the findings in a [Biological Assessment](#). Table 22 compares the current findings to the 2012 EA/FONSI. A description of the impacts of Refined Alternative I (Concept I-W) on each federally listed species is provided below:

- Bald eagle: Evidence of bald eagles or suitable habitat in the project area was not observed during field surveys. Impacts to potential habitat are not expected.



- Federally listed mussels (rabbitsfoot, clubshell, fanshell, northern riffleshell, orangefoot pimpleback, pink mucket, ring pink, rough pigtoe, sheepsnose, snuffbox, spectaclecase, and rayed bean): While the substrate and flow regime of the Ohio River provide some suitable habitat for multiple mussel species, no federally listed mussels were found during the 2022 presence/absence survey. With the implementation of the minimization and mitigation measures described below, habitat will be preserved for any potential future colonization of the stream by federally listed mussel species. Therefore, the effect determination for the proposed project is “may affect, not likely to adversely affect” federally listed mussel species.
- Gray bat: The portion of the project in Kentucky is in the range of the gray bat, and the portion in Ohio is not. Therefore, the analysis of the gray bat focused on the footprint for Refined Alternative I (Concept I-W) in Kentucky. A habitat assessment, literature search, and Phase I portal survey did not locate any caves or rock shelters suitable for use of bats within 1 kilometer of the project area in Kentucky. Additionally, no evidence of use or presence of bats along the bridges in the project area was found. Refined Alternative I (Concept I-W) will disturb or remove 4.38 acres of riparian forested habitat, which will result in the loss of potential foraging areas for the gray bat. Effects caused by the removal of this habitat will be offset by the minimization and mitigation measures described below. Therefore, the effect determination for the proposed project is “may affect, not likely to adversely affect” the gray bat.
- Indiana bat: A portal survey did not find any caves or rock shelters suitable for winter hibernacula by bats within 1 kilometer of the project; therefore, the proposed activities will have no effect on Indiana bat winter hibernacula. Additionally, no evidence of use or presence of bats along the bridges in the project area was found. Approximately 90.00 acres of forested habitat that will be removed by Refined Alternative I (Concept I-W) may serve as foraging or maternity areas for Indiana bats, including 74.20 acres in Kentucky and 15.80 acres in Ohio.

KYTC is addressing impacts to the Indiana bat in accordance with the *Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat*. Given the nature of the project, its location, and the commitment to adhere to seasonal tree clearing restrictions (described in the minimization and mitigation measures below), the effect determination for the portion of the proposed project in Kentucky is “may affect, and likely to adversely affect” the Indiana bat.

ODOT is addressing impacts to the Indiana bat in accordance with the February 29, 2016, *Framework Programmatic Biological Opinion*, as revised. The clearing of 15.80 acres of suitable wooded habitat is all located within 100 feet of the edge of pavement. Seasonal tree clearing commitments described in the minimization and mitigation measures below will minimize impacts to Indiana bat habitat in Ohio. Therefore, the effect determination for the portion of the proposed project in Ohio is “may affect, but not likely to adversely affect” the Indiana bat.

- Northern long-eared bat (NLEB): Refined Alternative I (Concept I-W) will disturb or remove 90.00 acres of forested habitat for the NLEB. There are no known NLEB maternity roost sites within the project area, and there is no known hibernaculum within a quarter mile of the project area. No evidence of use



or presence of bats along the bridges in the project area was observed during field studies. Seasonal tree clearing commitments described in the minimization and mitigation measures below will minimize impacts to NLEB habitat. Therefore, the effect determination for the proposed project is “may affect, not likely to adversely affect” the NLEB.

The [Biological Assessment](#) and [Level 1 Ecological Survey Report \(OH\)](#) were coordinated with the U.S. Fish and Wildlife Service (USFWS) on November 16, 2022. USFWS concurred with the findings of the [Biological Assessment](#) and determined that the requirements of Section 7 of the Endangered Species Act have been fulfilled (see Appendix B, Ecological Resources).

Table 22: Federally Listed Species Impacts

Common Name	Scientific Name	Selected Alternative I (from 2012 EA/FONSI) Effect Determination ^{1,2}	Refined Alternative I (Concept I-W) Effect Determination ^{1,2}
Species of Special Concern			
Bald eagle	<i>Haliaeetus leucocephalus</i>	No effect	No effect ³
Threatened			
Rabbitsfoot	<i>Quadrula cylindrica</i>	Not listed	NLTAA
Endangered			
Gray bat	<i>Myotis grisescens</i>	Not included	KY – NLTAA
Indiana bat	<i>Myotis sodalis</i>	To be determined	KY – LTAA OH – NLTAA
Clubshell	<i>Pleurobema clava</i>	To be determined	NLTAA
Fanshell	<i>Cyprogenia stegaria</i>	To be determined	NLTAA
NLEB	<i>Myotis septentrionalis</i>	Not listed	NLTAA
Northern riffleshell	<i>Epioblasma rangiana</i>	To be determined	NLTAA
Orangefoot pimpleback	<i>Plethobasus cooperianus</i>	To be determined	NLTAA
Pink mucket	<i>Lampsilis abrupta</i>	To be determined	NLTAA
Ring pink (mussel)	<i>Obovaria retusa</i>	To be determined	NLTAA
Rough pigtoe	<i>Pleurobema plenum</i>	To be determined	NLTAA
Running buffalo clover	<i>Trifolium stoloniferum</i>	NLTAA	Delisted
Sheepnose mussel	<i>Plethobasus cyphus</i>	To be determined ⁴	NLTAA
Snuffbox mussel	<i>Epioblasma triquetra</i>	To be determined	NLTAA
Spectaclecase	<i>Cumberlandia monodonta</i>	Not listed	NLTAA
Rayed bean	<i>Villosa fabalis</i>	To be determined	NLTAA ³

1. LTAA – May affect, likely to adversely affect; NLTAA – May affect, not likely to adversely affect.
2. No designated critical habitat for federally listed species is present in the project area.
3. Species addressed in the Ohio [Level 1 Ecological Survey Report \(OH\)](#), but not the [Biological Assessment](#).
4. Listed as proposed endangered in the 2012 EA/FONSI.



On November 29, 2022, USFWS published a final rule to reclassify the NLEB as endangered under the Endangered Species Act, which became effective on March 31, 2023. On April 13, 2023, KYTC and ODOT initiated coordination with USFWS for the NLEB through an interim consultation framework. For the project, USFWS reached the determination of “may affect, not likely to adversely affect” for the NLEB (see Appendix B, Ecological Resources).

On September 14, 2022, USFWS published a proposal in the Federal Register to list the tricolored bat (*Perimyotis subflavus*) as a federally endangered species. Similar to the Indiana bat, NLEB, and gray bat, the tricolored bat is a small insectivorous bat that typically overwinters in caves, abandoned mines, and tunnels, and typically roosts in mature forested habitats during spring, summer, and fall. USFWS has not proposed any areas of designated critical habitat for the tricolored bat. Refined Alternative I (Concept I-W) impacts approximately 90.00 acres of wooded habitat that may contain suitable roosting habitat for the tricolored bat, including approximately 74.20 acres in Kentucky and 15.80 acres in Ohio. No known or suspect hibernacula were identified within or near the project area. Bridge structures with potentially suitable roosting habitat for the tricolored bat were inspected, and no evidence of bats was observed.

The effects analysis for the tricolored bat would be similar to those completed for the Indiana bat, the NLEB, and the gray bat. Because of a lack of potential hibernacula and bridge structures used for roosting within the project area, impacts to the tricolored bat are primarily anticipated to result from the removal of the 90.00 acres of wooded habitat that may potentially serve as summer maternity, roosting, and foraging habitat. Measures incorporated into the project to avoid, minimize, and mitigate impacts to the Indiana bat, the NLEB, and the gray bat will similarly reduce and minimize the likelihood of potential project impacts to the tricolored bat. These include minimizing tree removal, restricting tree removal to certain dates, and mitigating habitat loss in Kentucky through a contribution to the IBCF. Therefore, FHWA has determined that the project may affect but is not likely to jeopardize the continued existence of the tricolored bat, nor will it result in the destruction or adverse modification of critical habitat proposed to be designated for the species. FHWA coordinated this determination with USFWS on September 20, 2023 (see Appendix B, Ecological Resources).

FHWA will reinitiate consultation with the USFWS for the project if:

- The amount or extent of incidental take of federal listed species is exceeded;
- New information reveals the project may affect listed species or critical habitat in a manner or to an extent not previously considered;
- The project is subsequently modified in a manner that causes an effect to listed species or designated critical habitat not previously considered; or
- A new species is listed (such as the tricolored bat) or critical habitat is designated that the project may affect.



State Listed Species

The 2012 EA/FONSI did not address state listed species in Kentucky or Ohio.

In Kentucky, formal coordination for threatened or endangered species only occurs with USFWS, as discussed in the “federally listed species” section above. The Commonwealth of Kentucky does not require formal coordination with state agencies for threatened or endangered species. While both the KDFWR and the Office of Kentucky Nature Preserves (OKNP, formerly the Kentucky State Nature Preserves Commission) have programs that manage and protect vulnerable wildlife species and their habitat, neither agency regulates nor oversees KYTC activities. As part of its normal project development process, KYTC notifies KDFWR and OKNP of proposed projects, including the estimated schedule and anticipated impacts, but no response is required. KYTC notified KDFWR and OKNP about the project through the participating agency coordination process. KDFWR accepted the invitation to be a participating agency and will be provided the opportunity to offer feedback on this supplemental EA during the public availability period. An individual response will be prepared for any comments received from KDFWR. OKNP declined the invitation to be a participating agency; therefore, KYTC’s normal coordination process with OKNP is fulfilled. Additional details about participating agency coordination are provided in Section 5.4.

In 2022, ODOT conducted new ecological surveys in the areas to be impacted by Refined Alternative I (Concept I-W) to evaluate effects on state listed species. Nine endangered, three threatened, and one potentially threatened state listed species were found either to be present or to have suitable habitat in the project area. The impacts of Refined Alternative I (Concept I-W) on each Ohio state listed species are described below and summarized in Table 23:

- Virginia-mallow: Marginal habitat for this plant species exists within the project area near the edge of the water on the Ohio River. Most of the bank within the project area is armored with concrete and has tree of heaven and vines growing out of the cracks. ODOT personnel looked for this species in the project area in 2008 and did not observe it. It was also not noted during the 2010 and 2022 ecological surveys. Therefore, the project will have no impact on this species.
- Black-crowned night-heron: Some marginally suitable nesting habitat is present within the project area, mostly on the Kentucky side of the river. No nesting activity was noted during the 2022 ecological survey. Therefore, the project is not likely to impact this species.
- Channel darter and river darter: Records for these species were identified in the project area, and suitable habitat is likely present in the Ohio River within the project area. In-stream work for this project will be limited to the pier locations, the locations of geotechnical borings, and along the edge of the stream for barge moorings. Most of the stream bottom will remain undisturbed. As these species are mobile, they will likely relocate from any impact areas during construction. Therefore, the project is not likely to impact these species.



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- Washboard: Potentially suitable habitat for this species is present in the Ohio River. A mussel survey conducted for the project documented a total of 101 live individuals. Impacts to this species are not likely due to the environmental commitment to relocate mussels prior to construction, as described in the minimization and mitigation measures below.
 - Little brown bat and tricolored bat¹: Potential habitat is located in the project area and is within 100 feet from the edge of pavement. All potential habitat is within the existing right-of-way, except for a small portion along the Ohio River. Impacts to potential habitat due to tree removal are expected. The project is not likely to impact these species due to the seasonal tree clearing commitments described in the minimization and mitigation measures below.
 - Elephantear, monkeyface, and butterfly mussels: Potentially suitable habitat for these species is present in the Ohio River. A mussel survey conducted for the project documented one live individual of each species. Impacts to these species are not likely due to the environmental commitment to relocate mussels prior to construction, as described in the minimization and mitigation measures below.
 - Wartyback mussel: Potentially suitable habitat for this species is present in the Ohio River. A mussel survey conducted for the project documented 108 live individuals of this species. Impacts to this species are not likely due to the environmental commitment to relocate mussels prior to construction, as described in the minimization and mitigation measures below.
 - Ebonyshell and Ohio pigtoe mussels: Potentially suitable habitat for these species is present in the Ohio River. A mussel survey conducted for the project documented two live individuals of each species. Impacts to these species are not likely due to the environmental commitment to relocate mussels prior to construction, as described in the minimization and mitigation measures below.

Based on the scope of work, the project will have “no impact” on or is “not likely to impact” Ohio listed species, as shown in Table 23. Additional details about Ohio listed species are provided in the [Level 1 Ecological Survey Report \(OH\)](#).

The [Level 1 Ecological Survey Report \(OH\)](#) was coordinated with USFWS, USACE, the Ohio Department of Natural Resources (ODNR), and OEPA on November 17, 2022. No comments were received from USFWS, USACE, and OEPA. ODNR provided comments on December 19, 2022 concurring with the effect findings for state listed species and the measures incorporated into the project to minimize and mitigate effects to state listed species (see Appendix B, Ecological Resources).

¹ The tricolored bat has also been proposed for listing as a federally endangered species.



Table 23: Ohio State Listed Species Impacts

Common Name	Scientific Name	Selected Alternative I (from 2012 EA/FONSI) Effect Determination ¹	Refined Alternative I (Concept I-W) Effect Determination ¹
Potentially Threatened			
Virginia-mallow	<i>Ripariosida hermaphrodita</i>	--	No impact
Threatened			
Black-crowned night-heron	<i>Nycticorax</i>	--	Not likely to impact
Channel darter	<i>Percina copelandi</i>	--	Not likely to impact
River darter	<i>Percina shumardi</i>	--	Not likely to impact
Endangered			
Washboard	<i>Megalonaias nervosa</i>	--	Not likely to impact
Little brown bat	<i>Myotis lucifugus</i>	--	Not likely to impact
Tricolored bat ²	<i>Perimyotis subflavus</i>	--	Not likely to impact
Elephantear	<i>Elliptio crassidens</i>	--	Not likely to impact
Monkeyface	<i>Theliderma metanevra</i>	--	Not likely to impact
Wartyback	<i>Cyclonaias nodulata</i>	--	Not likely to impact
Butterfly	<i>Ellipsaria lineolata</i>	--	Not likely to impact
Ebonyshell	<i>Reginaia ebena</i>	--	Not likely to impact
Ohio pigtoe	<i>Pleurobema cordatum</i>	--	Not likely to impact

1. The 2012 EA/FONSI did not address state listed species in Ohio.
2. The tricolored bat has also been proposed for listing as a federally endangered species.

Migratory Birds

The Migratory Bird Treaty Act protects native bird species, eggs, and nests from being hunted, captured, killed, imported, or exported, unless the activity is permitted or licensed (such as hunting game birds with a license). The 2012 EA/FONSI documented a pair of nesting peregrine falcons on the existing BSB.

KDFWR is often consulted regarding impacts on migratory birds, because this state agency is the most knowledgeable about avian populations in Kentucky and assists in determining how to best address migratory birds; however, KDFWR does not have legal jurisdiction over KYTC activities. In an email dated December 15, 2022, KDFWR indicated no peregrine activity had been observed on the existing BSB in 2021 or 2022, although KDFWR continues to monitor the bridge for peregrine falcons on an annual basis. Because of the prevalence of bird nests on bridges and historic presence of peregrine falcons in the project area, the



updated ecological surveys conducted in 2022 examined the undersides of bridges and culverts for evidence of colony nesting birds and peregrine falcons, and no evidence of migratory birds was found.

KYTC and ODOT have committed to coordinating with KDFWR in the spring prior to the rehabilitation of the existing BSB or the demolition of the bridge approaches to address potential nesting of peregrine falcons. Although no evidence of migratory birds was observed in the project area, the tree clearing restrictions to protect threatened or endangered bats that are described below will also minimize potential impacts to migratory birds. The avoidance, minimization, and mitigation of wetland and stream impacts described in Sections 4.2.1, 4.2.2, and 4.15 will also minimize potential impacts to migratory birds that utilize these resources and habitats.

Minimization and Mitigation Measures

The minimization and mitigation measures discussed in this section have been incorporated into the project's environmental commitments (see Section 6 and ES-Table II).

While no federally listed mussels were found during the 2022 mussel survey, native and state listed mussels were found. All native mussel species within the state of Ohio are protected by state law (Ohio Revised Code Section 1533.324). Therefore, the environmental commitments include mussel salvage (relocation) within areas of direct impact and appropriate salvage zone buffers that will be conducted per the *Ohio Mussel Survey Protocol*. These efforts will be completed no more than one year prior to the start of construction activities in the Ohio River.

Refined Alternative I (Concept I-W) incorporates several measures to minimize and mitigate effects on the federally listed Indiana bat, gray bat, and the NLEB and the Ohio state listed little brown bat and tricolored bat¹. Ohio and Kentucky follow separate policies, programmatic agreements, and regulations concerning these species; therefore, each state will incorporate separate minimization and mitigation measures, as described below and incorporated into the project's environmental commitments.

Kentucky

- Potential incidental take for the Indiana bat will be mitigated through a contribution to the IBCF in accordance with the *Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat*.
- No tree removal will occur in Kentucky from June 1 to July 31.
- As required under Section 213 of the KYTC *Standard Specifications*, a site-specific erosion control plan, including BMPs, will be developed by the resident engineer and contractor prior to onsite activities to ensure continuous erosion control throughout the construction and post-construction period. The plan will identify individual disturbed drainage areas where stormwater from the construction area will

¹ The tricolored bat has also been proposed for listing as a federally endangered species.



be discharged off-site or into waters of the Commonwealth of Kentucky. The location of the individual erosion prevention/sediment control measures will be identified by the resident engineer and contractor.

- During grade and drain activities in Kentucky, mulch will be placed across all areas where no work will be conducted for a period of 14 consecutive days.
- Tree clearing within riparian areas will be minimized. Trees to be removed will be determined by the resident engineer and the contractor prior to disturbance.
- In Kentucky, silt fence, or other approved method, will be installed at the edge waters within the project corridors to eliminate the deposition of rock and debris in the stream during construction activities. In the unforeseen event that unintended debris does enter the stream, the resident engineer will halt the contributing activity until appropriate remedial actions have been implemented.
- To the maximum extent practicable, construction activities in streams will take place during low-flow periods.
- Equipment staging and cleaning areas will be located to eliminate direct inputs to the waters of the Commonwealth of Kentucky. These areas will be located such that effluent will be filtered through vegetated areas and appropriate sediment controls prior to discharge offsite.
- Concrete will be poured in a manner to avoid spills into streams. In the unforeseen event that a spill does occur, the USFWS will be notified, and the resident engineer will immediately halt the activity until remedial measures have been implemented.
- Areas disturbed during construction activities in Kentucky will be stabilized through vegetation establishment and placement of riprap and geotextile fabric.
- Areas disturbed during construction in Kentucky and not stabilized with riprap and erosion blanket will be seeded using a standard seed mix. Depending on project slope and project location, application rates will vary and will utilize current and appropriate seed mixes as specified in the *KYTC Standard Specifications*.

Ohio

- No tree removal will occur in Ohio from April 1 through September 30.
- All phases/aspects of the project (e.g., temporary work areas, alignments) in Ohio will be modified to avoid tree removal in excess of what is required to implement the project safely.
- Tree removal in Ohio will be limited to that specified in project plans by clearly marking clearing limits. Contractors will be made aware of clearing limits in Ohio and how they are marked in the field.
- In Ohio, best practices to minimize impacts to the environment are incorporated into a set of standards and specifications that are built into all construction contracts in the state. These include ODOT's *Construction and Material Specifications (CMS)*, *Supplemental Specifications (SS)*, and *Location and*



Design Manual, which require measures that are similar to those that will be employed in Kentucky to minimize and mitigate effects on the federally listed Indiana bat, gray bat, and NLEB and the state listed little brown bat and tricolored bat¹. In Ohio, these standards and specifications will be followed as applicable: lighting (SS 813, SS 913); dust control (CMS 616); and water quality, wetland, and stream protection (CMS 601, CMS 659, CMS 671, SS 832, and ODOT's *Location and Design Manual, Volume 2*).

4.2.5 Floodplains

The 2012 EA/FONSI noted the presence of a floodway along the north and south banks of the Ohio River and that new piers for the companion bridge would be constructed in the floodway. The floodway impacts for Refined Alternative I (Concept I-W) are unchanged from the 2012 EA/FONSI. Hydraulic analyses will be completed based on the bridge type selected during the project's design-build phase to determine floodplain impacts and permitting requirements. Additional information about the bridge types that may be incorporated into Refined Alternative I (Concept I-W) is provided in Section 3.3.3.

The 2012 EA/FONSI did not address an existing levee, floodwall, and pump station that are located on the Kentucky side of the Ohio River, just west of I-71/I-75. The levee, floodwall, and pump station were constructed as part of a USACE Civil Works project, are owned by the City of Covington, and are operated and maintained by SD1. Refined Alternative I (Concept I-W) may require a pier to be constructed in or near the existing levee depending on the final bridge type and span configuration, which will be determined during the project's design-build phase. In addition, geotechnical borings may be conducted in or near the existing levee during detailed design. The new companion bridge is anticipated to span the floodwall, avoiding permanent impacts to the structure. Additional information about the bridge types that may be incorporated into Refined Alternative I (Concept I-W) is provided in Section 3.3.3.

The existing pump station is planned to remain in service. A proposed storm sewer trunk line that will separate the highway runoff from the combined sanitary sewer will tie in just upstream of the pump station. The general operation of the pump station is not expected to change, but the pumps will be evaluated during detailed design to determine if modifications are needed to accommodate the new drainage infrastructure. The total area of watershed that drains to the pump station will not change. However, the flow rate could change due to increased impervious area, changes to the operation of the detention ponds, or the timing of runoff reaching the pump station. Additional information about the separation of highway runoff from the combined storm sewer is provided in Section 4.12.1.

Additional information about permitting for impacts to floodplains and permission for potential impacts to the levee and pump station is provided in Section 4.15.

¹ The tricolored bat has also been proposed for listing as a federally endangered species.



4.2.6 Geological

The surface geologic material of the southern portion of the project area consists of Ordovician age interbedded shale and limestone of the Kope, Fairview, and Bull Fork formations. As the project moves to the north out of the upland area, it crosses over glacial outwash and Holocene age alluvial material on the south side of the Ohio River. After crossing the river, the project is situated again over unconsolidated alluvium, lacustrine, and glacial outwash material of the Ohio River and Mill Creek. On both sides of the Ohio River, these unconsolidated sediments can be as much as 150 feet thick. The 2012 EA/FONSI did not identify any impacts to geologic features for Selected Alternative I. Existing geologic conditions are unchanged since the 2012 EA/FONSI, and Refined Alternative I (Concept I-W) will not impact geologic features.

4.2.7 Drinking Water

The 2012 EA/FONSI did not expressly address drinking water. The effects on drinking water resulting from Selected Alternative I (from the 2012 EA/FONSI) would have been similar to the effects for Refined Alternative I (Concept I-W), which are discussed below.

There are no drinking water source protection areas for surface water or ground water in the Ohio portions of the project corridor, and drinking water resources in Ohio are not anticipated to be impacted by Refined Alternative I (Concept I-W).

The entire project corridor in Kentucky is located within the source water protection Zone 2 for the Louisville Water Company (KY0560258). In addition, the portions of the project corridor between the Dixie Highway and Kyles Lane interchanges in Kentucky are located within the source water protection Zone 3 for the Northern Kentucky Water District (KY0590220). Source water protection zones are based on potential time of travel of a contaminant to the drinking water intake and are defined as follows:

- Zone 1 (Critical Zone/Less than 1-hour Time of Travel)
- Zone 2 (Zone of Responsibility/1-hour to 5-hour Time of Travel)
- Zone 3 (Zone of Potential Impact/2.5-hour to 12.5-hour Time of Travel)

The project includes environmental commitments that require the resident engineer and contractor to develop BMPs prior to onsite activities to ensure continuous erosion control to protect water quality throughout the construction and post-construction period, which will help to prevent, reduce, or eliminate stormwater runoff, soil erosion, and movement of nutrients, bacteria, and contaminants into unprotected waterways that may pose threats to public drinking water supplies.

In addition, the project includes an environmental commitment that requires the preparation of a Spill Prevention Control and Countermeasures Plan that is acceptable to KYTC, ODOT, and the Kentucky Department for Environmental Protection (DEP). This plan will define, at minimum, protocols for the managing, handling, and disposing of oil spills, including contact with emergency response personnel, safety data sheets,



and copies of agreements with agencies that would be part of a spill-response effort. The plan will also outline communication protocols to ensure proper and timely notification of nearby public drinking water supplies in the event of a spill, including the source water protection zones for the Louisville Water Company (KY0560258) and the Northern Kentucky Water District (KY0590220).

A groundwater protection plan for the protection of groundwater will be developed in accordance with Title 401 of the Kentucky Administrative Regulations, Chapter 5, Regulation 37 (401 KAR 5:037). The plan will include the installation, construction, operation or abandonment of wells, bore holes or core holes, and other applicable project activities, as defined in 401 KAR 5:037. If groundwater monitoring wells are constructed, modified, or abandoned in Kentucky, the work will be conducted in accordance with 401 KAR 6:350.

Given the proposed scope of work and the protection measures incorporated into the project's environmental commitments, Refined Alternative I (Concept I-W) is not anticipated to impact drinking water resources.

4.3 Farmland

Impacts to farmland have not changed since the 2012 EA/FONSI. There is no farmland present in the project area, and no impacts are expected to result from Refined Alternative I (Concept I-W).

4.4 Regulated Materials

Changes related to regulated materials studies and coordination since the 2012 EA/FONSI are discussed in the following sections.

4.4.1 Kentucky

The 2012 EA/FONSI included an environmental commitment to perform Phase II Environmental Site Assessments (ESAs) at two sites in Kentucky. In July 2022, KYTC prepared an [ESA Screening 2022 Reevaluation \(KY\)](#) for the portions of the project in Kentucky. The project area was reviewed to identify any additional regulated materials concerns that have developed since the April 2007 *ESA Screening* and the April 2010 *Phase I Environmental Site Assessment* documented in the 2012 EA/FONSI. The updated screening in Kentucky focused only on properties that were within or immediately adjacent to the construction limits for Refined Alternative I (Concept I-W) and concluded that no additional ESA was warranted beyond the Phase II ESAs for the two sites (71 and 78) noted in the 2012 EA/FONSI.

Site 71 is located at 666 West 3rd Street in Covington and is occupied by Rusk Heating and Air Conditioning. Phase II ESA investigation is warranted on this site based on the historic presence of an automobile junkyard. Refined Alternative I (Concept I-W) requires the complete acquisition of Site 71, including building removal.

Site 78 is located at 550 Pike Street in Covington and is occupied by Kerry Toyota. Phase II ESA investigation is warranted on this site due to its former use as a gas station and junkyard. Refined Alternative I



(Concept I-W) requires a strip of permanent right-of-way, a strip of permanent drainage easement, and a strip of temporary easement from the south and west edges of Site 78 with no building removal.

Based on the results of the 2022 ESA screening, Phase II ESAs will be conducted at 666 West 3rd Street and 550 Pike Street in Covington, Kentucky as required by the Comprehensive, Environmental Response, Compensation and Liability Act (1980) as amended by the Superfund Amendments and Reauthorization Act (1986). Only areas of construction/utility disturbances of 3 feet or greater in depth will be assessed. Table 24 summarizes ESA efforts in Kentucky and Ohio. Coordination regarding regulated materials in Kentucky is included in Appendix B, Regulated Materials.

4.4.2 Ohio

The 2012 EA/FONSI evaluated sites for regulated materials and included environmental commitments for the following:

- Phase I ESA at the Harrison Terminal (1220 Harrison Avenue);
- Phase II ESAs at nine sites (1, 3, 9, 29, 49, 51, 53, 58, and 60); and
- Plan notes for petroleum contaminated soil (PCS) and contaminated groundwater at three sites (52, 54, and 57).

Refined Alternative I (Concept I-W) does not impact three of the sites listed above (1, 3, and 9), and no further ESA investigation is warranted. Additional ESA investigations were completed on the remaining sites in Ohio to fulfill the commitments in the 2012 EA/FONSI. These activities and the impacts associated with Refined Alternative I (Concept I-W) are described below.

ODOT prepared a [Phase I ESA: Harrison Terminal](#) in January 2014. Due to project changes in the vicinity of the Western Hills Viaduct (see Section 3.3.1), the Harrison Terminal site will no longer be impacted by Refined Alternative I (Concept I-W), and no additional ESA is required for this site.

Phase II ESAs for five sites (29, 49, 51, 53, and 58) and two additional sites (17 and 65)¹ were documented in the [Phase II ESA: Seven Sites Associated with the BSB Project](#) (April 2014). USTs are present on site 49, which is located at 508 West 3rd Street and occupied by ODOT's ARTIMIS building. USTs are also present on site 53, a former gas station that is currently a vacant parcel located at 605 West 3rd Street. Refined Alternative I (Concept I-W) fully impacts both sites and will require the removal of the USTs. Plan notes for the removal of USTs will be developed for the following sites and placed in the plans: 508 West 3rd Street (1 UST) and 605 West 3rd Street (4 USTs) in Cincinnati, Ohio.

¹ Sites 17 and 65 were impacted by Selected Alternative I and recommended for Phase II ESA investigation as a result of the April 2010 *Phase I ESAs*. Although not addressed in the 2012 EA/FONSI, the sites were subsequently evaluated in the April 2014 [Phase II ESA-Seven Sites Associated with the BSB Project](#). Impacts in the areas occupied by sites 17 and 65 have not changed for Refined Alternative I (Concept I-W).



Soil analysis conducted on sites 58 (205 Central Avenue) and 65 (612 Mehring Way) indicated potential contamination in areas where Refined Alternative I (Concept I-W) will require excavation activities for roadway and bridge construction. Based on the results of the Phase II ESA investigations, plan notes for solid waste will be developed for the following sites and placed in the plans: 205 Central Avenue and 612 Mehring Way in Cincinnati, Ohio.

Site 17 is a former gas station currently occupied by an apartment complex located at 845 Ezzard Charles Drive. Site 29 is a former gas station currently occupied by public roadways and ramps. Site 51 is a former gas station that is currently a vacant parcel located at the corner of Central Avenue and 4th Street. Phase II ESA investigations did not identify areas of concern for soil contamination at sites 17, 29, and 51, and no further ESA or materials handling is warranted at these sites.

In February 2017, ODOT prepared a [*Phase I Property Assessment: Duke Energy Site 646 & 655 Mehring Way*](#), which expanded on site 60, the remaining site recommended for Phase II ESA in the 2012 EA/FONSI. ODOT subsequently determined that a Phase II ESA was not needed because the owner was remediating the site under the OEPA Voluntary Action Program. Duke Energy commenced the investigation and cleanup of the site (also called the West End Substation) in early 2010. Duke Energy has remediated the areas where ODOT will acquire property from the West End Substation in accordance with the requirements of the OEPA Voluntary Action Program, although work continues on other portions of the Duke Energy property. Materials removed during the remedial effort were determined to be non-hazardous and were disposed of at a local solid waste landfill. Groundwater removed for dewatering purposes was containerized and disposed of at a water treatment facility. The areas to be acquired by ODOT contain monitoring wells. The project's construction documents will include a plan note to abandon the existing monitoring wells on property to be acquired from the Duke Energy West End Substation (646/655 Mehring Way in Cincinnati, Ohio). After completion of the new companion bridge, Duke Energy will install new monitoring wells, as required.

The conditions on sites 52, 54, and 57 have not changed since the original ESA investigations. Site 52 is located at 351 John Street in Cincinnati and is occupied by a city-owned parking lot. USTs previously located on this site were removed; however, soil contamination is still present. Refined Alternative I (Concept I-W) will remove existing ramp bridges that currently cross this site and will build new ramp roadways, retaining walls, and bridges on the site. Site 54 is located at 514 West 3rd Street in Cincinnati and is a vacant city-owned parcel under the existing southbound I-75 ramp to 2nd Street. USTs previously located on this site were removed, but contamination may be present. Refined Alternative I (Concept I-W) will remove existing ramp bridges that currently cross this site and will build several new ramp bridges across the site. Site 57 is located at 302-304 Central Avenue in Cincinnati and is occupied by a city-owned parking lot. USTs previously located on this site were removed, but contamination may be present. Refined Alternative I (Concept I-W) will remove several ramp bridges that currently cross this site and will build new ramp bridges on its southern boundary. Based on the above, if dewatering is necessary for construction purposes, plan notes for PCS and contaminated groundwater will be developed for the following sites and placed into the plans: 351 John Street, 514 West 3rd Street, and 302-304 Central Avenue in Cincinnati, Ohio.



In January 2014, ODOT prepared an [ESA Screening: 2201 and 2229 Spring Grove Avenue](#) to investigate potential impacts on sites in the vicinity of the Western Hills Viaduct interchange that were not evaluated in the 2012 EA/FONSI. The ESA Screening did not identify any environmental concerns associated with 2201 Spring Grove Avenue and recommended no further ESA at this location. A Phase I ESA was recommended for 2229 Spring Grove Avenue because it is occupied by an electrical substation. A [Phase I ESA: 2229 Spring Grove Avenue](#) was prepared in April 2014. The interchange at the Western Hills Viaduct will include a bridge over 2229 Spring Grove Avenue, but the site will not be impacted by excavation activities associated with Refined Alternative I (Concept I-W). In June 2014, ODOT's Office of Environmental Services determined that Phase II ESA was not needed for 2229 Spring Grove Avenue because the site will remain in service.

Table 24 compares the status of the ESA effort for Selected Alternative I (from the 2012 EA/FONSI) to the current status for Refined Alternative I (Concept I-W). Coordination regarding regulated materials in Ohio is included in Appendix B, Regulated Materials.

Table 24: ESA Summary

Site ID	State	Name/ Address	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W) ¹
1	OH	Parkway Market Food Mart 2310 Central Pkwy	Phase II ESA	Not impacted. No further ESA.
3	OH	Sunset Janitorial Supply 1151 Harrison Ave.	Phase II ESA	Not impacted. No further ESA.
9	OH	Wegman Company 1101 York St.	Phase II ESA	Not impacted. No further ESA.
17	OH	Apartment Complex 845 Ezzard Charles Dr.	N/A ²	No further ESA or material handling.
29	OH	City of Cincinnati Formerly 817 Mound St.	Phase II ESA	No further ESA or material handling.
49	OH	ARTIMIS 508 W. 3 rd St.	Phase II ESA	UST removal plan note (1 UST).
51	OH	City of Cincinnati 4 th St. and Central Ave.	Phase II ESA	No further ESA or material handling.
52	OH	City of Cincinnati 351 John St.	PCS and groundwater plan note.	PCS and groundwater plan note.
53	OH	Speedway Super America 605 W. 3 rd St.	Phase II ESA	UST removal plan note (4 USTs).
54	OH	City of Cincinnati 514 W. 3 rd St.	PCS and groundwater plan note.	PCS and groundwater plan note.
57	OH	City of Cincinnati 302-304 Central Ave.	PCS and groundwater plan note.	PCS and groundwater plan note.



Site ID	State	Name/ Address	Selected Alternative I (from 2012 EA/FONSI)	Refined Alternative I (Concept I-W) ¹
<i>Table 24 (cont.)</i>				
58	OH	City of Cincinnati 205 Central Ave.	Phase II ESA	Plan note for solid waste.
60	OH	Duke Energy 646/655 Mehring Way	Phase II ESA	Plan note to abandon existing groundwater monitoring wells.
65	OH	Valley Asphalt 612 Mehring Way	N/A ²	Plan note for solid waste.
71	KY	Rusk Heating and Air Conditioning 666 W. 3 rd St.	Phase II ESA	Phase II ESA to be completed in areas where disturbance is three feet or greater in depth.
78	KY	Kerry Toyota 550 Pike St.	Phase II ESA	Phase II ESA to be completed in areas where disturbance is three feet or greater in depth.
-	OH	Transformer Yard (Duke Energy) 2229 Spring Grove Ave.	N/A ²	Not impacted. No further ESA or material handling.
-	OH	Harrison Terminal 1220 Harrison Terminal	Phase I ESA	Not impacted. No further ESA.

1. Phase II ESAs and plan notes for removal, handling, and disposal of regulated materials, as indicated for Refined Alternative I (Concept I-W), are incorporated into the environmental commitments for the project (see Section 6 and ES-Table II).

2. Site was impacted by Selected Alternative I but not addressed in the 2012 EA/FONSI.

4.5 Cultural Resources

KYTC and ODOT evaluated cultural resources in accordance with Section 106 of the National Historic Preservation Act of 1966 (Section 106) and implemented through 36 CFR part 800. The following sections discuss changes in conditions that have occurred since the 2012 EA/FONSI and how impacts have changed based on the refinements incorporated into Refined Alternative I (Concept I-W).

4.5.1 Area of Potential Effects

Based on the most recent design, KYTC identified several areas where the disturbance limits of Refined Alternative I (Concept I-W) extend beyond the area of potential effects (APE) evaluated for the 2012 EA/FONSI. KYTC also generated more accurate boundaries for historic districts than those used in the 2012 EA/FONSI and generated new buffers to be included in the APE based on the updated boundaries. The APE in Kentucky was modified to encompass the most recent disturbance limits for Refined Alternative I



(Concept I-W) and buffers for historic districts. KYTC coordinated the revised APE with the Kentucky SHPO, which provided concurrence on June 7, 2022 (see Appendix B, Cultural Resources).

In Ohio, the APE for the updated evaluation was based on previous consultation and the construction limits for Refined Alternative I (Concept I-W). Although several small portions of Refined Alternative I (Concept I-W) extend outside of the APE, the construction limits in these areas have not changed since the 2012 EA/FONSI. When the construction limits extended beyond the APE, areas adjacent to the construction limits for Refined Alternative I (Concept I-W) were reviewed to confirm if additional resources were present. ODOT documented the Ohio APE in a consultation letter to the Ohio SHPO on August 30, 2022 (see Appendix B, Cultural Resources).

One project-level APE was subsequently established in a *Programmatic Agreement Among FHWA, ODOT, KYTC, the Ohio SHPO, the Kentucky SHPO, and the City of Covington Implementing Section 106 of the National Historic Preservation Act for the BSB Corridor Project* (Section 106 Programmatic Agreement) executed on October 20, 2023 and filed with the Advisory Council on Historic Preservation (ACHP) on October 23, 2023. The APE encompasses the project limits for Refined Alternative I (Concept I-W), including the direct limits of disturbance and a sufficient buffer for audible and visual effects where they may be likely to occur. The Section 106 Programmatic Agreement is provided in Appendix B, Cultural Resources.

4.5.2 History/Architecture Resources

The following sections summarize the effects on history/architecture resources for Refined Alternative I (Concept I-W) and provide a comparison to the effects for Selected Alternative I (from the 2012 EA/FONSI).

Kentucky

In Kentucky, the 2012 EA/FONSI documented 21 resources eligible for or listed on the NRHP, and the impacts of Selected Alternative I included 20 “no effect” findings and one “adverse effect” finding for the Lewisburg Historic District.

KYTC prepared a [Cultural Historic Survey Report \(October 2022\)](#) and a [Cultural Historic Survey Report Addendum \(May 2023\)](#) to evaluate historic resources in the Kentucky portions of the APE. A total of 214 historic-age resources within the Kentucky portions of the APE were identified: Ninety-seven (97) were previously documented, and 117 were newly recorded. Five previously NRHP-listed historic districts and two newly recommended historic districts were also identified.

Table 25 compares the Kentucky history/architecture resources addressed by the 2012 EA/FONSI and the 2022 evaluation. Of the 21 history/architecture resources identified in the 2012 EA/FONSI:

- Three resources (Kenney’s Crossing, the Kennedy-Rivard House, and the Fort Mitchell Heights Historic District) fall outside of the 2022 APE and were not assessed in the 2022 [Cultural Historic Survey Report](#).



- Two resources (residences at 504 and 516 West 12th Street) have been removed.
- Two resources (the Boehmer Decorating Center and a residence at 632 Western Avenue) are not eligible for the NRHP because they were not found to meet any of the eligibility criteria based on the 2022 evaluation.
- One resource (2 East Orchard Road) is not eligible for the NRHP due to alterations to the roof, cornice, windows, and doors that have occurred since the 2012 EA/FONSI and have caused the site to lose integrity of materials, design, and workmanship.
- One resource (a residence at 514 West 12th Street) is not individually eligible for the NRHP because it was not found to meet any of the eligibility criteria based on the 2022 evaluation. However, it was determined to be a contributing element to the Westside/Main Strasse Historic District.
- One resource (a residence at 505 St. Joseph Lane) is not individually eligible for the NRHP because its historic integrity has been somewhat diminished by vinyl replacement windows and the suspected replacement of an Art Deco front entrance canopy with a later gable roof porch. However, it was determined to be a contributing element to the proposed Elberta Apartments Historic District.
- The determinations of “no effect” were confirmed for five resources (the Old Fort Mitchell Historic District; residences at 521 Western Avenue, 829-831 Highway Avenue, and 1000 Emery Drive; and the Highland Cemetery).
- Five effect determinations were changed from “no effect” to “no adverse effect” (the C&O Railroad Bridge, the West Side/Main Strasse Historic District, the Bavarian Brewing Company/Kenton County Government Center, the Bavarian Brewery Bottling Works/Glier’s Goetta, and the residence at 45 Rivard Drive).
- The “adverse effect” determination for the Lewisburg Historic District was confirmed.

KYTC identified 12 additional resources that were either eligible for or listed on the NRHP, with four “no effect” determinations and eight “no adverse effect” determinations. The effects of Refined Alternative I (Concept I-W) on historic properties within the Kentucky portions of the APE are summarized in the following sections. Additional details about each property, including evaluations of NRHP eligibility and effects assessments, are provided in the [Cultural Historic Survey Report](#) and [Cultural Historic Survey Report Addendum](#). The locations of Kentucky historic properties identified during the 2022 evaluation are shown in Figure 8.

KYTC coordinated the 2022 [Cultural Historic Resources Survey Report](#) and the 2023 [Cultural Historic Resources Survey Report Addendum](#) with the Kentucky SHPO on November 7, 2022 and May 30, 2023, respectively. The Kentucky SHPO concurred with the eligibility determinations and finding of adverse effect on November 17, 2022 and June 7, 2023. FHWA notified ACHP of the determination of adverse effects to the Lewisburg Historic District on August 15, 2023. ACHP responded that its participation in the consultation to resolve adverse effects was not needed in a letter dated August 30, 2023. Copies of agency coordination for Kentucky cultural resources are included in Appendix B, Cultural Resources.



Table 25: Kentucky History/Architecture Summary

Site No. ¹	Site Name ¹ Address	Selected Alternative I (from 2012 EA/FONSI)		Refined Alternative I (Concept I-W)	
		NRHP Status	Effects	NRHP Status	Effects
KEC-50 ² (NRHP 90000481)	Kenney's Crossing 1001 Highway Avenue	Listed	No Effect	--	--
KECL-107 (KEC-107)	C&O Railroad Bridge Ohio River East of BSB	Eligible	No Effect	Eligible	No Adverse Effect
KECL-817/ KEC-817	Commercial (Boehmer Decorating Center) 533-535 Pike Street	Eligible	No Effect	Not Eligible	N/A
KE-09 (NRHP 83003650)	West Side/Main Strasse Historic District	Listed	No Effect	Listed	No Adverse Effect
KE-010 (NRHP 93001165)	Lewisburg Historic District	Listed	Adverse Effect	Listed	Adverse Effect
KECL-815 (NRHP 96000281)	Bavarian Brewing Company/ Kenton Co Government Center 1840 Simon Kenton Way (522 West 12 th Street)	Listed	No Effect	Listed	No Adverse Effect
KE-011 (NRHP 89001170)	Old Fort Mitchell Historic District	Listed	No Effect	Listed	No Effect
KECL-1018	Residence 521 Western Avenue	Eligible	No Effect	Eligible	No Effect
KEC-462	Bavarian Brewery Bottling Works/Glier's Goetta 533 Goetta Place	Eligible	No Effect	Eligible	No Adverse Effect
KE-4 ²	Kennedy-Rivard House 50 Rivard Drive	Eligible	No Effect	--	--
KECL-621/ KEC-621	Residence 504 West 12 th Street	Eligible	No Effect	Removed	N/A
KECL-626/ KEC-626	Residence 514 West 12 th Street	Eligible	No Effect	Not Individually Eligible ³	N/A
KECL-628/ KEC-628	Residence 516 West 12 th Street	Eligible	No Effect	Removed	N/A
KEC-460	Residence 829-831 Highway Avenue (881 Highway Avenue)	Eligible	No Effect	Eligible	No Effect
KECL-1046	Residence 632 Western Avenue	Eligible	No Effect	Not Eligible	N/A
KEFM-317	Residence 2 East Orchard Road	Eligible	No Effect	Not Eligible	N/A



Site No. ¹	Site Name ¹ Address	Selected Alternative I (from 2012 EA/FONSI)		Refined Alternative I (Concept I-W)	
		NRHP Status	Effects	NRHP Status	Effects
<i>Table 25 (cont.)</i>					
NRHP 89001169 ²	Fort Mitchell Heights Historic District	Listed	No Effect	--	--
KEFM-150 (NRHP 89001585)	Highland Cemetery (Historic District)	Listed	No Effect	Listed	No Effect
KEC-456	Residence 1000 Emery Drive	Eligible	No Effect	Eligible	No Effect
KEC-458	Residence 45 Rivard Drive	Eligible	No Effect	Eligible	No Adverse Effect
KEC-459	Residence 505 St. Joseph Lane (509 St. Joseph Lane)	Eligible	No Effect	Not Individually Eligible ³	N/A
KEC-1048	Futuro House 224 Wright Street	--	--	Eligible	No Effect
KEC-1064	Commercial Building 402 Bakewell Street	--	--	Eligible	No Effect
KEC-1038	Quality Inn/Radisson Hotel 626 West 5 th Street	--	--	Eligible	No Adverse Effect
KEC-820	Brent Spence Bridge	--	--	Eligible	No Adverse Effect
KEC-1068	Covington Levee	--	--	Eligible	No Adverse Effect
KECL-692	Residence 536 West 13 th Street	--	--	Eligible	No Adverse Effect
KEC-1011	Residence 534 West 13 th Street	--	--	Eligible	No Adverse Effect
KE-012	Beechwood Historic District	--	--	Listed	No Effect
KE-952	Sisters of Notre Dame Convent and Cemetery 1601 Dixie Highway	--	--	Eligible	No Effect
KE-07 KE-08	Elberta Apartments Historic District	--	--	Eligible	No Adverse Effect
KE-013	Hillsdale Subdivision Historic District	--	--	Eligible	No Adverse Effect
KEC-1075	Clay Wade Bailey Bridge	--	--	Eligible	No Adverse Effect

1. Site numbers and names reflect the most current information according to the 2022 [Cultural Historic Survey Report](#). If a different site number/name was reported in the 2012 EA/FONSI, that information is provided in parentheses.

2. Resource is located outside of the 2022 APE and was not assessed in the 2022 [Cultural Historic Survey Report](#).

3. Not individually eligible. Eligible only as a contributing element to a historic district.



No Effect Determinations

Refined Alternative I (Concept I-W) will not require permanent or temporary incorporation of land from within the NRHP boundary for nine properties in the Kentucky portions of the APE that are listed on or eligible for listing on the NRHP. Refined Alternative I (Concept I-W) may move I-71/I-75 closer to these historic properties; however, no effects are anticipated. Refined Alternative I (Concept I-W) will not indirectly alter or diminish any of the characteristics of these nine properties that qualify them for inclusion in the NRHP. Therefore, in accordance with 36 CFR part 800, Refined Alternative I (Concept I-W) will have no effect on the following historic properties in Kentucky:

- The Old Fort Mitchell Historic District;
- Residence at 521 Western Avenue;
- Residence at 829-831 Highway Avenue;
- Highland Cemetery;
- House at 1000 Emery Drive;
- Futuro House at 224 Wright Street;
- Commercial Building at 402 Bakewell Street;
- Beechwood Historic District; and
- Sisters of Notre Dame Convent and Cemetery at 1601 Dixie Highway.

No Adverse Effect Determinations

In accordance with 36 CFR part 800, Refined Alternative I (Concept I-W) will have no adverse effect on 13 properties in the Kentucky portions of the APE that are on or eligible for listing on the NRHP. The properties and the effects are summarized below:

- C&O Railroad Bridge over the Ohio River (East of the existing BSB): Refined Alternative I (Concept I-W) will not require permanent or temporary incorporation of land from within the property's NRHP boundary. The introduction of the new companion bridge into the viewshed will result in minor visual effects.
- West Side/Main Strasse Historic District: Refined Alternative I (Concept I-W) will not require permanent or temporary incorporation of land from within the property's NRHP boundary. The interstate may become slightly more visible from the western boundary of the historic district, resulting in a minor visual effect.
- Bavarian Brewing Company/Kenton County Government Center at 1840 Simon Kenton Way: Refined Alternative I (Concept I-W) will acquire new right-of-way from a parking lot outside of the NRHP



boundary. The reconstruction of the interstate and Simon Kenton Way will place these roadways closer to the property, resulting in a minor visual effect.

- Bavarian Brewery Bottling Works/Glier's Goetta at 533 Goetta Place: Refined Alternative I (Concept I-W) will not require permanent or temporary incorporation of land from within the property's NRHP boundary. The reconstruction of the interstate and Simon Kenton Way will place these roadways closer to the property, resulting in a minor visual effect.
- Residence at 45 Rivard Drive: Refined Alternative I (Concept I-W) will not require permanent or temporary incorporation of land from within the property's NRHP boundary. The widened interstate will be closer to the property, and a section of retaining wall is proposed nearby, resulting in minor visual effects.
- Quality Inn/Radisson Hotel at 626 West 5th Street: A portion of the existing parking lot is located within the existing right-of-way (outside of the NRHP boundary). The widened interstate will be closer to the property within the existing right-of-way, resulting in minor visual effects.
- Existing BSB: The double-decker bridge will be rehabilitated and reconfigured to reduce the number of lanes on each deck from four to three and provide inside and outside shoulders, but the historic integrity of the existing BSB will not be impacted by these activities. The introduction of the new companion bridge will result in minor visual effects to the viewshed from the existing BSB. The new companion bridge may also somewhat interfere with the appreciation of the western BSB trusses when looking northeast from the Kentucky shoreline. Yet, the eastern bridge trusses will retain their visibility when looking northwest from the Kentucky shoreline. The new companion bridge will not impact the historic integrity of the existing BSB to convey its significance in the areas of engineering and transportation.
- Covington Levee: Refined Alternative I (Concept I-W) will not require permanent or temporary incorporation of land from within the property's NRHP boundary. The construction of the new companion bridge over the levee will result in minor visual effects.
- Residence at 536 West 13th Street: Refined Alternative I (Concept I-W) will not require permanent or temporary incorporation of land from within the property's NRHP boundary. The widened interstate will be closer to the property, and a noise barrier and a retaining wall are proposed in its viewshed. The noise barrier and retaining wall will have aesthetic treatments and will provide visual screening of the interstate; therefore, only minor visual effects will occur. See Section 4.8.1 for additional details about noise barriers in Kentucky and Section 4.9 for additional details about aesthetics.
- Residence at 534 West 13th Street: Refined Alternative I (Concept I-W) will not require permanent or temporary incorporation of land from within the property's NRHP boundary. The widened interstate will be closer to the property, and a noise barrier and a retaining wall are proposed in its viewshed. The noise barrier and retaining wall will have aesthetic treatments and will provide visual screening of the



interstate; therefore, only minor visual effects will occur. See Section 4.8.1 for additional details about noise barriers in Kentucky and Section 4.9 for additional details about aesthetics.

- Clay Wade Bailey Bridge: Refined Alternative I (Concept I-W) will not directly impact the structure. The introduction of the new companion bridge into the viewshed will result in minor visual effects.
- Hillsdale Subdivision Historic District: The Hillsdale Subdivision Historic District is a proposed historic district that is recommended as eligible for listing on the NRHP under Criterion A as a good example of the development and growth of a Northern Kentucky subdivision from a settlement-era farmstead into a streetcar suburb continuing into an early speculative development and developing as a more traditional post-World War II suburb along Kennedy Road until, finally, its growth east toward developing Fort Wright caused its community center to be symbolically built on the last large Hillsdale parcel. Within the proposed district, one house at 45 Rivard Drive was determined to be individually eligible for the NRHP in 2011 under Criterion C for its Tudor Revival style architecture.

Refined Alternative I (Concept I-W) will acquire 0.06 acre of new strip right-of-way along the back property line of one contributing element within the Hillsdale Subdivision Historic District. This property is located at 51 Rivard Drive and is not individually eligible for the NRHP. The new right-of-way is required for the slope adjacent to the highway lanes, but the interstate will be about 100 feet away from the rear of the property at 51 Rivard Drive. None of the buildings in the Hillsdale Subdivision Historic District will be removed.

The interstate widening will place the highway lanes closer to the Hillsdale Subdivision Historic District. A noise barrier and a section of retaining wall are proposed outside of the NRHP boundary between the Hillsdale Subdivision Historic District and the interstate. The noise barrier and retaining wall will improve the viewshed due to the incorporation of aesthetic treatments on these features. See Section 4.8.1 for additional details about noise barriers in Kentucky and Section 4.9 for additional details about aesthetics.

- Elberta Apartments Historic District: The Elberta Apartments Historic District is a proposed historic district that is recommended as eligible for listing on the NRHP at the local level under Criterion A with a period of significance encompassing its period of development from the late 1940s through the 1970s and with its leasing office building as well as all of its 32 apartment buildings being contributing elements.

Refined Alternative I (Concept I-W) will acquire 0.39 acre of permanent easement from three contributing elements and 0.03 acre of new strip right-of-way from one contributing element in the Elberta Apartments Historic District. None of the apartment buildings in the district will be removed. Although the expanded highway right-of-way will be closer to the historic district, portions of the existing right-of-way are already close to the apartment buildings. The proposed permanent easement is required for a new drainage pipe, but neither the easement nor the pipe will result in permanent direct or indirect impacts to the historic integrity of the Elberta Apartments Historic District.



A proposed retaining wall will be located outside of the proposed NRHP boundary and will have minimal visibility from the Elberta Apartments Historic District. A noise barrier is proposed outside of the NRHP boundary in the vicinity of St. Joseph Lane and will improve the viewshed due to the incorporation of aesthetic treatments on the barrier. See Section 4.8.1 for additional details about noise barriers in Kentucky and Section 4.9 for additional details about aesthetics.

Adverse Effect Determination

The Lewisburg Historic District is located within the City of Covington and occupies approximately 700 acres in an area roughly bounded by I-71/I-75 to the east and southeast, a steep hill slope to the west and southwest, and the extension of West 8th Street to the north. The Lewisburg Historic District was listed in the NRHP under Criterion A in 1993 as an important example of suburban growth in Covington from 1840 to 1947. The district was also nominated under Criterion C for its inventory of typical working and middle class domestic architecture of the second half of the nineteenth century and early twentieth century, as well as for some notable examples of domestic, institutional, and commercial architecture. The Lewisburg Historic District is comprised of about 430 buildings situated in a mixed-use urban setting. Architectural styles and types represented most frequently include Italianate, Gothic Revival, Queen Anne, Greek Revival, Bungalow/Craftsman, Shotgun houses, Northern Kentucky Townhouses, and Colonial Revival. The district is characterized by narrow lot sizes and an urban appearance. Setback from the street is minimal in most instances.

Selected Alternative I (from the 2012 EA/FONSI) required 2.1 acres of permanent right-of-way, including the full acquisition of 21 and the partial acquisition of 7 contributing elements, from the Lewisburg Historic District. Impacts have been substantially reduced from the 2012 design. Refined Alternative I (Concept I-W) will acquire approximately 0.23 acre of permanent right-of-way and 0.06 acre of temporary easement from the Lewisburg Historic District, including the full acquisition of 2 and temporary acquisition from 3 contributing elements.

Three properties will be acquired and removed to obtain the right-of-way needed for the westward shift of Bullock Street and the construction of retaining walls in this area. These include contributing elements at 606 West 11th Street and 604 West 12th Street and a non-contributing element at 605 West 11th Street. Additionally, a vacant parcel within the NRHP boundary at 620 Lewis Street will be acquired for right-of-way. Temporary easement will be required from the eastern property boundaries of three contributing elements at 608 and 609 West 11th Street and 606 West 12th Street. Refined Alternative I (Concept I-W) will move the paved portion of the interstate and/or local roads closer to the Lewisburg Historic District. In general, the project will encroach on the eastern NRHP boundary of the district and require its narrowing around Bullock Street, 11th Street, and 12th Street.

Refined Alternative I (Concept I-W) will require approximately 0.48 acre of strip right-of-way from the rear of eight parcels that are partially located in the Lewisburg Historic District, but the existing NRHP boundary excludes these portions of the parcels. As a result, the new right-of-way acquisition and its associated



construction activities should not impact their historic integrity. A small amount of encroachment on the eastern NRHP boundary of the Lewisburg Historic District will occur adjacent to the NRHP-listed brick shotgun houses along Lewis Street, but the shotgun houses themselves will not be impacted. Although the construction limits extend across a corner of the NRHP boundary near Crescent Avenue at the northern end of the NRHP boundary, there are no buildings in this area, and the construction limit is indicated for equipment and construction staging rather than for new construction itself.

The Kentucky SHPO determined that Refined Alternative I (Concept I-W) will have an adverse effect on the Lewisburg Historic District in accordance with 36 CFR part 800. Measures to mitigate the adverse effect were established in an MOA between FHWA, KYTC, and the Kentucky SHPO, with concurrence from the City of Covington. This MOA was executed on June 27, 2012 and expired on June 27, 2022. Based on consultation with ACHP that occurred in 2023, mitigation measures for adverse effects that were previously coordinated in separate MOAs for each historic property were combined into one project-level Section 106 Programmatic Agreement (see Appendix B, Cultural Resources). The Section 106 Programmatic Agreement specifies the following mitigation measures for the Lewisburg Historic District, which are incorporated into the project's environmental commitments:

A. Recordation

1. In order to preserve a record of its history and appearance, the structures within the Lewisburg Historic District to be demolished as a part of this project will be recorded. Recordation will take place as soon as the properties have been acquired and well in advance of construction in this area; documentation of these structures, barring unforeseen circumstance, will take less than four months to complete. State Level I Documentation is specified and will include the following per the Kentucky SHPO's February 12, 2020 Memorandum – Update to State Level Documentation:
 - a. A Kentucky Historic Resource Individual Survey form (Kentucky Heritage Council (KHC) 2017-1 or current version of form), completed or updated as appropriate.
 - b. A historic context, a synthesis of both archival research and current information, presented both as part of the documentation package as well as included in the "Historical Information" section of the Kentucky SHPO survey form in order to facilitate the separate archiving of these documents. Archival research, thorough but less intensive than a stand-alone historic context, shall be conducted to gather specific historical information about the property and its context with sources cited. If historic archival images are located, a representative sample or link to that resource will be included.
 - c. Digital photographs showing all exterior elevations as well as close-ups of significant, character-defining features (i.e., brackets, hood moldings, decorative millwork, log notching/chinking, traditional timber frame joinery/truss systems, mantels, historic hardware/lighting, interior finishes, and/or stair details). Image resolution shall be no less than



6 megapixels (2000 x 3000-pixel image). Images should be in Tag Image File format (TIFF) or raw image format (RAW).

The electronic files of the digital images should be included on an archival DVD-R disk and a flash drive submitted with the documentation package. Electronic files shall be labeled with the name and address of the building (if applicable), the KHC survey number, view, and date of capture. In addition, all digital photographs will be included in the KHC survey form. A selection of images shall be printed on archival quality, acid-free paper (rather than as true photographic prints) at a minimum size of 5" x 7" (maximum size of 8" x 10"). These images shall be presented in the documentation package along with an index of photographs keyed to numbered photos. The photography index shall include the name and address of building (if applicable), view, and any explanatory notes necessary for review.

- d. Measured floor plans of each floor of the building will be prepared by a preservation professional. Existing professional scaled drawings/building plans will be utilized whenever possible and presented in a .pdf format along with a hard copy of the existing plans. If existing drawings/plans are not available, will not meet the format recommended below, or parties otherwise agree that drawings/plans need to be prepared, drawings shall be created at a scale of 1/4" per 1'-0" and shall be analytical in nature, labeling construction details, alterations, and additions. If applicable, drawings of building details (windows, moldings, mantels, etc.) shall be created at a scale of 1/2" per 1'-0". Hand drawings shall be in pencil on archival-quality, acid-free vellum; however, if other formats are used (i.e., 3-dimensional laser scanning/photogrammetry or Computer-Aided Design/CAD) the scale shall be comparable to that of the hand drawings. The latter native digital plans shall be presented in .pdf format along with a hard copy set of plans. Each drawing/image file shall be labeled as described in A.1.c above and shall be accompanied by a written description of the building(s) as well as an explanation of construction details.
 - e. One complete digital copy of the completed documentation will be submitted by KYTC to the Kentucky SHPO for review and acceptance. Upon notification of Kentucky SHPO acceptance, KYTC will provide one complete hard copy to the Kenton County Public Library. One complete digital copy will also be provided to the Kentucky Department for Libraries and Archives by KYTC.
2. Upon completion of the project, KYTC shall prepare and provide to Kentucky SHPO documentation of appropriate boundaries for the Lewisburg Historic District. Once agreement is reached on appropriate boundaries, KYTC shall prepare a revised nomination form reflecting the newly established boundaries and submit it to Kentucky SHPO for coordination with the Keeper of the NRHP.
 3. Upon completion of construction of the project, KYTC shall prepare a Kentucky Historic Resource Individual Survey form (KHC 2017-1 or current version of form) for each of the properties located



within the Lewisburg Historic District. A new survey form is required if more than 5 years have lapsed since the survey form was updated. These survey forms will be submitted to the Kentucky SHPO in .pdf format.

B. Façade Grant Program

1. A Façade Grant Program administered by the City of Covington will be developed and implemented to improve and rehabilitate the façades of residential and commercial properties within the Lewisburg Historic District. Specific details of the program, including additional funding sources, review authority, owner matching funds, program marketing, and timeframes for approval and completion of projects will be determined through consultation between KYTC, the City of Covington, the Kentucky SHPO, and FHWA. Consultation between these listed parties will take place after the Section 106 Programmatic Agreement has been signed and after project funds have been released by FHWA. Details for administering the program, including oversight, selection criteria, monitoring, and tracking and reporting of completions and expenditures will be delineated in a separate MOA developed for this purpose and agreed upon between the parties listed above.
2. The Façade Grant Program will be provided with project funding in an amount not to exceed \$1,200,000.00 for property improvements. FHWA participation will terminate ten years from the date of program implementation.

C. Vibration Testing

1. To avoid damage to historic properties, KYTC shall ensure that construction blasting/vibration plans and bridge pier construction plans shall be developed by their contractor(s) prior to beginning any construction activities that would require blasting or result in vibration. These construction blasting/vibration plans shall be implemented during appropriate construction activities. Maximum threshold values for historic properties that the plan must meet are shown the table below. The values are presented in terms of peak particle velocity (PPV), the accepted method of evaluating the potential for damage. The vibration criteria shall apply for pile driving, vibratory compaction, and blasting activities.

PPV Thresholds	
Type of Structure	Ground-borne Vibration Impact Level (PPV)
Fragile	0.20 inch/second
Extremely Fragile Historic	0.12 inch/second

2. KYTC shall discuss with the Kentucky SHPO the protective measures to be used by the contractor to protect historic resources from vibration damage. KYTC shall seek the recommendations of the Kentucky SHPO regarding any additional properties not identified by the contractor that should be considered extremely fragile.



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- a. These plans shall be developed, as directed by the contract documents, for all areas within 100 feet of the potential disturb limits that contain historic structures.
 - b. Existing conditions of historic structures and current levels of vibration within the selected areas will be obtained first as a baseline for later comparison. Structural engineers will focus on identifying fragile and extremely fragile historic structures. In areas where historic structures are identified but they are not considered either fragile or extremely fragile, vibration levels will be limited to 0.20 inch/second. An initial report of baseline conditions, including structures selected for monitoring and existing vibration levels, will be compiled and coordinated with Kentucky SHPO for review.
 - c. Construction methods adjacent to selected areas will be assessed to determine the potential to create vibration levels that may exceed the threshold limits. In areas where construction methods may exceed vibration threshold limits, alternate methods will be required.
 - d. A third-party contractor will be retained to monitor vibrations and report results on site to the contractor and the KYTC resident engineer. If continuous vibration levels exceed the 0.20 inch/second threshold, the vibration equipment monitor shall notify the resident engineer and the construction contractor so that methods can be adjusted to reduce the vibration. If continuous vibration levels exceed 0.20 inch/second after adjustments have been made, work will need to cease in the area until different methods can be put in place to lessen vibration impacts.
 - e. As construction activities will be continuously monitored to ensure that vibration limits remain below the threshold noted above, the need for daily inspection of adjacent buildings is not anticipated. However, if any transient event occurs that is in excess of 0.50 inch/second, a cursory examination of buildings in the area will be made to check for potential damages.
 - f. Monitoring will occur when active construction activities are adjacent to selected areas. As construction activities are expected to move from location to location or may occur adjacent to multiple areas at once, all selected areas will not be continuously monitored, especially if no construction activities are occurring adjacent.
 - g. At least one examination of structures in each area selected for vibration monitoring will be made during construction, and a post-construction final inspection will be made of each area to determine if there have been any changes to the condition of the buildings. A comparison of pre-, mid-, and post-construction building condition assessments will be compiled in a report and submitted to the Kentucky SHPO for review.
 - h. KYTC, in consultation with Kentucky SHPO, will make the determination whether damage has occurred to historic properties identified in the Section 106 process as a result of project activities.



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- i. KYTC shall be responsible for repair of any blast and vibration damage to historic properties. Any repairs shall be coordinated in advance with the Kentucky SHPO to ensure they are carried out in accordance with the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (Secretary's Standards).
 - j. Where access to privately owned property is necessary for monitoring or damage repair, consent shall be obtained prior to entry.

In addition to the mitigation measures incorporated into the Section 106 Programmatic Agreement, KYTC is proposing noise barriers to reduce noise levels and improve the viewshed in the Lewisburg Historic District. During detailed design, KYTC has committed to coordinating the composition of the barriers with the City of Covington to determine where transparent noise barriers would be beneficial to preserve views of the skyline and across I-71/I-75 from Lewisburg. See Section 4.8.1 for details related to proposed noise barriers in Kentucky.

Lewis and Clark National Historic Trail

The presence of the Lewis and Clark National Historic Trail in the project's APE was identified subsequent to the 2022 [Cultural Historic Resources Survey Report](#) and the 2023 [Cultural Historic Resources Survey Report Addendum](#). The trail, which is administered by the National Park Service (NPS), follows the historic outbound and inbound routes of the Lewis and Clark Expedition of 1803-1806 from Pittsburgh, Pennsylvania to the Pacific Ocean and includes the portion of the Ohio River in the project area. The entire length of the Lewis and Clark National Historic Trail, from the Ohio River in Pittsburgh, Pennsylvania to the mouth of the Columbia River in Oregon, is included in the National Trails System Act, as amended in 2019. While there are elements along the trail that are listed on or have been determined eligible for listing on the NRHP, the trail itself has not been. There are no elements associated with the trail that are listed on or eligible for listing on the NRHP in the project's APE. Furthermore, there are no points of interest related to the trail in or near the project area according to the NPS website for the trail.¹ High potential historic sites associated with the 2019 trail extension have not yet been published; however, based on coordination with NPS, there are no high potential historic sites in the project's APE.

Ohio

The 2012 EA/FONSI documented 16 resources eligible for or listed on the NRHP in the Ohio portions of the APE. ODOT prepared a [Phase I History/Architecture Reevaluation Survey](#) in July 2022, which confirmed 15 of these resources and determined that one has been removed since 2012. The survey did not identify any additional historic properties in the Ohio portions of the APE that were not recorded in 2012. The survey documented 23 history/architecture resources that have become 50 years of age or older since 2012; however, none of these resources was found to be eligible for listing in the NRHP. No additional potential historic districts were identified within or adjacent to the APE.

¹ [Ohio – Lewis & Clark National Historic Trail](#). National Park Service. Accessed September 21, 2023.



Selected Alternative I (from the 2012 EA/FONSI) resulted in no effect on 14 historic properties, no adverse effect on the Western Hills Viaduct, and an adverse effect on Longworth Hall. The John Mueller House at 724 Mehring Way has been removed since 2012. The Western Hills Viaduct is not impacted by Refined Alternative I (Concept I-W) because the City of Cincinnati has developed a separate project to replace the viaduct. The design of Refined Alternative I (Concept I-W) in the vicinity of the remaining historic properties has not changed since 2012; therefore, Refined Alternative I (Concept I-W) results in no effect on 13 historic properties and an adverse effect on Longworth Hall. Table 26 compares the Ohio history/architecture resources addressed in the 2012 EA/FONSI and the 2022 evaluation. The effects of Refined Alternative I (Concept I-W) on historic properties within the Ohio portions of the APE are summarized in the following sections. Additional details are provided in the [Phase I History/ Architecture Reevaluation Survey](#). The locations of historic properties in Ohio are shown in Figure 8.

Table 26: Ohio History/Architecture Summary

Site No. ¹	Site Name ¹ Address	Selected Alternative I (from 2012 EA/FONSI)		Refined Alternative I (Concept I-W)	
		NRHP Status	Effects	NRHP Status	Effects
HAM-1295-43 (NHRP 72001018)	Cincinnati Union Terminal 1301 Western Avenue	Listed; Nat'l Historic Landmark	No Effect	Listed; Nat'l Historic Landmark	No Effect
HAM-1342-43	Harriet Beecher Stowe Elementary School (Fox 19 TV Station) 635 West 7 th Street	Eligible	No Effect	Eligible	No Effect
HAM-1656-43 (NRHP 86003521)	Longworth Hall (B&O Freight Terminal) 700 Pete Rose Way	Listed	Adverse Effect	Listed	Adverse Effect
HAM-1709-40	Chem-Pack Inc. 2261 Spring Grove Avenue	Eligible	No Effect	Eligible	No Effect ²
HAM-1804-43 (NRHP 80003070)	Cincinnati Job Corps Center/Our Lady of Mercy High School 1409 Western Avenue	Listed	No Effect	Listed	No Effect
--	John Mueller House (724 Mehring Way)	Eligible	No Effect	Removed	N/A
NRHP 73001457	Dayton Street Historic District	Listed	No Effect	Listed	No Effect
NRHP 76001443 & 79001861	West Fourth Street Historic District and Boundary Increase (Amendment)	Listed	No Effect	Listed	No Effect
SFN 3101533	Brighton Bridge (Colerain Viaduct)	Eligible	No Effect	Eligible	No Effect ²



Site No. ¹	Site Name ¹ Address	Selected Alternative I (from 2012 EA/FONSI)		Refined Alternative I (Concept I-W)	
		NRHP Status	Effects	NRHP Status	Effects
<i>Table 26 (cont.)</i>					
HAM-6332-40 (HAM-7366-28)	Central Trust-Brighton Office 1100 Harrison Avenue	Eligible	No Effect	Eligible	No Effect
SFN 3105458	Western Hills Viaduct	Eligible	No Adverse Effect	Eligible	N/A ²
Cincinnati Historic Inventory District Form	West McMicken Avenue Historic District	Eligible	No Effect	Eligible	No Effect
HAM-7366-40 (HAM-7366-28)	High-Craft Printing 1120 Harrison Avenue	Eligible	No Effect	Eligible	No Effect
HAM-1462-06	Rummane Building 658 West McMicken Avenue/ 635 Kress Alley	Eligible	No Effect	Eligible	No Effect
HAM-484-6 (HAM-0484-06)	-- 650 West McMicken Avenue	Eligible	No Effect	Eligible	No Effect
--	Western Hills Viaduct Subway Tunnel Portals ³	Eligible	No Effect	Eligible	No Effect

1. Site numbers and names reflect the most current information according to the 2022 [Phase I History/Architecture Reevaluation Survey](#). If a different site number/name was reported in the 2012 EA/FONSI, that information is provided in parentheses.
2. Resource scheduled to be removed in conjunction with separate City of Cincinnati project with independent utility and completed NEPA review.
3. The Western Hills Viaduct Subway Tunnel Portals are an above-ground resource that is distinct from the below-ground 1920 Cincinnati subway tunnel (see Section 4.5.3).

ODOT coordinated the [Phase I History/Architecture Reevaluation Survey](#) with the Ohio SHPO on August 30, 2022. The Ohio SHPO provided email comments on November 8, 2022 requesting additional NRHP eligibility evaluation for six resources, as well as the existing BSB. ODOT determined that additional investigation of the NRHP eligibility of the six resources identified by the Ohio SHPO is not warranted because none of the structures or their associated design features will be impacted by the project. Further ODOT investigation of the existing BSB is also not warranted because the structure is owned by the Commonwealth of Kentucky, and the effect determination for that structure was coordinated with the Kentucky SHPO (see Table 25). In accordance with 36 CFR part 800, ODOT determined no further cultural resource investigations are warranted, and the agency official has made a “reasonable and good faith effort to carry out appropriate identification efforts.” ODOT documented these conclusions in a letter to the Ohio SHPO on January 6, 2023. The Ohio SHPO concurred that a finding of “adverse effect” remains applicable to the BSB Corridor Project on January 25, 2023.



FHWA notified ACHP of the determination of adverse effects to Longworth Hall on August 15, 2023. ACHP responded in a letter dated August 30, 2023 that its participation in the consultation to resolve adverse effects was not needed. Copies of agency coordination for Ohio cultural resources are included in Appendix B, Cultural Resources.

No Effect Determinations

Refined Alternative I (Concept I-W) will not require any permanent or temporary incorporation of land from 13 properties in the Ohio portion of the APE that are listed on or eligible for listing on the NRHP, nor will it indirectly alter or diminish any of the characteristics of these 13 properties that qualify them for inclusion on the NRHP. Therefore, in accordance with 36 CFR part 800, Refined Alternative I (Concept I-W) will have no effect on the following properties:

- Cincinnati Union Terminal at 1301 Western Avenue
- Harriet Beecher Stowe Elementary School (Fox 19 TV Station) at 635 West 7th Street
- Chem-Pack Inc. at 2261 Spring Grove Avenue¹
- Cincinnati Job Corps Center/Our Lady of Mercy High School at 1409 Western Avenue
- Dayton Street Historic District
- West Fourth Street Historic District and Boundary Increase (Amendment)
- Brighton Bridge (Colerain Viaduct)¹
- Central Trust-Brighton Office at 1100 Harrison Avenue
- West McMicken Avenue Historic District
- High-Craft Printing at 1120 Harrison Avenue
- Rummane Building at 658 West McMicken Avenue/635 Kress Alley
- 650 West McMicken Avenue
- Western Hills Viaduct Subway Tunnel Portals²

Adverse Effect Determination

The Baltimore & Ohio (B&O) Railroad Freight Station and Storage Warehouse, also known as Longworth Hall, is listed on the NRHP and is located immediately west of I-75 at 700 Pete Rose Way. The warehouse was

¹ Resource scheduled to be removed in conjunction with separate City of Cincinnati project with independent utility and completed NEPA review.

² The Western Hills Viaduct Subway Tunnel Portals are an above-ground resource that is distinct from the below-ground 1920 Cincinnati subway tunnel (see Section 4.5.3)



designed by M.A. Long and constructed in 1904 to serve as the western terminus to the B&O Railroad. It was reported to be the largest structure of its type in the world at five stories high and 1,277 feet long. Camden Yards in Baltimore, Maryland is a similar structure at the eastern terminus of the railroad. The building originally measured 1,277 feet in length, but in 1961 construction of I-71/75 resulted in the removal of the easternmost 150 feet of the building. Later, a five-story, 30,000 square foot brick addition was built at the east end of the north façade of the original building. Part of the fifth floor was later destroyed by fire.

Longworth Hall was listed on the NRHP in 1986 and is significant under Criterion A because it contributes to the understanding of freight movement by railroad during a period when this was an important mode of transportation. The resource is also significant under Criterion C as a unique example of functional railroad architecture embellished with Romanesque Revival details. It exhibits distinctive characteristics of the style and is further enhanced because of its exceptional length.

Refined Alternative I (Concept I-W) will pass through 204 feet of the eastern end of the building, requiring that three 15-foot, two 13-foot, and six 12-foot bays of the building be removed. This affected section of the building is the portion which was previously altered by reducing its length by 150 feet in 1961 to allow for the construction of I-71/I-75. Given the character of the building and its setting, noise and visual impacts are not expected to alter the historic integrity of the structure.

The Ohio SHPO determined that Refined Alternative I (Concept I-W) will have an adverse effect on Longworth Hall in accordance with 36 CFR § 800.5(a). Mitigation measures for the adverse effect to Longworth Hall were documented in an [MOA between FHWA, ODOT, and the Ohio SHPO](#) executed on June 28, 2012. A First Amendment to the MOA was executed on June 22, 2017 and filed with ACHP on June 28, 2017. A Second Amendment was executed on May 24, 2022 and filed with ACHP on June 3, 2022 (see Appendix B, Cultural Resources). Both amendments extended the period of the MOA.

Based on consultation with ACHP that occurred in 2023, mitigation measures for adverse effects that were previously coordinated in separate MOAs for each historic property were combined into one project-level Section 106 Programmatic Agreement. The Section 106 Programmatic Agreement specifies the following mitigation measures for Longworth Hall, which are incorporated into the project's environmental commitments:

1. Treatment Plans. The treatment plans shall be developed in accordance with 36 CFR part 68, *The Secretary of the Interior's Standards for the Treatment of Historic Properties*. The plans will be developed during Phase 1: Preconstruction Phase of the Progressive Design Build Contract currently estimated for completion by April 2025. The Ohio SHPO, the building owner, and the Cincinnati Preservation Association shall be provided the treatment plans for a 30-day review and comment period.
 - a. Exterior Storm Windows. Storm windows will be installed on the exterior of the building. The storm windows will be installed on the entire exterior of the building, including areas not impacted by construction of the project.



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- b. Restoration of the East Wall. Restoration of the east wall will be to an approximation of its original appearance and will include materials salvaged during demolition.
 - c. Windows Removed to Accommodate the New Roadway Construction. Windows removed to accommodate the new roadway construction will be restored and used in the east wall reconstruction. Windows removed and not used in the east wall reconstruction will be restored and returned to the owner.
 - d. Commemorative Cornerstone. A cornerstone commemorating the date of construction (1904) on one side and the date of the renovation on the other side will be included in the east wall reconstruction design.
 - e. Masonry Repairs. Masonry repairs will include repair or replacement of bricks as warranted; tuck-pointing; and brick cleaning of the west, north and south walls. The listed masonry repairs will be completed on the entire building, including portions not impacted by construction of the project.
 - f. Original Lettering. The original lettering across the top of the building will be refurbished.
 - g. All Materials Removed. All materials removed that retain historic integrity and nature will be returned to the building owner to be used in future repairs or expansion.
2. Interpretive Plaque or Signage. An interpretive plaque or signage will be constructed.
 - a. The original location of the east wall prior to the rehabilitation/construction of the BSB will be outlined by bricks and stonework.
 - b. An interpretive plaque describing changes to the property that have occurred over time will be placed near the original location of the east end wall. ODOT will work with the Ohio SHPO and the Ohio consulting parties on the plaque design and text. The Ohio SHPO and the Ohio consulting parties will have an opportunity to review the final version prior to production.
 3. Contracting Methods. ODOT will hold and manage the contract(s) for all work conducted in items 1 and 2 above. The demolition and reconstruction of Longworth Hall will be performed in accordance with Section 13.3 of Exhibit E: Technical Requirements of the Progressive Design-Build Contract, as described in Appendix C of the Section 106 Programmatic Agreement. The interpretive plaque or signage will be constructed in accordance with Section 7.1 of Exhibit E: Technical Requirements of the Progressive Design-Build Contract, as described in Appendix C of the Section 106 Programmatic Agreement.
 4. Acquisition. ODOT is in the process of acquiring the full property at a mutually agreed upon price and from a willing seller. Because the full property is to be acquired by ODOT, the following additional stipulations apply.
 - a. The building will remain occupied. ODOT may use interior space or the exterior grounds surrounding the building during project construction. No additional adverse effects are anticipated



as a result of ODOT's use of the building and exterior grounds; however, if any activities on the property are anticipated to have potential adverse effects, they shall be permitted only after consultation between ODOT, the Cincinnati Preservation Association, and the Ohio SHPO pursuant to Stipulation V of the Section 106 Programmatic Agreement;

- b. The existing Deed of Gift and Agreement for the Architectural Façade and Preservation Easement, dated December 30, 1986, granting Miami Purchase Association for Historic Preservation (now known as Cincinnati Preservation Association) an architectural façade and preservation easement of the B&O Freight and Storage Building/Longworth Hall, 700 Pete Rose Way (Second Street) (NRHP 86003521), will remain with the deed as part of the purchase by ODOT and for any future sale of the property by ODOT and thus transferred to future potential owners in perpetuity.

Unidentified Historic Properties or Unanticipated Effects

If previously unidentified historic properties, or unanticipated effects on known historic properties, are discovered after completion of the Section 106 process, ODOT and KYTC have committed to following the unanticipated discovery plans for their respective states, as described in Appendix A of the Section 106 Programmatic Agreement.

The 2022 [Cultural Historic Resources Survey Report](#) concluded that the Goebel Park Complex is not eligible for the NRHP. The resources located in the park, including German Storybook style elements built circa 1979, are not yet of sufficient age to be considered eligible for the NRHP. If project-related construction adjoining the Goebel Park Complex, including the transfer of replacement land, has not yet been completed by 2029, the Goebel Park Complex and associated elements (including the Carroll Chimes Clock Tower) will be reevaluated for NRHP eligibility. See Sections 4.13.3 and 4.14.6 for additional details about the Goebel Park Complex and proposed replacement land that is incorporated into the measures to minimize and mitigate harm to this property.

4.5.3 Archaeological Resources

KYTC and ODOT updated evaluations of archaeological resources, and Kentucky completed additional work to satisfy commitments from the 2012 EA/FONSI. The following sections summarize those efforts.

Kentucky

The 2012 EA/FONSI and the 2012 MOA for the Lewisburg Historic District documented commitments for archaeological resources in Kentucky, which are briefly summarized below:

- Phase I archaeological survey will be completed on 26 individual parcels that could not be previously accessed, due to lack of landowner permission.



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- Archaeological monitoring will be conducted during construction on 19 parcels that were inaccessible because of the presence of parking lots, sidewalks, or other impediments.
 - Geo-archaeological deep testing at Site 15KE160 will be conducted to assess the potential for deeply buried cultural deposits at the site.
 - If Phase I survey of previously unsurveyed parcels, monitoring, or deep testing identifies archaeological sites that may be potentially eligible for listing in the NRHP, they will be further tested for eligibility.
 - A research design and recovery plan will be developed if any sites are determined to be eligible for the NRHP through Phase II testing and will be impacted by the undertaking.

The refinements incorporated into Refined Alternative I (Concept I-W) reduced the number of sites requiring Phase I survey from 26 to 4 due to reductions in the project's footprint. KYTC prepared a *Phase I Cultural Resources Investigation* for the 4 sites in September 2022. In addition, deep testing was performed for Site 15KE160. No new archaeological sites were identified. Therefore, the Kentucky SHPO concurred with a finding of "No Historic Properties Affected" on October 12, 2022.

Similarly, the number of parcels requiring archaeological monitoring during construction was reduced from 19 to 1 parcel due to footprint reductions incorporated into Refined Alternative I (Concept I-W). The remaining parcel is occupied by parking lots for the adjacent Kenton County Administration Building, and a phased archaeological survey will be conducted on this parcel in lieu of monitoring during construction. Once this parcel is acquired, KYTC has committed to conducting a Phase I archaeological survey prior to the initiation of any ground disturbing activities, such as utility relocation or construction, to determine if the parcel contains archaeological sites that are eligible for listing on the NRHP. All work must comply with the most recent version of the Kentucky SHPO *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports* (Kentucky SHPO Specifications). Upon completion of the survey, a report will be prepared in accordance with the Kentucky SHPO Specifications and will be submitted by FHWA, with KYTC as its agent, to the Kentucky SHPO and interested Federally Recognized Tribes for review and comment.

If any sites are determined to be eligible for the NRHP through Phase II testing, and these sites cannot be avoided or will be impacted by the project, then FHWA has committed to consulting with the Kentucky SHPO and other parties whom the FHWA deems appropriate and develop a research design and recovery plan in conformance with the Kentucky SHPO Specifications. The design and recovery plan will be submitted to the Kentucky SHPO for review and comment. Unless the Kentucky SHPO comments or objects within 30 days of receiving the plan, FHWA shall ensure that the plan is implemented.

The Kentucky SHPO concurred with recommendation to conduct a phased archaeological survey on the parking lots adjacent to the Kenton County Administration Building in lieu of monitoring during construction on April 24, 2023 (see Appendix B, Cultural Resources). The above commitments for archaeological work were documented in the Section 106 Programmatic Agreement and are incorporated into the project's environmental commitments.



Ohio

The 2012 EA/FONSI concluded that the Ohio portion of the project contained no potential for intact archaeological resources due to extensive highway construction and/or sequential urban development and redevelopment, with the following exceptions:

- Residential lots associated with the West McMicken Avenue Historic District would merit archaeological testing for stratified late 19th century deposits if the Single Point Urban Interchange at the Western Hills Viaduct was chosen.
- The 1920s Cincinnati subway tunnels¹ would require evaluation for listing on the NRHP if impacted by construction.
- Soil and geotechnical borings conducted during the design phase in the Ohio portion of the Ohio River bottom area would be monitored and/or reviewed by an archaeologist or geoarchaeologist for evidence of buried archaeological deposits and/or undisturbed original landforms. If either are determined to be present, an archaeological testing strategy would be designed and implemented for the horizontal and vertical footprint of the bridge supports and construction work limits.

The July 2022 [Phase I History/Architecture Reevaluation Survey](#) did not identify any archaeological resources that have been recorded in the APE beyond those in the 2012 EA/FONSI. The Single Point Urban Interchange design at the Western Hills Viaduct was not selected, and the West McMicken Avenue Historic District will not be affected by Refined Alternative I (Concept I-W). ODOT has committed to including a plan note to avoid the Cincinnati subway tunnels (below ground) and Western Hills Viaduct subway tunnel portals (above-ground) in the construction plans.¹ Furthermore, ODOT has committed to monitoring and/or reviewing soil and geotechnical borings in the Ohio portion of the Ohio River bottom area for evidence of buried archaeological deposits and/or undisturbed original landforms, as described above. These commitments are documented in a letter sent by ODOT to the Ohio SHPO on August 30, 2022 and the Section 106 Programmatic Agreement (see Appendix B, Cultural Resources) and are incorporated into the project's environmental commitments.

4.5.4 Consulting Party Coordination

The 2012 EA/FONSI documented consulting party coordination that occurred between 2006 and 2011. KYTC and ODOT conducted additional consulting party coordination during the development of this supplemental EA. The following sections summarize those efforts.

¹ The partially completed 1920s Cincinnati subway tunnel, a below-ground resource, is located outside of the APE. Therefore, the Cincinnati subway tunnel was not evaluated for inclusion in the NRHP. The 1920s Cincinnati subway tunnel is distinct from the above-ground Western Hills Viaduct subway tunnel portals. The Western Hills Viaduct subway tunnel portals, previously determined to be eligible for inclusion on the NRHP, are adjacent to Central Parkway outside of the APE (see Table 26). Refined Alternative I (Concept I-W) will not remove or alter below-ground or above-ground features of the Cincinnati subway tunnel or of the Western Hills Viaduct subway tunnel portals. Since both the tunnel and the portals are outside of the APE, no further investigations were conducted.



Kentucky

KYTC posted an invitation to become a consulting party for the BSB Corridor Project via a page dedicated to consulting parties on its website on December 5, 2022. The consulting party website is KYTC’s standard method of collecting potential consulting party information. In addition, KYTC conducted an exhaustive search for current contact information for the local neighborhood associations and groups included in the consulting parties for the 2012 EA/FONSI; however, these groups no longer exist, and new contact data was not available. KYTC also contacted the Kentucky SHPO to obtain recommendations for potential consulting parties. Table 27 presents a list of the Kentucky consulting parties for the 2012 EA/FONSI and the updated consulting parties for the supplemental EA.

Table 27: Kentucky Section 106 Consulting Parties

Type	2012 EA/FONSI Consulting Parties	Supplemental EA Consulting Parties
Local Agencies	City of Covington – Assistant Engineer City of Covington – Historic Preservation City of Covington – Mayor City of Covington – Neighborhood Services	City of Covington – Mayor ¹ City of Covington – Historic Preservation City of Covington – Neighborhood Services
Local Community Groups	Lewisburg Neighborhood Association Kenton Hills Botany Hills Home Owners Association Botany Hills Neighborhood (West Covington)	Kenton County Historical Society
State Agencies ²	Kentucky Heritage Council Kentucky Transportation Cabinet	Kentucky Heritage Council Ohio Historic Preservation Office
Federal Agencies ²	Federal Highway Administration	--
Community Members	--	Rebecca Weber (Realtor)

1. *The City of Covington is an invited signatory to the Section 106 Programmatic Agreement.*

2. *ODOT, KYTC, and FHWA are not listed as Kentucky consulting parties in the Section 106 Programmatic Agreement. However, all three agencies are signatories to the Section 106 Programmatic Agreement.*

KYTC forwarded a copy of the [Cultural Historic Survey Report](#) to Kentucky Section 106 consulting parties on January 18, 2023. A virtual Kentucky consulting party meeting was held on March 9, 2023. During that meeting the [Cultural Historic Survey Report](#), impacts to the Lewisburg Historic District, and proposed mitigation were discussed. The consulting parties offered positive feedback regarding the reduced impacts in the Lewisburg Historic District and the proposed mitigation measures. Following the meeting, the Kentucky consulting parties were allotted two weeks to submit further comments.

During the comment period, comments were received from two Section 106 consulting parties. The Kenton County Historical Society inquired whether there will be sufficient space for future noise barriers once the project is constructed. Refined Alternative I (Concept I-W) has been fully evaluated for noise impacts and



abatement in accordance with KYTC's *Noise Analysis and Abatement Policy*. Noise barriers and noise/visual screening barriers are proposed in several locations in Kentucky, including in areas adjacent to the Lewisburg Historic District. Specific design details for noise barriers and noise/visual screening barriers (such as location and aesthetics) will occur during the project's detailed design phase and in coordination with local officials. Depending on the location, sufficient area may be available within the right-of-way for potential future noise barriers. Any future noise barriers not included in the BSB Corridor Project would need to be evaluated as part of a separate process in accordance with KYTC's noise policy. For additional information about noise barriers and noise/visual screening barriers in Kentucky, see Section 4.8.1.

The Kenton County Historical Society also requested to contact the demolition contractor, when chosen, regarding the salvage of dimensional lumber. In addition, the City of Covington Historic Preservation Office inquired about material salvage and the reuse of historic materials from buildings to be demolished as a result of the project and suggested that those materials could be utilized for training activities by the Covington Academy of Heritage Trades. KYTC met with representatives from the Kenton County Historical Society and the City of Covington Historic Preservation Office on May 5, 2023. During that meeting, it was agreed that, once the structures to be demolished in the Lewisburg Historic District are acquired and a demolition contractor has been selected, KYTC will notify both interested consulting parties of the name and contact information of the contractor. The interested parties could then discuss the possibility of material recovery and salvage directly with the demolition contractor.

KYTC forwarded a copy of the [Cultural Historic Survey Report Addendum](#), the draft Section 106 Programmatic Agreement, and coordination with the Kentucky SHPO to Kentucky Section 106 consulting parties on August 4, 2023. A virtual Kentucky consulting party meeting was held on August 17, 2023. During that meeting the [Cultural Historic Survey Report Addendum](#), an additional contributing resource in the Lewisburg Historic District, and the draft Section 106 Programmatic Agreement were discussed. No substantive feedback was received during the meeting. No comments were received from the Kentucky consulting parties during the two-week comment period following the meeting.

Copies of consulting party coordination materials for Kentucky are included in Appendix B, Cultural Resources.

Ohio

In 2022, ODOT updated the contact information for the Section 106 consulting parties and initiated additional coordination during the preparation of this supplemental EA. The Ohio Archaeological Council, a community group of professional archaeologists, avocational archaeologists, and interested students of Ohio archaeology, was also added as a consulting party. Table 28 presents a list of the consulting parties for the 2012 EA/FONSI and the supplemental EA. ODOT forwarded copies of the Section 106 consultation letter (which summarized the findings of the [Phase I History/Architecture Reevaluation Survey](#)) and the second amendment to the MOA for Longworth Hall to Ohio Section 106 consulting parties on September 9, 2022. No responses were received during the 30-day comment period. As project development moves forward, ODOT committed to providing the



Ohio SHPO and the Section 106 consulting parties an opportunity to review and comment on final design plans in Ohio.

Table 28: Ohio Section 106 Consulting Parties

Type	2012 EA/FONSI Consulting Parties ¹	Supplemental EA Consulting Parties
Local Agencies	Cincinnati Metropolitan Housing Authority Cincinnati Park Board Cincinnati Preservation Association Dayton Street Historic District West End Community Council	Cincinnati Metropolitan Housing Authority Cincinnati Park Board Cincinnati Preservation Association West End Community Council ²
Local Community Groups	--	Ohio Archaeological Council
State Agencies ³	Kentucky Heritage Council Kentucky Transportation Cabinet Ohio Department of Transportation Ohio State Historic Preservation Officer	Kentucky Heritage Council Kentucky Transportation Cabinet
Federal Agencies ³	Federal Highway Administration	--
Community Members	Michael Schweitzer (Longworth Hall)	Michael Schweitzer (Longworth Hall)

1. The 2012 EA also listed the following agencies, groups, and community members as Ohio Section 106 consulting parties: Cincinnati Historic Conservation Office, Cincinnati Metropolitan Housing Authority, Community Revitalization Agency, Historic Southwest Ohio Inc. – Hauck House, Lower Price Hill Community Council, Price Hill Civic Club, Cincinnati Museum Center, and Jenny Edwards. This was an exhaustive list of potential consulting parties. The final Section 106 consulting parties, which are listed in Table 28, were determined after the publication of the 2012 EA and during the development of the 2012 [Longworth Hall MOA](#). These consulting parties were retained in the 2023 Section 106 Programmatic Agreement.
2. The Dayton Street Historic District is located within the West End neighborhood, and the West End Community Council is the single point of contact for the West End neighborhood and the Dayton Street Historic District.
3. ODOT, the Ohio SHPO, and FHWA were not listed as Ohio consulting parties in the Section 106 Programmatic Agreement. However, all three agencies are signatories to the Section 106 Programmatic Agreement.

ODOT provided a project update, a copy of the draft Section 106 Programmatic Agreement, and coordination with the Ohio SHPO to Ohio Section 106 consulting parties on August 1, 2023. A hybrid (in-person and virtual) Ohio consulting party meeting was held on August 9, 2023. During that meeting, the project status, the draft Section 106 Programmatic Agreement, and next steps were discussed. No substantive feedback was received during the meeting. Following the meeting, the Ohio consulting parties were allotted three weeks to submit further comments. No comments were received during the comment period.

Copies of consulting party coordination materials for Ohio are included in Appendix B, Cultural Resources.



4.5.5 Tribal Coordination

FHWA sent a Section 106 consultation letter describing Refined Alternative I (Concept I-W), the archaeological investigations completed for the project, and additional planned investigations to the following 13 Federally Recognized Tribes on November 21, 2022:

- Absentee Shawnee Tribe of Oklahoma
- Cherokee Nation
- Delaware Tribe of Oklahoma
- Eastern Band of Cherokee Indians
- Eastern Shawnee Tribe of Oklahoma
- Miami Tribe of Oklahoma
- Osage Nation
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi
- Seneca Nation of Indians
- The Shawnee Tribe
- United Keetoowah Band of Cherokee Indians
- Wyandotte Nation

On November 29, 2022, the Miami Tribe of Oklahoma accepted FHWA's invitation to become a consulting party and expressed no objection to the project. On December 19, 2022, the Cherokee Nation declined the invitation to become a consulting party because Ohio is outside of the Cherokee Nation's Area of Interest. On December 29, 2022, the Eastern Shawnee Tribe concluded that the project proposes no adverse effect or endangerment to known sites of interest to the Eastern Shawnee Tribe. On April 28, 2023, the Osage Nation requested a project update which was provided by ODOT and FHWA on May 16, 2023.

On August 15, 2023, FHWA sent a Section 106 consultation letter to the 13 Federally Recognized Tribes mentioned above describing the project activities that had occurred since November 2022 and providing links to the archaeological reports, as well as the opportunity to comment on the draft Section 106 Programmatic Agreement. No responses were received during the 30-day comment period. On November 16, 2023, the Osage Nation requested additional information about the project, which was provided by FHWA on November 20, 2023.

Copies of tribal coordination documents are included in Appendix B, Cultural Resources.

4.6 Air Quality

Carbon monoxide, ozone, PM2.5, MSAT, and emissions burdens are discussed in the following sections. Additional details about air quality effects specific to EJ populations, other socioeconomic groups and populations, disadvantaged communities, and children are discussed in Sections 4.1.7, 4.1.8, 4.1.9, and 4.1.10 of this supplemental EA, the [Environmental Justice Analysis Report](#), and the [Socioeconomic Technical Report](#).



4.6.1 Carbon Monoxide

The 2012 EA/FONSI concluded that the project was included in the most current version of OKI's conforming Transportation Improvement Program (TIP) and would have air quality impacts consistent with those identified in the State Implementation Plans for achieving NAAQS. In addition, a project-level air quality analysis concluded that Selected Alternative I (from the 2012 EA/FONSI) would not cause an exceedance of the carbon monoxide NAAQS.

Recent trends in carbon monoxide concentrations across Kentucky and Ohio have dramatically improved, and all areas in both states are currently in attainment for carbon monoxide. As such, carbon monoxide conformity requirements do not apply to transportation projects in Kentucky or Ohio, and no additional analysis related to carbon monoxide is required for Refined Alternative I (Concept I-W).

4.6.2 Ozone

The 2012 EA/FONSI indicated that Hamilton County was in nonattainment for ozone, and Kenton County was in attainment with a maintenance plan. Ozone for Selected Alternative I (from the 2012 EA/FONSI) was addressed, as the project was included in an air quality conforming TIP.

Hamilton County and the portions of Kenton County in the project area were designated as maintenance areas for ozone under the USEPA 2008 ozone standard. USEPA established new NAAQS for ground-level ozone in 2015. In June 2022, USEPA designated Hamilton County as a maintenance area and the portions of Kenton County in the project area as a nonattainment area for ozone under the 2015 ozone standard. Areas that are in nonattainment or maintenance for the USEPA 2008 and/or 2015 ozone standards are subject to transportation conformity requirements.

Transportation conformity is a mechanism to ensure that federal funding and approval are given to those transportation activities that are consistent with air quality goals as contained in the State Implementation Plans. OKI is the metropolitan planning organization for the Greater Cincinnati/Northern Kentucky area responsible for transportation planning and air quality conformity. In November 2022, OKI completed a regional emissions and air quality conformity analysis demonstrating that the 2021-2024 TIP and 2050 Metropolitan Transportation Plan conform to all applicable USEPA approved State Implementation Plans for air quality. The project is included in OKI's air quality conforming 2021-2024 TIP¹ and 2050 Metropolitan Transportation Plan. Furthermore, the design concept and scope of Refined Alternative I (Concept I-W) have not changed substantially from what is described in the TIP. Therefore, no additional transportation conformity analysis is required related to ozone for Refined Alternative I (Concept I-W).

¹ Ohio-Hamilton County Page 4 (PID 113361, Page 5 (114161)), and Page 6 (PID 116649; Kentucky-Kenton County Page 6 (Item No. 6-17)).



4.6.3 Particulate Matter

The 2012 EA/FONSI documented the preparation, coordination, and approval of a PM2.5 hotspot analysis and concluded that the project would not cause or contribute to a new violation of the 24-hour or annual PM2.5 standards and that PM2.5 was addressed because the project was included in an air quality conforming TIP.

Based on the most current designations, the project area is not located in a PM2.5 nonattainment or maintenance area. As such, PM2.5 conformity requirements do not apply, and additional PM2.5 analysis is not required for Refined Alternative I (Concept I-W). Although additional PM2.5 analysis is not required, the levels of PM2.5 and other pollutants were modeled as part of an emissions burdens analysis that KYTC and ODOT prepared to further evaluate air quality considerations for Refined Alternative I (Concept I-W). The emissions burdens analysis is discussed in Section 4.6.5.

4.6.4 Mobile Source Air Toxics

An *Air Quality Technical Report: Mobile Source Air Toxics (November 2010)* was prepared to support the development of the 2012 EA/FONSI. The 2010 report utilized USEPA's MOBILE6.2 model to analyze the no-build and build conditions for the design year (2035). Seven priority MSAT compounds were analyzed, including acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases, formaldehyde, naphthalene, and polycyclic organic matter. The 2010 analysis concluded that all MSAT levels for the build (2035) condition were predicted to be less when compared to the no-build (2035) condition, except for formaldehyde, which was predicted to be 0.8 percent greater. As this difference was less than one percent, it was not considered to be significant.

For this supplemental EA, KYTC and ODOT compared the traffic volumes in the 2010 MSAT report to year 2049 certified traffic projections for Refined Alternative I (Concept I-W) and concluded a new quantitative MSAT emissions analysis was appropriate because projected traffic exceeded the threshold for a quantitative MSAT analysis. In addition, new FHWA guidance and modeling tools had been issued since the completion of the 2010 MSAT report. As a result, KYTC and ODOT prepared a [Quantitative MSAT Analysis Report](#) using the travel demand models for the project's approved certified traffic and in accordance with the most current FHWA guidance. The latest version of USEPA's MOtor Vehicle Emission Simulator (MOVES3) was used to analyze nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-cancer hazard contributors from the 2011 National Air Toxics Assessment: 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter, ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. Three scenarios were analyzed (2020 existing, 2050 no-build, and 2050 build) for the affected transportation network where changes in MSAT emissions as a direct result of the project are expected to occur.



As shown in Table 29, the emissions for all analyzed MSAT pollutants are projected to decrease when the 2050 no-build and 2050 build scenarios are compared to the 2020 existing scenario. All MSAT pollutant emissions except polycyclic organic matter are projected to be less when the build 2050 scenario is compared to the no-build 2050 scenario. Polycyclic organic matter is anticipated to be 0.5 percent greater; however, it is anticipated to decrease by 85.3 percent when both the 2050 no-build and build scenarios are compared to the 2020 existing scenario. Since the future scenarios are anticipated to have a substantial decrease in emissions when compared to the 2020 existing scenario, the minor difference between the 2050 build and 2050 no-build scenarios is not considered to be significant.

Total MSAT emissions are projected to decrease by 81.6 and 82.1 percent with a corresponding increase in vehicle miles of travel of 18.3 and 20.3 percent, respectively, when the 2050 no-build and 2050 build scenarios are compared to the 2020 existing scenario. Total MSAT emissions are projected to be 3.0 percent less while the vehicle miles of travel are projected to be 1.7 percent greater when the 2050 build scenario is compared to the 2050 no-build scenario. The reductions that are projected to occur when the 2050 no-build and 2050 build scenarios are compared to the 2020 existing scenario are primarily due to USEPA's motor vehicle and fuel control program. When the 2050 build scenario is compared to the 2050 no-build scenario, the lower emissions may result from the reduced congestion and higher average speeds associated with the project. Given the above, Refined Alternative I (Concept I-W) is not anticipated to have an appreciable impact on MSAT emissions.

Note that Table 29 presents the expected MSAT emissions for the entire corridor and does not represent emissions for any one point along the corridor. While total MSAT emissions for the 2050 build scenario are expected to be less when compared to the 2020 existing and 2050 no-build scenarios, it is possible that some localized areas may experience greater MSAT emissions and ambient MSAT levels due to locally increased traffic levels associated with the project. Additional details about MSAT are provided in the [Quantitative MSAT Analysis Report](#).

KYTC and ODOT coordinated the [Quantitative MSAT Analysis Report](#) with FHWA, USEPA, the Kentucky Division for Air Quality (KYDAQ), and OEPA. KYDAQ reviewed and had no comments on the findings of the report on August 21, 2023. OEPA reviewed and had no comments on the findings of the report on September 8, 2023. USEPA reviewed and had no comments on the findings of the MSAT analysis on September 21, 2023. Agency coordination documents are included in Appendix B, Air Quality.



Table 29: Annual MSAT Emissions and Vehicle Miles of Travel

MSAT or Vehicle Miles of Travel	Scenario			Difference (%)		
	2020 Existing	2050 No-Build	2050 Build ¹	2050 No-Build to 2020 Existing	2050 Build to 2020 Existing	2050 Build to 2050 No-Build
Benzene (Mt/year) ²	1.34277	0.58260	0.58007	-56.6%	-56.8%	-0.4%
1,3-Butadiene (Mt/year)	0.10753	0	0	-100.0%	-100.0%	N/A
Formaldehyde (Mt/year)	1.54706	0.33634	0.32175	-78.3%	-79.2%	-4.3%
Acrolein (Mt/year)	0.10491	0.01466	0.01413	-86.0%	-86.5%	-3.6%
Naphthalene (Mt/year)	0.17288	0.02568	0.02553	-85.1%	-85.2%	-0.6%
POM ³ (Mt/year)	0.07440	0.01092	0.01097	-85.3%	-85.3%	0.5%
Ethyl Benzene (Mt/year)	0.73284	0.32004	0.31383	-56.3%	-57.2%	-1.9%
Acetaldehyde (Mt/year)	0.81662	0.23937	0.22456	-70.7%	-72.5%	-6.2%
Diesel PM ⁴ (Mt/year)	6.41730	0.55472	0.53174	-91.4%	-91.7%	-4.1%
Total MSAT (Mt/year)	11.31631	2.08432	2.02258	-81.6%	-82.1%	-3.0%
Vehicle Miles of Travel (million miles)	611.11	723.12	735.41	18.3%	20.3%	1.7%

1. Refined Alternative I (Concept I-W) is represented by the “2050 Build” scenario.
2. Metric tons per year is abbreviated “Mt/year.”
3. Polycyclic organic matter is abbreviated to “POM.”
4. Diesel particulate matter is abbreviated to “Diesel PM.”

4.6.5 Emissions Burdens Analysis

The 2012 EA/FONSI did not include an evaluation of emissions burdens.

For this supplemental EA, KYTC and ODOT further evaluated air quality considerations by completing an emissions burdens analysis that modeled the levels of volatile organic compounds, nitrogen oxides, and PM2.5 in Campbell, Kenton, and Hamilton counties for the 2020 existing, 2050 no-build, and 2050 build scenarios. Campbell, Kenton, and Hamilton counties encompass the areas anticipated to experience changes in emissions as a direct result of Refined Alternative I (Concept I-W). As shown in Table 30, emissions of the analyzed pollutants would substantially decrease in all three counties when the 2050 no-build and 2050 build scenarios are compared to the 2020 existing scenario. These reductions are primarily due to the implementation of the latest federal emissions standards coupled with fleet turnover.



Table 30: Emissions Burdens and Vehicle Miles of Travel

Pollutant (kg/year) or VMT ² (million miles)	Scenario			Difference (%)		
	2020 Existing	2050 No-Build	2050 Build ¹	2050 No-Build to 2020 Existing	2050 Build to 2020 Existing	2050 Build to 2050 No-Build
Campbell County						
VOC ³	865	294	264	-66.0%	-69.4%	-10.0%
Nitrogen oxides	2,063	355	325	-82.8%	-84.2%	-8.4%
PM2.5	55	12	11	-78.5%	-80.3%	-8.2%
VMT ²	6,051,024	6,160,827	5,774,027	1.8%	-4.6%	-6.3%
Kenton County						
VOC ³	31,320	11,159	10,703	-64.4%	-65.8%	-4.1%
Nitrogen oxides	168,956	43,590	38,032	-74.2%	-77.5%	-12.8%
PM2.5	4,939	738	758	-85.1%	-84.6%	2.8%
VMT ²	333,011,001	398,729,472	412,254,088	19.7%	23.8%	3.4%
Hamilton County						
VOC ³	19,584	8,802	8,813	-55.1%	-55.0%	0.1%
Nitrogen oxides	113,926	46,726	45,854	-59.0%	-59.8%	-1.9%
PM2.5	2,726	719	716	-73.6%	-73.7%	-0.4%
VMT ²	272,047,710	318,234,307	317,380,113	17.0%	16.7%	-0.3%

1. Refined Alternative I (Concept I-W) is represented by the “2050 Build” scenario.

2. Vehicle miles of travel is abbreviated “VMT.”

3. Volatile organic compounds is abbreviated “VOC.”

Refined Alternative I (Concept I-W) will improve traffic flow and reduce traffic congestion and vehicle idling in the area transportation network, which is expected to reduce vehicle emissions and improve local air quality. When the 2050 build scenario is compared to the 2050 no-build scenario, the levels of volatile organic compounds and nitrogen oxides are anticipated to be less or approximately the same (within 0.1 percent) in all three counties. When the 2050 build scenario is compared to the 2050 no-build scenario, PM2.5 is anticipated to be less or approximately the same in Campbell and Hamilton counties. In Kenton County, PM2.5 is anticipated to be slightly greater (2.8 percent) due to an increase in vehicle miles of travel that will occur throughout the area transportation network as a result of Refined Alternative I (Concept I-W). However, the 2.8 percent difference in PM2.5 emissions is less than the associated 3.4 percent difference in vehicle miles of travel in Kenton County. In addition, PM2.5 in Kenton County is anticipated to decrease by 85.1 and 84.6 percent when the 2050 no-build and build scenarios are compared to the 2020 existing scenario,



respectively. Since the future scenarios are anticipated to have a substantial decrease in emissions when compared to the 2020 existing scenario, the minor difference for PM_{2.5} in Kenton County between the 2050 build and 2050 no-build scenarios is not considered to be significant.

4.6.6 Air Quality During Construction

Temporary construction-related air quality impacts are expected due to increased dust and mobile-source emissions from construction equipment and increased emissions from increased traffic congestion during construction. To minimize and mitigate temporary dust and air quality impacts, KYTC and ODOT have committed to developing and implementing a dust control plan and other measures to minimize and prevent discharge of dust in the atmosphere. During construction, measures will also be implemented to minimize diesel emissions and to protect sensitive receptors from diesel exhaust fumes. KYTC and ODOT have also committed to developing and implementing an ambient air quality monitoring program to provide greater protections against temporary air quality impacts during construction. Additional details about air quality during construction and measures incorporated into the environmental commitments to address temporary air quality impacts are provided in Sections 4.11.4 and 4.11.7.

4.7 Greenhouse Gases and Climate Change

On January 29, 2023, the Council on Environmental Quality issued interim “National Environmental Policy Act Guidance on the Consideration of Greenhouse Gas Emissions and Climate Change.” KYTC and ODOT conducted an analysis that modeled the levels of greenhouse gas emissions¹ expected to occur in Campbell, Kenton, and Hamilton counties for the 2020 existing, 2050 no-build, and 2050 build scenarios. Campbell, Kenton, and Hamilton counties encompass the areas anticipated to experience changes in greenhouse gas emissions as a direct result of Refined Alternative I (Concept I-W). The greenhouse gas emissions analysis was conducted at a quantitatively high level using USEPA’s MOVES3 and travel demand models for the project’s approved certified traffic.

As shown in Table 31, greenhouse gas emissions are expected to substantially decrease for both the 2050 no-build and 2050 build scenarios when compared to the 2020 existing scenario. These reductions are primarily due to the implementation of the latest federal emissions standards coupled with fleet turnover. Greenhouse gas emissions are expected to be slightly greater (0.7 percent) when the 2050 build condition is compared to the 2050 no-build condition. This is primarily due to an increase in vehicle miles of travel that will occur throughout the area transportation network as a result of Refined Alternative I (Concept I-W). In addition, the 0.7 percent difference in greenhouse gas emissions is less than the associated 1.7 percent difference in

¹ Greenhouse gas emissions (also called carbon dioxide equivalent emissions) were calculated from projected carbon dioxide, nitrous oxide, and methane gas emissions weighted according to the global warming potential of each gas as defined by USEPA in its Motor Vehicle Emission Simulator (MOVES3).



vehicle miles of travel. Therefore, greenhouse gas emissions resulting from Refined Alternative I (Concept I-W) are expected to have minimal effects on climate change.

Additional details about greenhouse gases and climate change specific to EJ populations, other socioeconomic groups and populations, and disadvantaged communities are discussed in Sections 4.1.7, 4.1.8, and 4.1.9 of this supplemental EA, the [Environmental Justice Analysis Report](#), and the [Socioeconomic Technical Report](#).

Table 31: Greenhouse Gases and Vehicle Miles of Travel

Greenhouse gases (kg/year) or VMT ² (million miles)	Scenario			Difference (%)		
	2020 Existing	2050 No-Build	2050 Build ¹	2050 No-Build to 2020 Existing	2050 Build to 2020 Existing	2050 Build to 2050 No-Build
Greenhouse gases	263,587,570	236,349,095	238,065,799	-10.3%	-9.7%	0.7%
VMT ²	611,109,735	723,124,606	735,408,228	18.3%	20.3%	1.7%

1. Refined Alternative I (Concept I-W) is represented by the “2050 Build” scenario.

2. Vehicle miles of travel is abbreviated “VMT.”

Refined Alternative I (Concept I-W) will separate highway runoff from combined sewer systems and will address surcharging in the Peaselburg neighborhood. These measures will reduce combined sewer overflows and flooding and thereby promote climate resilience in the project area. Additional details about stormwater management are provided in Section 4.12.1. In addition, KYTC and ODOT address issues related to climate change on a statewide level through their *Transportation Asset Management Plans*.¹ The design, construction, and maintenance of Refined Alternative I (Concept I-W) will be in accordance with each state’s *Transportation Asset Management Plan*.

4.8 Noise

Noise is unwanted sound. The A-weighted decibel (dBA) is accepted by FHWA, KYTC, and ODOT as the preferred sound weighting method for assessing human exposure from traffic noise. In general, the average person cannot detect an increase or decrease in sound level of less than 3 dBA. A change in sound level of 5 dBA is readily perceptible by most people, and a change in sound level of 10 dBA is generally perceived as a doubling (or halving) in loudness.

KYTC and ODOT evaluated noise for Refined Alternative I (Concept I-W) in accordance with their current noise manuals and policies.² The analyses identified noise sensitive areas (NSAs), which are areas of similar

¹ *Transportation Asset Management Plan BIL-Compliant Version* (KYTC, December 2022) and *Transportation Asset Management Plan* (ODOT, December 2022)

² [Noise Analysis and Abatement Policy](#) (KYTC, August 1, 2022); [Noise Analysis Manual: Analysis and Abatement of Highway Traffic Noise](#) (ODOT, April 2015); [Analysis and Abatement of Highway Traffic Noise Policy Statement](#) (ODOT, October 2023)



land use that would be sensitive to an increase in noise levels. Individual noise sensitive receivers were also identified within each NSA. The noise sensitive receivers were assigned one of seven activity categories established by FHWA and evaluated for traffic noise impacts. A traffic noise impact occurs if one or both of the following conditions are met:

- The predicted noise levels approach, meet, or exceed noise abatement criteria (NAC) that are established by FHWA and represent the upper limits of acceptable traffic generated noise for the various activity categories. According to KYTC's and ODOT's noise policies, noise levels "approach" the NAC when they are within 1 dBA of the applicable NAC.
- There is a substantial increase in design year sound levels compared to existing sound levels. KYTC and ODOT define a substantial increase as 10 dBA or greater.

Descriptions of FHWA's activity categories and the associated NAC are provided in Table 32.

Table 32: Activity Categories and Noise Abatement Criteria

Activity Category	NAC (dBA) ¹	Evaluation Location	Activity Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67	Exterior	Residential.
C	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structure, radio stations, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structure, radio studios, recording studios, schools, and television studios.
E	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A–D or F.
F	N/A	N/A	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	N/A	N/A	Undeveloped lands that are not permitted.

1. NAC is expressed for the equivalent sound level over a 1 hour period.



Where noise impacts were identified, noise barriers were evaluated to determine if they were feasible. Under KYTC's noise policy, a noise barrier is feasible if it provides a minimum 5 dBA reduction for at least three of the impacted receptors. Under ODOT's noise policy, a noise barrier is feasible if it provides a minimum 5 dBA reduction for at least 40 percent of the impacted receptors. In addition, the noise barrier must not pose any overriding engineering, constructability, safety, or maintenance issues to be considered feasible.

If a barrier was found to be feasible per the applicable noise policy, KYTC and ODOT then evaluated whether the noise barrier was reasonable. A noise barrier is reasonable under each state's policy if it meets specific noise reduction design goals, is cost effective, and comports with appropriate public engagement. Under KYTC's noise policy, a noise barrier is considered reasonable if it achieves a noise reduction design goal of 7 dBA for a minimum of 50 percent of the front row benefited receptors and has a cost per benefited receptor of \$40,000 or less. Under ODOT's noise policy, a noise barrier is reasonable if it achieves a noise reduction design goal of 7 dBA for at least one benefited receptor and has a cost per benefited receptor of \$56,000 or less. For the cost reasonability calculation, areas other than single-family residences were converted into an equivalent number of receptors based on the receiver's use.

A noise barrier is a physical obstruction that is constructed between the highway noise source and the noise sensitive receptor(s) that lowers the noise level, including stand-alone noise walls (independent or as part of a system), noise berms (earth or other material), and berm/wall combinations. A noise barrier must be found to be both feasible and reasonable in accordance with 23 CFR part 772 and the applicable state noise policy to be recommended for construction. If a noise barrier is found to be feasible and meets the noise reduction design goals and cost-effective reasonableness criteria, KYTC and ODOT will then coordinate with the property owners and tenants who would benefit from the barrier before making the final decision about whether it will be built. Noise/visual screening barriers do not meet one or more of the reasonability criteria but are proposed enhancements to provide noise reduction above and beyond the requirements of 23 CFR part 772 and the applicable state noise policy.

The noise analyses for Kentucky and Ohio were prepared using the 2029 and 2049 certified traffic projections (see Section 3.8). The results of the noise analyses are discussed in the following sections.

4.8.1 Kentucky

The 2012 EA/FONSI identified impacts for 565 noise receivers east and west of I-71/I-75 from Dixie Highway to the existing BSB in Kentucky. Noise barriers were proposed in three locations for Selected Alternative I:

- Northbound I-71/I-75 from Beechwood Road to Dixie Highway;
- Northbound I-71/I-75 from Dixie Highway to Kyles Lane; and
- Northbound I-71/I-75 between Kyles Lane and West 12th Street/MLK Jr. Boulevard.



KYTC evaluated noise for Refined Alternative I (Concept I-W) and documented the results in a [Traffic Noise Assessment: Brent Spence Bridge Corridor Project Kentucky Southern Section](#) (August 2023) and a [Traffic Noise Impact Analysis: Brent Spence Bridge Corridor Project Kentucky – Northern Section](#) (August 2023). The Kentucky analyses identified 1,133 noise receivers within 11 NSAs along both sides of I-71/I-75 from south of Dixie Highway to the Ohio River. The large majority of the noise receivers present in Kentucky are single- and multi-family residences. Noise receivers in Kentucky also include churches, day care centers, parks, cemeteries, sports facilities, a hospital, restaurants and bars, offices, retail establishments, hotels, and commercial sites. The noise analyses concluded that Refined Alternative I (Concept I-W) would result in noise impacts for 748 receivers (1,488 receptors) spread across all 11 NSAs and activity categories in Kentucky.

Per KYTC’s noise policy, NSAs may be broken down into smaller sections based on distinct features or roadways, and barriers may first be evaluated independently for feasibility and reasonableness within these smaller sections. If a barrier contributes to noise reduction for receptors where noise impacts would be mitigated by another barrier, then these barriers may be evaluated as a group for feasibility and reasonableness. KYTC’s noise policy also allows consideration of cases where two barriers do not independently meet feasibility and reasonability criteria but may be found to be feasible and reasonable when grouped together. Both of these conditions are present in the Kentucky portions of the BSB corridor. Therefore, noise barriers in Kentucky were evaluated independently and in groups, which resulted in the evaluation of multiple noise barriers for several NSAs in Kentucky. While KYTC’s policy refers to these groups of noise barriers as “barrier systems,” they are entirely comprised of stand-alone noise walls. Independent barriers and barrier systems are both considered noise barriers, as presented in Section 4.8.

Based on the noise abatement evaluation, KYTC is proposing seven noise barriers.

Statement of Likelihood: Based on the current project design and traffic projections, structural noise barriers are feasible and reasonable in accordance with KYTC’s noise policy and are considered likely for the following locations:

- Northbound I-71/I-75 from Beechwood Road to Dixie Highway;
- Northbound I-71/I-75 from Dixie Highway to Kyles Lane;
- Northbound I-71/I-75 from Kyles Lane to the Ivy Knoll Senior Living Community;
- Northbound I-71/I-75 from south of Edgecliff Road to Pike Street;
- Southbound I-71/I-75 from West 3rd Street to south of Hermes Avenue;
- Southbound I-71/I-75 from north of St. Joseph Lane to Kyles Lane; and
- Southbound I-71/I-75 north of Dixie Highway.

Recognizing from neighborhood outreach efforts that traffic noise is a primary concern of area residents, KYTC conducted technical studies to evaluate additional noise/visual screening barriers in two locations where noise



barriers were found to be feasible but not reasonable. Based on the technical feasibility, public comments received during outreach activities, and coordination with local cities, KYTC is proposing additional noise/visual screening barriers in the following areas:

- Northbound I-71/I-75 from Pike Street to West 4th Street, including the Mainstrasse neighborhood and the Goebel Park Complex; and
- Southbound I-71/I-75 from Dixie Highway to south of West Maple Avenue.

During stakeholder and public outreach, some concerns were raised about noise barriers blocking views of Covington for motorists traveling on I-71/I-75. Concerns were also raised about noise barriers blocking views across I-71/I-75 from adjacent areas such as along Crescent Avenue. During detailed design, KYTC has committed to coordinating with the City of Covington to evaluate the use of transparent noise barriers in some locations to preserve views of Goebel Park from the highway and to preserve views of the skyline and across I-71/I-75 from surrounding neighborhoods.

KYTC also prepared a [Technical Memorandum: Additional Traffic Noise Assessment Kentucky Southern Section \(February 2023\)](#) that evaluated extending the noise analysis area further west to include a noise barrier for residences in the vicinity of Summit Lane in Fort Mitchell. The technical study also evaluated extending noise barriers to provide noise reduction for additional businesses with exterior uses, a hotel, and a day care center west of I-71/I-75 between Kyles Lane and Dixie Highway. Based on the evaluation, KYTC determined that extended noise barriers in these areas were not reasonable nor recommended.

In accordance with the KYTC *Noise Analysis and Abatement Policy*, a noise abatement public meeting and surveys will be conducted with benefited receptors at each location where noise and noise/visual screening barriers are proposed in Kentucky.

A summary of the noise and noise/visual screening barriers evaluated in Kentucky is provided in Table 33. The locations of proposed noise barriers and noise/visual screening barriers are shown in Figure 8 and Figure 22. Additional details about noise in Kentucky are provided in the following documents: [Traffic Noise Assessment: Brent Spence Bridge Corridor Project Kentucky Southern Section](#); [Traffic Noise Impact Analysis: Brent Spence Bridge Corridor Project Kentucky – Northern Section](#); [Technical Memorandum: Additional Traffic Noise Assessment Kentucky Southern Section](#); [Noise Analysis Technical Memorandum Kentucky – Northern Section \(November 2022\)](#).

Noise barriers and noise/visual screening barriers in Kentucky were also considered during the evaluation of potential impacts on EJ populations, other socioeconomic populations and groups, disadvantaged communities, children, historic properties, visual resources, Section 4(f) properties, and Section 6(f) properties. In addition, KYTC is coordinating aesthetic treatments for noise barriers and noise/visual screening barriers with the Fort Wright/Fort Mitchell Aesthetics Subcommittee and the Covington Aesthetics Subcommittee. Refer to sections 4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.5.2, 4.9, 4.13, and 4.14 of this supplemental EA, the [Environmental Justice Analysis Report](#), the [Socioeconomic Technical Report](#), and the [Draft Individual Section 4\(f\) Evaluation \(January 2024\)](#) for additional information related to noise and these resource areas.



Table 33: Kentucky Noise Barrier and Noise/Visual Screening Barrier Evaluation Summary

Barrier Location ⁹	Length (feet)	Height (feet)	Estimated Cost	Number of Benefited Receptors	Estimated Cost per Benefited Receptor	Acoustic Feasibility Achieved (Yes/No)	Design Goal Achieved (Yes/No)	Cost Effective Achieved (Yes/No)	Feasible and Reasonable (Yes/No)
Proposed Noise Barriers									
Northbound I-71/I-75 from Beechwood Road to Dixie Highway (B18)	4,487	16-24	\$2,791,144	213	\$13,104	Yes	Yes	Yes	Yes (C)
Northbound I-71/I-75 from Dixie Highway to Kyles Lane (B19)	2,617	20	\$1,670,599	59	\$28,315	Yes	Yes	Yes	Yes (C)
Northbound I-71/I-75 from Kyles Lane to the Ivy Knoll Senior Living Community (B20/Barrier System D) ¹	5,255	19.6 (average)	\$3,149,584	138	\$22,823	Yes	Yes	Yes	Yes (C)
Northbound I-71/I-75 from south of Edgecliff Road to Pike Street (Barrier System C1/C2) ¹	4,794	19.7 (average)	\$3,178,403	87	\$36,533	Yes	Yes	Yes	Yes (C)
Southbound I-71/I-75 from West 3 rd Street to south of Hermes Avenue (Barrier System E/F) ¹	9,624 ²	18.2 (average) ²	\$5,676,353 ²	252 ²	\$22,252 ²	-- ²	-- ²	-- ²	-- ²
Southbound I-71/I-75 from north of St. Joseph Lane to Kyles Lane (B23)	2,350	18-22	\$1,464,284	81	\$18,078	Yes	Yes	Yes	Yes (C)
Southbound I-71/I-75 north of Dixie Highway (B16B)	1,308	12-22	\$723,746	19	\$38,091	Yes	Yes	Yes	Yes (C)
Proposed Noise/Visual Screening Barriers									
Northbound I-71/I-75 from Pike Street to West 4 th Street (Barrier System B) ¹	10,154 ³	16.6 (average) ³	\$6,245,070 ³	293 ³	\$21,314 ³	-- ³	-- ³	-- ³	-- ³
Southbound I-71/I-75 from Dixie Highway to south of West Maple Avenue (B17A/B17B)	~853 ⁴	-- ⁴	-- ⁴	-- ⁴	~\$46,000 ⁴	-- ⁴	-- ⁴	-- ⁴	-- ⁴
Noise Barriers Evaluated but Not Proposed									
Northbound I-71/I-75 from south of Edgecliff Road to St. Elizabeth Covington Hospital (NSA C, Area C2) ⁵	2,622	23.3 (average)	\$1,957,811	61	\$32,095	Yes	Yes	Yes	Yes (C) ⁵
Northbound I-71/I-75 from St. Elizabeth Covington Hospital to Pike Street (NSA C, Area C1) ⁵	2,486	19.8 (average)	\$1,433,760	24	\$59,740	Yes	Yes	No	No (B) ⁵
Northbound I-71/I-75 from Pike Street to West 4 th Street (Barrier System B) ¹	12,750	18.6 (average)	\$7,459,536	170	\$43,880	Yes	No	No	No (B) ^{3,6}
Northbound I-71/I-75 from West 12 th Street/ MLK Jr. Boulevard to Pike Street (NSA B, Area B3) ⁵	12,750	18.6 (average)	\$7,459,536	25	\$298,381	No	No	No	No (A) ⁵
Northbound I-71/I-75 from Pike Street to West 9 th Street (NSA B, Area B2) ⁶	10,793	17.3 (average)	\$6,089,341	7	\$869,905	Yes	No	No	No (B) ⁶
Northbound I-71/I-75 from West 9 th Street to West 4 th Street (NSA B, Area B1) ⁶	10,793	17.3 (average)	\$6,091,910	138	\$44,145	Yes	No	No	No (B) ⁶
Northbound I-71/I-75 from West 5 th Street to the existing BSB (NSA A)	6,402	15.2 (average)	\$2,904,401	0	N/A	No	No	No	No (A)



Barrier Location ⁹	Length (feet)	Height (feet)	Estimated Cost	Number of Benefited Receptors	Estimated Cost per Benefited Receptor	Acoustic Feasibility Achieved (Yes/No)	Design Goal Achieved (Yes/No)	Cost Effective Achieved (Yes/No)	Feasible and Reasonable (Yes/No)
<i>Table 33 (cont.)</i>									
Southbound I-71/I-75 from West 3 rd Street to south of Hermes Avenue (Barrier System E/F) ¹	9,938	16.4 (average)	\$5,040,914	219	\$23,018	Yes	Yes	Yes	Yes (C) ^{2,7}
Southbound I-71/I-75 from the existing BSB to south of West 5 th Street (NSA E) ⁷	8,042	15.4 (average)	\$3,648,857	5	\$729,771	Yes	No	No	No (B) ⁷
Southbound I-71/I-75 from south of West 5 th Street to Pike Street (NSA F, Area F1) ⁷	6,698	19.3 (average)	\$3,773,346	116	\$32,529	Yes	Yes	Yes	Yes (C) ⁷
Southbound I-71/I-75 from Pike Street to south of Hermes Avenue (NSA F, Area F2) ⁷	3,358	17.6 (average)	\$1,774,361	80	\$22,180	Yes	Yes	Yes	Yes (C) ⁷
Southbound I-71/I-75 from north of Rivard Drive to Dixie Highway (B16A)	3,790	12-24	\$2,512,485	32	\$78,515	Yes	Yes	No	No (B)
Southbound I-71/I-75 from Dixie Highway to south of West Maple Avenue (B17A/B17B) ⁸	1,153	18-24	\$759,435	16	\$47,465	Yes	Yes	No	No (B) ⁴
	1,153	16-20	\$647,286	13	\$49,791	Yes	No	No	No (B) ⁴

1. Evaluated as a barrier system consisting of stand-alone noise walls.
2. This barrier system was determined to be feasible and reasonable in the [Traffic Noise Impact Analysis: Brent Spence Bridge Corridor Project Kentucky – Northern Section](#). Further evaluation documented in the [Noise Analysis Technical Memorandum Kentucky – Northern Section](#) increased the average height to add more benefited receptors, specifically near US-25. Based on the technical feasibility, KYTC is proposing the higher noise barrier as mitigation for noise impacts.
3. Although not found to be feasible and reasonable per KYTC's noise policy, the barrier system was further evaluated in the [Noise Analysis Technical Memorandum Kentucky – Northern Section](#). The barrier length and height were optimized to maximize the number of benefited receptors and the cost per benefited receptor. Based on the technical feasibility, public comments received during outreach activities, and coordination with the City of Covington, KYTC is proposing this noise/visual screening barrier as an enhancement to provide noise reduction above and beyond the requirements of its noise policy.
4. Although not found to be feasible and reasonable per KYTC's noise policy, the barrier was further evaluated in the [Additional Traffic Noise Assessment Kentucky Southern Section](#). The barrier was shortened by approximately 300 feet on the north end by utilizing the existing berm between West Maple Avenue and I-71/I-75. The berm will be marked "not to be disturbed" during construction. Based on the technical feasibility, public comments received during outreach activities, and coordination with the City of Fort Mitchell, KYTC is proposing this noise/visual screening barrier (consisting of a combination of a stand-alone noise wall and an existing berm) as an enhancement to provide noise reduction above and beyond the requirements of its noise policy.
5. Noise abatement evaluations were broken down into smaller sections and evaluated independently based on distinct features or roadways. These sections were also evaluated as part of a barrier system (C1/C2) consisting of stand-alone noise walls along northbound I-71/I-75 from south of Edgecliff Road to Pike Street. Based on the evaluation of the barrier system, independent sections that were not found to be feasible and reasonable (B3 and C1), as well as an independent section that was found to be feasible and reasonable (C2), are included in a proposed noise barrier system (C1/C2) as mitigation for noise impacts.
6. Noise abatement evaluations were broken down into smaller sections and evaluated independently based on distinct features or roadways. These sections were also evaluated as part of a barrier system (B) consisting of stand-alone noise walls along northbound I-71/I-75 from Pike Street to West 4th Street. Neither the barrier system (B) nor the independent sections (B1 and B2) were found to be feasible and reasonable.
7. Noise abatement evaluations were broken down into smaller sections and evaluated independently based on distinct features or roadways. These sections were also evaluated as part of a barrier system (E/F) consisting of stand-alone noise walls along southbound I-71/I-75 from West 3rd Street to south of Hermes Avenue. Based on the evaluation of the barrier system, an independent section that was not found to be feasible and reasonable (E), as well as independent sections that were found to be feasible and reasonable (F1 and F2), are included in a proposed noise barrier system (E/F) as mitigation for noise impacts.
8. Multiple noise barriers with varying heights were evaluated at this location to provide benefit for the greatest number of receptors at the lowest possible cost per benefited receptor.
9. Noise barrier and noise/visual screening barrier location descriptions have been refined slightly from what is presented in the noise analysis reports to more closely correlate with street names and other features labeled on Figure 8. While the descriptions have been slightly refined, the locations of the barriers are the same as those presented in the noise analysis reports. The naming convention used in the noise analysis reports is provided in parentheses.

Statements of Likelihood

- (A) Based on the current project design and traffic projections, a structural noise barrier is not feasible or reasonable in accordance with KYTC's noise policy and is not considered likely for this location.
- (B) Based on the current project design and traffic projections, a structural noise barrier is feasible but not reasonable in accordance with KYTC's noise policy and is not considered likely for this location.
- (C) Based on the current project design and traffic projections, a structural noise barrier is feasible and reasonable in accordance with KYTC's noise policy and is considered likely at this location.

4.8.2 Ohio

The 2012 EA/FONSI identified impacts for 283 noise receivers east and west of I-75 from the existing BSB to north of the Western Hills Viaduct in Ohio. Five noise barriers were proposed along northbound I-75 from just south of Ezzard Charles Drive to Bank Street for Selected Alternative I.

ODOT evaluated noise for Refined Alternative I (Concept I-W) and documented the results in a [Noise Analysis Report](#) (October 2023). The west side of I-75 in Ohio consists of almost entirely industrial and commercial land uses with eight noise sensitive receivers spread over a 2.4-mile area, including four isolated residences, a church, a hotel with an outdoor pool, the Cincinnati Job Corps outdoor sitting/eating area, and the WXIX television studio. On the west side of I-75, Refined Alternative I (Concept I-W) results in noise impacts at three isolated residences and the Cincinnati Job Corps. Noise abatement measures were not evaluated for the isolated residences because the impacted receptors were so few and widely spaced. Based on ODOT's noise policy, the reasonable cost for noise abatement is \$56,000 per benefited receptor, and a noise barrier for a single receptor ranges from \$125,000 to \$250,000, which exceeds the reasonable cost of abatement. A noise barrier evaluated for the Cincinnati Job Corps was found to be feasible but not reasonable, as summarized in Table 34.

The Ohio analyses identified 172 noise receivers within 9 NSAs along the east side of I-75 from the existing BSB to Marshall Avenue. The large majority of the noise receivers present in Ohio are multi-family residences. Noise receivers in Ohio also include single-family residences, a community garden, a church, the Community Action Agency Head Start, a recreation center, parks, and sports facilities. The noise analyses concluded that Refined Alternative I (Concept I-W) would result in noise impacts for 140 receivers (634 receptors) spread across eight NSAs from I-71 to Marshall Avenue. No noise impacts were identified in the NSA between the existing BSB and I-71. Impacted receivers primarily consist of multi-family residences and also include single-family residences, a community garden, a playground at the Community Action Agency Head Start, and two parks.

ODOT evaluated eight noise barriers to mitigate traffic noise impacts east of I-75. Based on the noise abatement evaluation, ODOT is proposing five noise barriers.

Statement of Likelihood: Based on the current project design and traffic projections, structural noise barriers are feasible and reasonable in accordance with ODOT's noise policy and are considered likely for the following locations:

- Northbound I-75 in front of the Queensgate Playground and Ball Field;
- Northbound I-75 from West Court Street to Ezzard Charles Drive;
- Northbound I-75 from Ezzard Charles Drive to Liberty Street;
- Northbound I-75 from Liberty Street to Findlay Street; and
- Northbound I-75 from York Street to Bank Street.



In accordance with the ODOT *Analysis and Abatement of Highway Traffic Noise Policy Statement*, ODOT will conduct noise abatement public involvement with benefited receptors where noise abatement has been determined to be feasible and reasonable.

The noise barriers listed above will be a structure mounted post and panel or integral design. In addition, ODOT has committed to constructing 57-inch barriers on the Liberty Street, Findlay Street, and Bank Street bridge parapets. These barriers will be 15 inches taller than standard ODOT bridge barriers, and the increased height will further reduce tire pavement noise the areas near the bridges.

A summary of the noise barriers evaluated in Ohio is provided in Table 34. The locations of proposed noise barriers and noise/visual screening barriers are shown in Figure 8 and Figure 22. Additional details about noise in Ohio are provided in the [Noise Analysis Report](#).

Noise barriers in Ohio were also considered during the evaluation of potential impacts on EJ populations, other socioeconomic populations and groups, disadvantaged communities, children, historic properties, visual resources, and Section 4(f) properties. In addition, ODOT is coordinating aesthetic treatments for noise barriers with the Ohio Aesthetic Subcommittee. Refer to sections 4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.5.2, 4.9, 4.13, and 4.14 of this supplemental EA, the [Environmental Justice Analysis Report](#), the [Socioeconomic Technical Report](#), and the [Draft Individual Section 4\(f\) Evaluation](#) for additional information related to noise and these resource areas.

4.8.3 Construction Noise

Noise sensitive receptors will also be subjected to short-term, temporary noise impacts associated with the construction phase of Refined Alternative I (Concept I-W). Construction noise will generate temporary noise impacts on adjacent and nearby properties, particularly those in residential land use. Construction noise will be emitted intermittently by a range of construction equipment at varying levels of intensity based on the types of operations being performed and the number of pieces of equipment in operation at any given time. Depending on project circumstances, options are available to minimize temporary noise impacts. In addition, consideration of construction noise minimization and mitigation (as necessary) is required pursuant to 23 CFR § 772.19. Additional information on construction noise can be accessed in the FHWA *Construction Noise Handbook (FHWA-HEP-06-015)* and the *Roadway Construction Noise Model Version 2.0*.

During design development, in addition to evaluating parameters such as cost, schedule, access, traffic impacts, safety, risk, etc., the project team has committed to considering construction noise abatement in areas where noise sensitive receptors are present. Examples of design decisions that could address construction noise impacts include foundation type selection, installation methodology, storage and staging areas, phasing of work, timing for noise barrier construction, MOT, and incentives.

During construction, the project team has committed to incorporating proactive and reactive measures to address construction noise. This will be accomplished through equipment selection and maintenance, potential screening/shielding/barriers, scheduling of work, education of staff, and the development and implementation of the project's communication plan.

Additional details about measures to address construction noise are provided in Sections 4.11.5 and 4.11.7.



Table 34: Ohio Noise Barrier Evaluation Summary

Barrier Location ⁴	Length (feet)	Height (feet)	Estimated Cost	Number of Benefited Receptors	Estimated Cost per Benefited Receptor	Acoustic Feasibility Achieved (Yes/No)	Design Goal Achieved (Yes/No)	Cost Effective Achieved (Yes/No)	Feasible and Reasonable (Yes/No)
Proposed Noise Barriers									
Northbound I-75 in front of the Queensgate Playground and Ball Field (NSA 6)	640	10	\$256,000	6	\$42,666	Yes	Yes	Yes	Yes (C)
Northbound I-75 from West Court Street to Ezzard Charles Drive (NSA 5) ^{2,3}	935	10	\$852,500	72	\$11,840	Yes	Yes	Yes	Yes (C)
Northbound I-75 from Ezzard Charles Drive to Liberty Street (NSA 4) ¹	1,020	10	\$1,530,000	62	\$24,677	Yes	Yes	Yes	Yes (C)
Northbound I-75 from Liberty Street to Findlay Street (NSA 3) ¹	767	10	\$1,150,500	87	\$13,224	Yes	Yes	Yes	Yes (C)
Northbound I-75 from York Street to Bank Street (NSA 2) ¹	1,115	10	\$1,672,500	44	\$38,011	Yes	Yes	Yes	Yes (C)
Noise Barriers Evaluated but Not Proposed									
Northbound I-75 south of 6 th Street (NSA 7)	300	11	\$132,000	1	\$132,000	Yes	Yes	No	No (B)
Northbound I-75 from the Western Hills Viaduct to Straight Street (NSA 1)	1,626	20	\$1,300,800	21	\$61,942	No	No	No	No (A)
Southbound I-75 in front of the Cincinnati Job Corps	674	18	\$485,280	2	\$242,640	Yes	Yes	No	No (B)
Southbound I-71 ramp near McFarland Street (NSA 8)	595	16	\$1,428,000	0	N/A	No	No	No	No (A)

1. Constructed on a proposed concrete retaining wall along the proposed edge of shoulder. A noise barrier with maximum height of 10 feet can be constructed on a retaining wall.
2. Partially constructed (435 feet) on a proposed concrete retaining wall along the right-of-way. A noise barrier with a maximum height of 10 feet can be constructed on a retaining wall.
3. The noise analysis evaluated extending this noise barrier south to Linn Street. Extending the noise barrier was not found to be feasible because it would need to be constructed behind the retaining wall would require additional right-of-way from the Community Action Agency Head Start property, including potential impacts to parking areas. A noise barrier in this area would also impact the pedestrian connection to the new pedestrian bridge over Winchell Avenue.
4. Noise barrier location descriptions have been refined slightly from what is presented in the noise analysis report to more closely correlate with street names and other features labeled on Figure 8. While the descriptions have been slightly refined, the locations of the barriers are the same as those presented in the noise analysis report. The naming convention used in the noise analysis report is provided in parentheses.

Statements of Likelihood

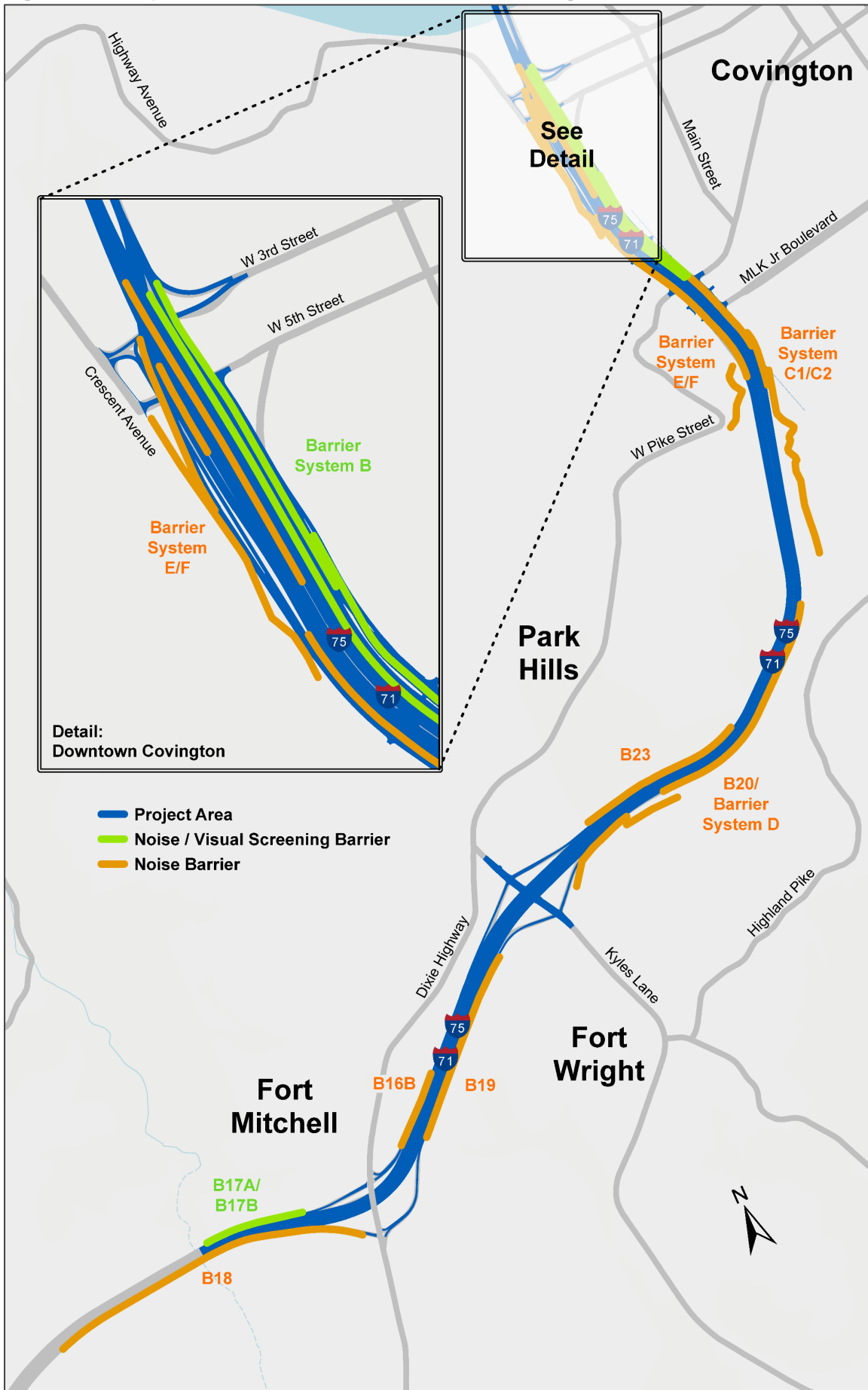
- (A) Based on the current project design and traffic projections, a structural noise barrier is not feasible or reasonable in accordance with ODOT's noise policy and is not considered likely for this location.
- (B) Based on the current project design and traffic projections, a structural noise barrier is feasible but not reasonable in accordance with ODOT's noise policy and is not considered likely for this location.
- (C) Based on the current project design and traffic projections, a structural noise barrier is feasible and reasonable in accordance with ODOT's noise policy and is considered likely at this location.



Figure 22: Proposed Noise and Noise/Visual Screening Barriers - Sheet 1 of 2



Figure 22: Proposed Noise and Noise/Visual Screening Barriers - Sheet 2 of 2



4.9 Visual Resources

The 2012 EA/FONSI identified potential impacts to visual quality due to interstate widening, changes to the existing BSB, the construction of a new companion bridge, and interstate alignments that will be higher than the existing highway on the bridge approaches on both sides of the Ohio River. These design features remain substantially unchanged for Refined Alternative I (Concept I-W), although roadway widths were minimized by reducing the width of the new companion bridge. Below is a summary of the key visual characteristics of Refined Alternative I (Concept I-W):

- A new double-decker companion bridge will be built immediately west of the existing BSB.
- The proposed interstate will be higher than the existing highway in some areas. The greatest height changes will occur in Kentucky on the approaches to the new companion bridge. In the vicinity of the Goebel Park Complex, the maximum height increase will be 31 feet for the northbound lanes on I-71/I-75. In general, the change in height decreases as the distance from the new companion bridge increases.
- Widening on I-71/I-75, the realigned approaches to the new companion bridge, and the construction of a C-D roadway system will move lanes closer to adjacent homes and businesses.
- Steeper side slopes or retaining walls will be built in some areas to avoid property impacts.
- Landscaping within the existing right-of-way will change. In the existing condition, brush and small trees in the right-of-way provide some visual screening of the highway. It is anticipated that some of the existing vegetation will be permanently removed from within the right-of-way.
- Noise barriers and noise/visual screening barriers ranging from 8 to 24 feet in height are proposed where noise sensitive land uses exist along northbound and southbound I-71/I-75 in Kentucky and along northbound I-75 in Ohio generally north of 9th Street. Additional details about proposed noise barrier and noise/visual screening barrier locations are provided in Section 4.8.



Rendering showing the Kentucky approaches to the new companion bridge where height changes will be the greatest (looking north).



Rendering showing interstate lanes, C-D roads, ramps, and retaining walls in downtown Cincinnati (looking southwest).

A sub-group of the Project Advisory Committee, referred to as the Aesthetics Committee, was formed to evaluate aesthetic treatments for project components, including the structure type for the companion bridge. The Aesthetics Committee membership was established based on feedback from the Project Advisory Committee and the project team’s local knowledge. While there is some commonality with the Project Advisory Committee, the Aesthetics Committee members provide a mix of technical expertise in aesthetics (such as architecture and engineering professionals and local public agencies) and representation of community interests (such as historical societies and local universities). The roles and responsibilities of the Aesthetics Committee are described in the *Brent Spence Bridge Project Aesthetic Committee Charter* (2005). A detailed description of the Aesthetic Committee membership is provided in the [Public Involvement Summary](#). The Aesthetics Committee met six times during the preparation of the 2012 EA/FONSI. Beginning in 2022, KYTC and ODOT re-engaged the Aesthetics Committee and have met several times with the full committee and subcommittees to discuss the overall corridor, the bridges over the Ohio River, and specific geographic areas within the corridor, as described below. Additional details about the Aesthetics Committee and Subcommittee meetings, including detailed meeting summaries, are included in the [Public Involvement Summary](#).

KYTC met three times with the Covington Aesthetics Subcommittee and three times with the Fort Wright/Fort Mitchell Aesthetics Subcommittee to coordinate with the cities of Covington, Fort Wright, and Fort Mitchell to further their goals of creating vibrant urban spaces throughout the corridor. Items being discussed include landscaping, streetscapes, gateways, and treatments for piers, abutments, retaining walls, and noise barriers. Based on feedback received during the neighborhood outreach activities and from the City of Covington, KYTC has committed to coordinating with the City of Covington during detailed design to evaluate the use of transparent noise barriers in some locations to preserve views of Goebel Park from the highway and to preserve views of the skyline and across I-71/I-75 from surrounding neighborhoods. KYTC will also continue to coordinate with the Covington and Fort Wright/Fort Mitchell Aesthetics Subcommittees during the project’s design phase to finalize aesthetic treatments in those cities.



Potential aesthetic treatments at the Kyles Lane interchange are being coordinated with the Fort Wright/Fort Mitchell Aesthetics Subcommittee (looking north).



Potential transparent noise barriers near the Goebel Park Complex are being coordinated with the Covington Aesthetics Subcommittee to preserve views of the park from the highway (looking west).

ODOT is coordinating aesthetic plans with an Ohio Aesthetics Subcommittee, which includes the City of Cincinnati. Piers, abutments, retaining walls, noise barriers, and bridge parapets will receive aesthetic treatments. Steel and concrete girders will have colors that fit into the aesthetics of the larger I-75 corridor. Bridges over I-75 will have translucent screen walls with interior lighting. As an enhancement, the City of Cincinnati is considering including colored and/or integral graphic panels. Overpass bridges will also include decorative lighting and planters at the back of walk and near the curb. These aesthetic treatments will contribute to an urban neighborhood feel and will be an enhancement over the existing Ohio bridges.



Aesthetic treatments for items such as noise barriers, bridge abutments, and bridge parapets are being coordinated with the Ohio Aesthetics Subcommittee.

In coordination with the City of Cincinnati and the Ohio Aesthetics Subcommittee, ODOT has established an Aesthetic Design Checklist for Phases I and II and the Ohio portion of Phase III of the project. Aesthetic features will be coordinated and confirmed with the City of Cincinnati and the Ohio Aesthetics Subcommittee at the completion of each design stage review for Phases I and II and during the Phase III progressive design-build contract.

KYTC, ODOT, and the Aesthetics Committee are coordinating the design of the new companion bridge to ensure that it is an iconic, aesthetically pleasing structure. The required elevations for the top of the new companion bridge were defined in the 2012 FONSI as no less than 300 feet and no more than 420 feet above the normal pool elevation of the Ohio River. The minimum elevation was set to ensure visibility of the new bridge due to its proximity to the existing BSB, and the maximum elevation was set to protect the visual character of nearby historic districts. The 2012 [FONSI](#) listed two bridge alternatives that could be considered as part of the selected alternative:

- Arch bridge: simply supported arch with inclined arch ribs; and
- Cable-stayed bridge: two towers, vertical legs/tower.

Refined Alternative I (Concept I-W) incorporates more flexibility in the bridge types to allow the progressive design-build team to pursue innovative and cost-effective designs to the greatest extent possible. While the bridge types remain the same, the specific design opportunities within each bridge type have been expanded. For the arch bridge type, the stipulation for it to be simply supported with inclined ribs has been removed. For the cable-stayed bridge, the stipulation to provide two vertical towers has been removed. The bridge types for Refined Alternative I (Concept I-W) are more broadly described as an “arch bridge” and a “cable-stayed bridge.” The approved top elevation continues to be no less than 300 feet and no more than 420 feet above the normal pool elevation of the Ohio River. The decision to expand the design opportunities within the bridge types was made with the support of the project Aesthetics Committee, which discussed this topic in a January 31, 2023 meeting. A complete meeting summary is included in the [Public Involvement Summary](#). The public will be provided the opportunity to offer feedback about the bridge types at the public hearings for this supplemental EA. Additional information about the public hearings is provided in Section 5.5.





Rendering showing what a cable-stayed bridge type might look like.



Rendering showing what an arch bridge type might look like.

KYTC and ODOT will determine the final bridge type for the new companion bridge based on a technical evaluation performed by the design-build team. Once the bridge type is determined, information regarding the decision will be made available to the public, and the project Aesthetics Committee will be engaged to provide feedback on the aesthetic elements of the new companion bridge and the existing BSB. KYTC and ODOT will also continue to engage the project Aesthetics Committee as described in the *Brent Spence Bridge Project Aesthetic Committee Charter* for final confirmation of the aesthetic treatments included in Phase III of the project.

Given the above, Refined Alternative I (Concept I-W) incorporates aesthetic enhancements that are anticipated to offset minor visual impacts and improve the overall visual character of the corridor.

4.10 Indirect and Cumulative Effects

Indirect effects are impacts caused by the project which occur later in time or in an area that is farther removed in distance from the project. The type and extent of indirect effects varies for different projects, but they must be “reasonably foreseeable,” or highly likely to occur because the project was built. Cumulative effects are incremental effects on the community or natural environment that occur from adding the impacts of one project with other past, present, and reasonably foreseeable projects. When added together, minor impacts from several small projects can result in a greater cumulative impact on the community and natural environment. The following sections discuss indirect and cumulative effects.

4.10.1 Indirect Effects

The 2012 EA/FONSI conclusions regarding indirect effects for Selected Alternative I are described below:

- **Socioeconomic Resources:** The separation of through (interstate) and local traffic could cause drivers to bypass local exits, resulting in an indirect economic loss to local Covington businesses. The project would incorporate signing and wayfinding to minimize these effects.
- **Community Resources:** The project was not anticipated to indirectly contribute to a change in the utilization of community resources.

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- **Ecological Resources:** The project was not expected to indirectly impact ecosystem features such as wooded lands, natural preserves, easements, habitats, or protected species. Indirect effects due to increased stormwater runoff into local water bodies (the Ohio River and Mill Creek) would be minimized using improved drainage technologies and designs developed since the original interstate construction.
 - **Cultural Resources:** The removal of 204 feet of Longworth Hall and the relocation of 14 commercial tenants within the structure could indirectly lead to a change in building usage.

The indirect effects listed above remain applicable to Refined Alternative I (Concept I-W). ODOT is in the process of purchasing the full Longworth Hall property at a mutually agreed upon price and from a willing seller as a result of the right-of-way negotiation process. The building will remain occupied, and only businesses directly impacted by the removal of 204 feet from the building's east end will be relocated. ODOT may use interior space or the exterior grounds surrounding the building during the project's construction, but no impacts to the building's continued use for commercial office, retail, and event space are anticipated. If project-related activities result in additional impacts to tenants in Longworth Hall, then ODOT will conduct additional coordination in order for FHWA to determine if reevaluation to meet NEPA requirements is necessary. These measures will minimize the potential for indirect changes to the usage of Longworth Hall.

In addition, Refined Alternative I (Concept I-W) may indirectly contribute to community benefits. The project represents a \$3.6 billion regional investment that is anticipated to increase short-term employment opportunities in the construction trades and related fields and revenues for businesses providing services to construction crews.

The project may also indirectly contribute to long-term enhancements in workforce diversity, employment, and income that last well beyond the duration of the project. Goals for DBE firm participation, mentoring, and support will be incorporated into the project's progressive design-build phase (Phase III). In addition, KYTC and ODOT will develop an on-the-job training program to offer equal opportunity for the training of individuals to advance their skills toward journeyman status in the highway construction trades. KYTC and ODOT will also create a workforce development plan to assist candidates seeking employment in the transportation industry or on related infrastructure projects (see Section 4.1.6).

The project may also indirectly improve economic opportunities. In anticipation of the project, the dunhumbly USA headquarters (currently under new ownership and called 84.51°) relocated to a new, expanded site about one-half mile east of the project (see Section 4.1.6). The new headquarters anchored additional street-level commercial spaces that have generated further economic growth in downtown Cincinnati. The area occupied by the relocated headquarters was heavily disturbed and already in urban development. Furthermore, Refined Alternative I (Concept I-W) reconfigures several ramps in downtown Cincinnati to open up approximately 10 acres of land for potential redevelopment and/or public use directly adjacent to the Cincinnati CBD (see Section 3.3.3). These lands are currently heavily disturbed and occupied by interstate and ramp roadways and are therefore not anticipated to result in indirect adverse effects to socioeconomic, community, ecological, or cultural resources should they be developed in the future.

Given the above, the Refined Alternative I (Concept I-W) is expected to result in net beneficial indirect effects.



4.10.2 Cumulative Effects

To assess cumulative effects, the 2012 EA/FONSI documented other reasonably foreseeable actions within the greater Covington and Cincinnati metropolitan areas that had the potential to be built between 2012 and 2030. The cumulative effects assessment for Selected Alternative I (from the 2012 EA/FONSI) considered the following projects: I-75 Thru the Valley, I-75 Mill Creek Expressway, KY-8/4th Street Realignment, KY-1120 Widening, and the Buttermilk Pike Interchange Improvements. The 2012 EA/FONSI concluded that Selected Alternative I would have a minor contribution to cumulative business displacements, loss of public recreational land, stormwater runoff, and loss of cultural resources. Although not documented in the 2012 EA/FONSI, Selected Alternative I would have contributed to a cumulative loss of residences due to proposed residential relocations in Covington and a cumulative loss of wetlands, streams, and threatened or endangered species habitat.

For this supplemental EA, the horizon year for the cumulative effects assessment has been extended to 2050, which corresponds to the regional planning horizon for OKI's long-range transportation plan. The planned, programmed, and committed actions included in the cumulative effects assessment were updated based on a review of OKI's *2050 Metropolitan Transportation Plan* documents, are shown in Figure 23, and are summarized below:

- I-75 Thru the Valley: ODOT project to widen and reconstruct I-75 from SR 126/Ronald Reagan Cross County Highway to just south of I-275 in Cincinnati. This project is currently under design and construction with an estimated construction completion in spring 2030.
- I-75 Mill Creek Expressway: ODOT project to widen and resurface I-75 between Paddock Road and the Western Hills Viaduct in Hamilton County and improve the interchanges at Hopple Street, I-74, Mitchell Avenue, SR 562/Norwood Lateral Expressway, and Paddock Road. This project is currently under design and construction with an estimated construction completion in fall 2025.
- Western Hills Viaduct: City of Cincinnati project to replace the Western Hills Viaduct with a new bridge to the south of the existing bridge. This project is currently under design with an estimated construction completion in 2030.
- Waldvogel US-50W: City of Cincinnati project to remove the existing US-50W viaduct and construct a new bridge, complete major upgrades to US-50W bridge decks and roadways, relocate a railroad, and raise the roadway elevation out of the floodplain. This project was completed in 2015.
- KY-8/4th Street Realignment: KYTC project to improve the KY-8/4th Street bridge over the Licking River. This project is following a design-build process with construction expected to begin in late 2023 or 2024.
- Texas Turnaround at Pike Street: KYTC project to restrict the I-71/I-75 northbound entrance ramp from 4th Street to emergency access only, construct a Texas Turnaround at Pike Street, restripe the northbound I-71/I-75 lanes to provide an additional travel lane from Pike Street to the BSB, and rebuild



the bridge that carries I-71/I-75 northbound to West 5th Street. This project was completed in December 2022.

- KY-1120 Widening: KYTC project to widen West 12th Street/MLK Jr. Boulevard from I-75 to Scott Street and construct a new bridge between Russell Street and Madison Avenue. This project was completed in 2015.
- I-71/I-75 Cut-in-the-Hill: KYTC safety project to repair pavement, upgrade lighting, and add a high friction surface treatment on portions of I-71/I-75 between Buttermilk Pike and the BSB. This project was completed in 2020.
- Buttermilk Pike Interchange Improvements: KYTC project to construct improvements to the Buttermilk Pike interchange with I-71/I-75. The project was completed in 2014.
- I-75/I-275 Interchange: KYTC project to improve the I-75/I-275 interchange as well as nearby interchanges with major local roads and state routes. This project is currently in the preliminary design and environmental phase.

The direct impacts associated with the actions listed above have been updated based on the most current project development for each action and are summarized in Table 35. For example, several actions that were in the early planning phases during the preparation of the 2012 EA/FONSI have subsequently been constructed or have completed NEPA review and have more refined impact determinations.

Refined Alternative I (Concept I-W) will add 25 full or partial commercial relocations to the 87 commercial relocations associated with other actions in the area. However, business displacements associated with Refined Alternative I (Concept I-W) will only have a minor contribution to adverse cumulative effects because they represent a small fraction of the businesses and job opportunities available in the region.

Refined Alternative I (Concept I-W) has substantially reduced residential relocations by up to 95 percent when compared to Selected Alternative I (from the 2012 EA/FONSI). Refined Alternative I (Concept I-W) will add 4 residential relocations to the 165 residential relocations associated with other actions in the area. However, residential relocations associated with Refined Alternative I (Concept I-W) will have only a minor contribution to adverse cumulative effects because they represent only some of the residential housing in the region.

Refined Alternative I (Concept I-W) will contribute to a minor cumulative loss in public recreational land by permanently removing 1.01 acres of parkland in addition to the 0.8 acre of parkland removed as a result of other actions in the area. This cumulative loss in public recreational land represents a small portion of the over 750 acres of public recreational land present in the area, as described in Section 4.1.3. In addition, the mitigation measures incorporated into Refined Alternative I (Concept I-W) will contribute to cumulative improvements to public recreational land by providing upgraded and new recreational facilities in existing parks and replacement, higher-value land that is not prone to flooding in the Goebel Park Complex.



Figure 23: Past, Present, and Reasonably Foreseeable Actions



Table 35: Past, Present, and Reasonably Foreseeable Actions

Project	Socioeconomic Impacts	Community Impacts	Ecological Impacts	Cultural Impacts
I-75 Thru the Valley ¹	<ul style="list-style-type: none"> • Access near Cooper and Davis streets improved. • 57 residential relocations. • 30 full or partial commercial or industrial relocations. 	<ul style="list-style-type: none"> • Relocation of Veteran's Memorial. 	<ul style="list-style-type: none"> • 1,440 feet stream impacts. 	<ul style="list-style-type: none"> • 2.5 acres permanent ROW² from NRHP district.
I-75 Mill Creek Expressway ¹	<ul style="list-style-type: none"> • 66 residential relocations. • 38 commercial relocations. 	<ul style="list-style-type: none"> • 0.8 acre permanent ROW from 5 parks. 	<ul style="list-style-type: none"> • 460 feet stream impacts. • 0.09 acre wetland impacts. 	<ul style="list-style-type: none"> • Minor impacts to 2 NRHP eligible properties (No Effect determination).
Western Hills Viaduct	<ul style="list-style-type: none"> • 8 commercial relocations. 	<ul style="list-style-type: none"> • New bicycle and pedestrian facilities. 	<ul style="list-style-type: none"> • 375 feet stream impacts. • Seasonal clearing for threatened/endangered bats. 	<ul style="list-style-type: none"> • 2 NRHP eligible properties removed. • Minor impacts to 1 historic district.
Waldvogel US-50W	<ul style="list-style-type: none"> • 0 residential relocations. • 5 commercial relocations. 	<ul style="list-style-type: none"> • No impacts. 	<ul style="list-style-type: none"> • No impacts. 	<ul style="list-style-type: none"> • Minor impacts to 1 NRHP property.
KY-8/4 th Street Realignment ¹	<ul style="list-style-type: none"> • Minor ROW² impacts. 	<ul style="list-style-type: none"> • No impacts. 	<ul style="list-style-type: none"> • Unquantified impacts to the Licking River. 	<ul style="list-style-type: none"> • Potential visual impacts. • Adverse effect to KY-8 Licking River bridge. • No adverse effect to 1 historic district.
Texas Turnaround at Pike St.	<ul style="list-style-type: none"> • No impacts. 	<ul style="list-style-type: none"> • No impacts. 	<ul style="list-style-type: none"> • No impacts. 	<ul style="list-style-type: none"> • No impacts.
KY 1120 Widening ¹	<ul style="list-style-type: none"> • 34 residential relocations. • Minority/low-income relocations. 	<ul style="list-style-type: none"> • Minor indirect impacts to Seminary Square. 	<ul style="list-style-type: none"> • No impacts. 	<ul style="list-style-type: none"> • 2 historic residences removed. • Structures bordering historic districts removed.



Project	Socioeconomic Impacts	Community Impacts	Ecological Impacts	Cultural Impacts
<i>Table 35 (cont.)</i>				
I-71/I-75 Cut-in-the-Hill	<ul style="list-style-type: none"> • No impacts. 	<ul style="list-style-type: none"> • No impacts. 	<ul style="list-style-type: none"> • No impacts. 	<ul style="list-style-type: none"> • No impacts.
Buttermilk Pike Interchange Improvements ¹	<ul style="list-style-type: none"> • No impacts. 	<ul style="list-style-type: none"> • No impacts. 	<ul style="list-style-type: none"> • No impacts. 	<ul style="list-style-type: none"> • No impacts.
I-75/I-275 Interchange	<ul style="list-style-type: none"> • 8 residential relocations. • 6 commercial relocations. • Minority/low-income relocations. 	<ul style="list-style-type: none"> • No impacts. 	<ul style="list-style-type: none"> • 16,000 feet stream impacts. • 1.1 acres wetland impacts. • 92 acres threatened or endangered species habitat impacts. 	<ul style="list-style-type: none"> • No adverse effect to one NRHP listed property.

1. Project included in 2012 EA/FONSI.

2. Right-of-way is abbreviated "ROW."



Refined Alternative I (Concept I-W) will add 2.38 acres of permanent wetland impacts to the 1.19 acres of impacts from other actions in the area. In addition, Refined Alternative I (Concept I-W) will add 1,368 feet of permanent stream impacts to the over 18,275 feet of impacts from other actions in the area. Refined Alternative I (Concept I-W) will also remove 90 acres of suitable habitat (not designated critical habitat) for threatened or endangered species in addition to the 92 acres removed by other actions in the area. However, mitigation measures incorporated into Refined Alternative I (Concept I-W) and other actions will offset adverse cumulative effects to these resources by creating, protecting, repairing, and/or restoring wetlands, streams, and suitable habitat for threatened or endangered species in quantities that are equivalent to or greater than the impacted areas. Additional details regarding mitigation measures for these resources are provided in Section 4.2.

Refined Alternative I (Concept I-W) will contribute to increased stormwater runoff into the Ohio River and Mill Creek; however, cumulative deterioration in water quality will be minimized through improved drainage technologies and designs and the implementation of BMPs to control erosion and sediment and to address water quality treatment requirements in Ohio. Refined Alternative I (Concept I-W) will also separate all highway runoff from the combined sewer systems, which will reduce combined sewer overflows in the Ohio River and Mill Creek and will result in cumulative improvements to water quality. Additional details about stormwater are provided in Sections 4.11.6 and 4.12.1.

Refined Alternative I (Concept I-W) will take 204 feet of Longworth Hall and remove 0.23 acre of land and two contributing elements from historic districts, in addition to the removal of 4 historic structures and removal of over 2.5 acres from historic districts associated with other projects in the area. These impacts represent a small fraction of the historic districts and structures present throughout the northern Kentucky and Cincinnati region¹ and are expected to result in minor cumulative loss of cultural resources.

Refined Alternative I (Concept I-W) was evaluated for cumulative effects specific to EJ populations, other socioeconomic groups and populations, and disadvantaged communities. Refined Alternative I (Concept I-W) will result in a minor contribution to cumulative residential and commercial displacements and a cumulative loss of parkland and historic resources in these communities. These minor cumulative effects will be experienced by all populations and communities, including EJ populations, non-EJ populations, other socioeconomic populations and groups, and disadvantaged communities. Additional details about cumulative effects specific to these communities are discussed in Sections 4.1.7, 4.1.8, and 4.1.9 of this supplemental EA, the [Environmental Justice Analysis Report](#), and the [Socioeconomic Technical Report](#).

Cincinnati's West End, now partitioned into the Queensgate and West End neighborhoods, is an area with known EJ populations and disadvantaged communities in addition to populations of older adults, adults with disabilities, and zero-car households that was historically impacted by urban renewal plans that were common in the United States in the mid-twentieth century. The West End was established in the early 1800s and grew to encompass the majority of the west side of downtown Cincinnati. By 1925, West End had become a vibrant Black community that housed almost 80 percent of the city's 38,000 African Americans. City urban renewal

¹ Based on a review of the *Ohio State Historic Preservation Office Online Mapping System* (<https://www.ohiohistory.org/preserving-ohio/state-historic-preservation-office/online-mapping-system/>) and the *Kentucky Heritage Council Cultural Resource Web Portal* (<https://heritage.ky.gov/compliance/Pages/faqs.aspx>).



programs that began in earnest in the 1950s cleared the residential neighborhoods to create industrial zones suited to manufacturers with easy access to highways and to create separate industrial, commercial, and residential zones within the city. The Mill Creek Expressway (I-75) was constructed in conjunction with these urban renewal programs. In total, two thirds of the housing (between 13,147 and 22,354 low-cost dwellings) and more than half of the residential acreage in the West End was lost between 1950 and 1970, displacing between 50,561 and 54,471 predominately Black, low-income residents (75 percent of the residents of the West End).¹

Refined Alternative I (Concept I-W) requires one commercial relocation (a small printing shop) in the West End neighborhood. In addition, the footprint of Refined Alternative I (Concept I-W) has been reduced and requires only minor amounts of strip right-of-way in the West End neighborhood. Refined Alternative I (Concept I-W) will not add to or exacerbate any adverse effects in the West End community from prior actions or events. In recognition of the history of City-sponsored urban renewal and the original Mill Creek Expressway (I-75) construction and as an enhancement in the West End neighborhood, ODOT will work with the City of Cincinnati, which includes the West End Community Council, to develop content for an interpretive display describing the West End community in relation to historic City urban renewal and the Millcreek Expressway construction and to identify a location in proximity to the I-75 corridor to install the display.

Based on the evaluation of direct impacts contained in this supplemental EA, Refined Alternative I (Concept I-W) will improve community cohesion, improve traffic flow and safety for all modes of travel, provide additional economic opportunities, improve air quality, abate noise, improve aesthetics, and reduce flooding and storm sewer overflows, which will offset negative cumulative effects resulting from Refined Alternative I (Concept I-W).

Given the above, when considered with other past, present, and reasonably foreseeable projects, Refined Alternative I (Concept I-W) is expected to result in a minor contribution to cumulative impacts.

4.11 Construction Impacts

The 2012 EA/FONSI described a set of construction packages and a conceptual construction phasing plan for Selected Alternative I that included five construction phases and several construction packages. Refined Alternative I (Concept I-W) will be built in three phases, which are described in detail in Section 1.1. KYTC and ODOT have developed an initial traffic management plan that will lay the groundwork for future activities during the design and construction process. All three construction phases will be coordinated with one another, and separate construction phasing plans will be developed for each. For Phases I and II, construction phasing will be developed during detailed design activities as part of a traditional design-bid-build process. For Phase III, the design-build team will develop detailed work packages and construction staging plans during the progressive design-build process.

¹ *A Brief History of Cincinnati's West End*. Compiled by Leigh Oldershaw, Susan Gasbarro, and Erica Schneider. May 18, 2023.



The 2012 EA/FONSI identified the following temporary construction impacts for Selected Alternative I:

- Temporary impacts to residents, commuters, businesses, and transit due to increased traffic on local roads, access restrictions, and detours;
- Temporary utility impacts;
- Temporary economic and employment benefits;
- Temporary construction-related air quality impacts;
- Temporary noise increases due to construction activities; and
- Temporary increases in erosion and sedimentation.

The temporary construction impacts listed above apply to Refined Alternative I (Concept I-W) and are discussed in the following sections.

4.11.1 Temporary Impacts to Residents, Commuters, Businesses, and Transit

During construction, the area surrounding the I-71/I-75 corridor will be temporarily impacted by increased traffic on local roads, reduced access, and detours due to construction activities. These impacts are anticipated to some extent for all modes of transportation, including vehicular, pedestrian, bicycle, and transit.

KYTC and ODOT are working with local cities and counties to mitigate impacts from construction activities. On June 15, 2022, KYTC and the City of Covington finalized a Memorandum of Understanding (MOU) regarding the NEPA process (see Appendix B, Local Agency Coordination). Among other items, the MOU addresses measures to minimize temporary construction impacts. Where appropriate, these measures have been extended to include the other cities along the corridor, including Fort Mitchell, Fort Wright, Park Hills, and Cincinnati. ODOT also desires to continue to foster the strong working relationship it has with the City of Cincinnati to mitigate temporary impacts during construction. KYTC and ODOT have policies and procedures in place that govern their efforts to design safe, efficient, and effective work zones. In addition, the use of a progressive design-build process for Phase III will allow the project team to streamline the project's schedule and expedite construction to minimize the duration of temporary impacts. Specific measures incorporated into the environmental commitments to address temporary construction impacts to residents, commuters, businesses, and transit are described in Section 4.11.7.

4.11.2 Temporary Utility Impacts

During construction, temporary utility impacts will occur, although service interruptions are not anticipated. KYTC and ODOT will continue to coordinate with utilities during the design and construction phases to minimize temporary impacts to their infrastructure.



4.11.3 Temporary Economic and Employment Benefits

The construction of Refined Alternative I (Concept I-W) is expected to result in temporary increases in employment due to construction job creation. Temporary economic benefits are also anticipated due to increased sale of construction supplies, materials, equipment, and fuel from local and regional sources and increased revenue for businesses providing services to construction crews.

4.11.4 Temporary Air Quality Impacts

Temporary construction-related air quality impacts are expected due to increased dust and mobile-source emissions from construction equipment and increased emissions from increased traffic congestion during construction. Temporary air quality effects will be minimized by following federal, state, and local regulations regarding dust and emission controls and implementing controls in accordance with KYTC's *Standard Specifications* and ODOT's CMS. In addition, KYTC and ODOT will develop and implement a dust control plan that includes proactive measures to prevent discharge of dust in the atmosphere. KYTC and ODOT will also develop and implement an ambient air quality monitoring program for sensitive areas in the corridor, including areas utilized by children and other sensitive land uses such as schools, parks and recreation areas, and hospitals. Specific measures incorporated into the environmental commitments to address temporary air quality impacts are described in Section 4.11.7.

4.11.5 Temporary Noise Impacts

Construction noise will generate temporary noise impacts on adjacent and nearby properties, particularly those in residential land use. Construction noise will be emitted intermittently by a range of construction equipment at varying levels of intensity based on the types of operations being performed and the number of pieces of equipment in operation at any given time.

During design development, in addition to evaluating parameters such as cost, schedule, access, traffic impacts, safety, risk, etc., the project team has committed to considering construction noise abatement in areas where noise sensitive receptors are present. Examples of design decisions that could address construction noise impacts include foundation type selection, installation methodology, storage and staging areas, phasing of work, timing for noise barrier construction, MOT, and incentives.

During construction, the project team will be both proactive and reactive with respect to construction noise. This will be accomplished through equipment selection and maintenance, potential screening/shielding/barriers, scheduling of work, education of staff, and the development and implementation of the project's communication plan.

In addition to the options outlined above, consideration of construction noise minimization and mitigation (as necessary) is required pursuant to 23 CFR § 772.19. Additional information on construction noise can be accessed in the FHWA *Construction Noise Handbook (FHWA-HEP-06-015)* and the *Roadway Construction Noise Model Version 2.0*.



Measures incorporated into the environmental commitments to address temporary noise impacts are described in Section 4.11.7.

4.11.6 Temporary Erosion and Sedimentation Impacts

Construction activities such as removing vegetation and soil may cause increased erosion and sedimentation. Erosion and sediment control will be managed according to the requirements of KYTC's *Standard Specifications* and ODOT's CMS, including ODOT's SS 832 *Temporary Sediment and Erosion Control*. KYTC and ODOT will also manage erosion and sediment control through each state's permitting process for the National Pollutant Discharge Elimination System (NPDES). Measures incorporated into the environmental commitments to minimize erosion and sedimentation impacts are described in Section 4.11.7.

4.11.7 Measures to Minimize and Mitigate Temporary Construction Impacts

Refined Alternative I (Concept I-W) includes the following measures to minimize and mitigate temporary construction impacts:

- During construction, vehicular, bicycle, and Americans with Disabilities Act-compliant pedestrian access to neighborhoods and community facilities will be maintained through provision of alternate routes of entry. Where sidewalks, walkways, or shoulders must be temporarily closed to facilitate construction, safe pedestrian passage will always be maintained on one side of the roadway, unless other temporary pedestrian accommodations are provided. Construction zone pedestrian access will be maintained in accordance with the *Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way* as published in *Federal Register Volume 88 page 53604 (88 FR 53604)*. An MOT plan will be developed and implemented to maintain traffic operation through the corridor and minimize disruption to the surrounding communities. The MOT plan will be coordinated with the Regional Incident Management Task Force.
- Improvements to the intersections of West 4th Street and Main Street and West 5th Street and Main Street will be evaluated to ensure satisfactory levels of service during project construction and operation.¹
- An MOT plan will be created to meet the access requirements of communities in the City of Covington and the City of Cincinnati to minimize impacts to local businesses during project construction to the extent practicable.¹ The contractor will be directed to maintain access to businesses for vehicles, pedestrians, and bicyclists. If access cannot be maintained, the contractor will notify the business and provide alternative access. If alternative access cannot be provided, the contractor must conduct work when the business is not operational and must restore access during business hours. In addition, temporary business signs to identify entrances will be provided by the contractor.

¹ This commitment was included in the *Memorandum of Understanding between the City of Covington, Kentucky and the Kentucky Transportation Cabinet Regarding Brent Spence Bridge Project NEPA Reevaluation Process* executed on June 15, 2022 and has been expanded to include ODOT and extend the benefits to other local agencies, as appropriate.



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- Impacts of the MOT plan on public transportation will be evaluated. The design-build team will develop measures to maintain existing services to provide safe, reasonable, and efficient access to goods and services unless other temporary accommodations are provided.
 - During design development, in addition to evaluating parameters such as cost, schedule, access, traffic impacts, safety, risk, etc., KYTC and ODOT will also consider construction noise abatement in areas where noise sensitive receptors are present, including:
 - Foundation type selection: Different foundation types have varying effects on the intensity and duration of construction noise (e.g., piling versus cast-in-place concrete shafts).
 - Installation methodology: The same feature of work can be achieved in a variety of ways and planned for in the design phase. This could involve using mechanical or chemical splitting as means of demolition versus the use of explosives or drilling and setting a retaining wall versus driving soldier piles.
 - Storage and staging areas: Identification or acquisition of locations/properties that provide separation from sensitive receptors. This could be by proximity or by the use of existing barriers.
 - Phasing of work: Consideration of how work is phased can have a prominent impact on the duration for which a noise sensitive receptor is exposed to construction noise from a particular feature of work. This concept is especially evident when dealing with a receptor like a school that is out of session during the summer. Phasing the project to allow/facilitate all high decibel work to be completed at once and during this window not only reduces, but eliminates, this impact.
 - Permanent noise barriers: Consideration will be given to the feasibility of constructing permanent noise barriers that are needed for noise abatement of the project's final configuration earlier in the project to help mitigate temporary construction noise.
 - Incentives: There are provisions to establish schedule-based incentives. These incentives could be used to help minimize the duration of overall construction noise.
 - Temporary construction detours and haul routes will be evaluated in a way to limit the impact created by redirected traffic through community sensitive areas and near noise sensitive receptors to the extent practicable. In addition to official routes, alternate routes that may also be used will also be evaluated to minimize heavy truck traffic on residential streets.
 - The availability of night-time and weekend work will be evaluated in conjunction with permitted lane closure maps during the development of the MOT plan.
 - The MOT plan and the project communications plan will include provisions for communicating with trucking companies and mapping services to notify them of detours and delay information related to the project.¹

¹ This commitment was included in the *Memorandum of Understanding between the City of Covington, Kentucky and the Kentucky Transportation Cabinet Regarding Brent Spence Bridge Project NEPA Reevaluation Process* executed on June 15, 2022 and has been expanded to include ODOT and extend the benefits to other local agencies, as appropriate.



- The MOT plan will evaluate available travel lanes on the mainline interstate during construction to reduce the potential that the project will induce traffic diversion similar to that experienced during recent closures and restrictions on the existing BSB.¹
- A project incident management plan will be developed to minimize diversion resulting from incidents occurring within the project limits during construction to the extent practicable. The City of Cincinnati and the Northern Kentucky cities along the corridor, including Fort Mitchell, Fort Wright, Park Hills, and Covington, will be given the opportunity to participate actively in the development of the incident management plan.¹
- The Northern Kentucky cities along the corridor, including Fort Mitchell, Fort Wright, Park Hills, and Covington will be provided an opportunity to review and comment on the MOT plan as it is developed. KYTC will work directly with the appropriate point person for each city to ensure that all relevant agencies and first responders, including police, fire, and emergency services, have an opportunity to review and provide input into all aspects of MOT planning, MOT and incident management plan development, and construction period operations affecting their respective cities.¹
- ODOT will provide the City of Cincinnati an opportunity to review and comment on the project MOT plan and incident management plan as they are developed. ODOT will work directly with the City of Cincinnati Department of Transportation and Engineering (DOTE) to ensure that all relevant agencies within the City have an opportunity to review and provide input into all aspects of MOT planning, MOT and incident management plan development, and construction period operations affecting the City.
- The construction documents, in concert with the MOT plan, will include appropriate provisions for the design-build team/contractor to install and utilize variable electronic message boards at key locations within the City of Covington (e.g. Pike and Russell, Eighth and Russell, Seventeenth and Scott) and the City of Cincinnati, as needed, during construction.¹
- KYTC will work to ensure that the construction documents require the contractor, working through KYTC's project manager and the Covington project director, to coordinate with the City's traffic control officers regarding the location and placement of variable electronic message boards.¹
- ODOT will work to ensure that the construction documents require the contractor, working through ODOT's project manager and the Cincinnati DOTE, to coordinate the location and placement of variable electronic message boards. The construction documents also may contain other means of informing and notifying the public of traffic changes, as appropriate.
- During construction, a project website will provide regular project updates regarding MOT plans, current traffic patterns, upcoming changes, etc. The website will provide an email address and phone number for the public to contact the contractor's designated representative with questions, concerns, or complaints regarding ongoing or planned construction activities. Information about construction

¹ This commitment was included in the *Memorandum of Understanding between the City of Covington, Kentucky and the Kentucky Transportation Cabinet Regarding Brent Spence Bridge Project NEPA Reevaluation Process* executed on June 15, 2022 and has been expanded to include ODOT and extend the benefits to other local agencies, as appropriate.



sequencing, project highlights, and construction schedules will also be shared with the public through social media, e-newsletters, local media, presentations to local groups, and virtual project updates. All complaints will be investigated by project personnel. KYTC and ODOT will develop reporting protocols to ensure that the contractor responds to the inquiries in a timely manner and keeps KYTC and ODOT informed of community questions and concerns.¹

- The project communications team, working through the KYTC project manager, will make best efforts to provide timely notice to the Covington project director prior to the public release of any information related to any portion of the project located in or likely to have a substantial effect on the City of Covington.¹
- The project plans shall contain requirements to ensure compliance with all applicable state noise standards and local noise ordinances. The contractor, working through the KYTC and ODOT project managers, shall be required to communicate and coordinate with the Covington project director regarding noise abatement measures within the City of Covington and the Cincinnati DOT regarding noise abatement measures within the City of Cincinnati. Such measures may include limiting construction activities and crews and construction noise during specific times of day, days of the week, number of consecutive hours or days, and special events and limiting activities that create high levels of construction noise, such as pile driving and blasting, to certain times of day to the extent practicable.¹
- The project plans shall contain requirements that the contractor shall comply with all state and local requirements for maintaining air quality during construction.¹
- ODOT will work with the City of Cincinnati to conduct before/after surveys of other roadways impacted by increased traffic during construction. ODOT will restore those roadways to pre-construction conditions once the project is complete.
- BMPs from ODOT's CMS, including SS 832 *Temporary Sediment and Erosion Control*, will be used during and after construction to control erosion and sediment and protect water quality.
- Contractors shall comply with all applicable USEPA diesel emission requirements. Contractors will utilize construction equipment that meets USEPA Tier 4 diesel engine standards to the greatest extent practicable.
- All diesel-powered construction equipment will use ultra-low sulfur diesel fuel.
- Contractors will schedule and conduct activities and employ appropriate protection techniques to minimize impacts to air quality and prevent hazardous or objectionable air quality conditions, particularly for drilling, cutting, grinding, abrasive blasting, or similar activities to the extent practicable.
- The burning of any materials will not be permitted on the construction site.

¹ This commitment was included in the *Memorandum of Understanding between the City of Covington, Kentucky and the Kentucky Transportation Cabinet Regarding Brent Spence Bridge Project NEPA Reevaluation Process* executed on June 15, 2022 and has been expanded to include ODOT and extend the benefits to other local agencies, as appropriate.



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- Contractors will develop and implement a dust control plan that includes proactive measures to prevent discharge of dust into the atmosphere. The plan will be approved by KYTC and ODOT and will define roles and responsibilities for implementation and monitoring for compliance. Expectations and timelines established in the dust control plan will be in accordance with KYTC's *Standard Specifications* and ODOT's *CMS Item 616, Dust Control*.
 - The following measures will be employed to protect sensitive receptors such as hospitals, schools, daycare facilities, building fresh air or ventilation intakes, older adult housing, and convalescent facilities from impacts of diesel exhaust fumes:
 - Diesel-powered engines will be located away from building air conditioners and windows to the greatest extent practicable.
 - Exposure to diesel exhaust within 50 feet of sensitive receptors will be minimized in terms of concentration and time to the greatest extent practicable.
 - Idling time for diesel-powered equipment will be minimized to the greatest extent practicable.
 - Digital signs such as arrow panels and variable electronic message boards will use solar power to the greatest extent practicable.
 - Contractors will develop and implement an outdoor ambient air quality monitoring program during construction for the following sensitive areas:
 - In the vicinity of Beechwood Elementary and High School in Fort Mitchell, Kentucky.
 - In the vicinity of Notre Dame Academy in Fort Wright and Park Hills, Kentucky.
 - East and west of I-71/I-75 between Edgecliff Road and West 5th Street in Covington, Kentucky.
 - East and west of I-75 between 9th Street and Findlay Street in Cincinnati, Ohio.

The program will be overseen by KYTC and ODOT. Contractors will develop and implement a plan to be approved by KYTC and ODOT that identifies locations, times, and durations of air quality monitoring and protocols to address any exceedances of the NAAQS should they be observed, including procedures for determining whether any exceedances are caused by project-created emissions or other emission sources. Locations, times, and durations for air quality monitoring will be determined during final design; in consideration of land uses, non-project sources of emissions, and construction phasing; and in consultation with the city in which the monitoring will occur. The plan will define a program for background particulate monitoring to establish and routinely verify baseline levels prior to the commencement of active construction in the vicinity of any monitoring location. During active construction in the vicinity of any monitoring location, real-time particulate matter data will be collected at an interval to be established in the ambient air quality monitoring plan (for example, measures every 10 seconds and logged in 15-minute periods). Particulate matter data will be time-weighted over 24 hours for comparison to the NAAQS. If the data show that air quality levels are approaching a concern level (to be established in the monitoring plan) that may result in an exceedance of the 24-hour



NAAQS for PM2.5, the 1-hour NAAQS for nitrogen dioxide, or the 8-hour NAAQS for carbon monoxide, then project-related operational and/or mechanical deficiencies will be identified and corrected, as required, if they are determined to be contributing factors. If the data result in any air quality levels that exceed the above-stated NAAQS for PM2.5, nitrogen dioxide, or carbon monoxide that are caused by project-related emissions, then the applicable construction activities will be suspended until the deficiencies are identified and corrected.

- The project staff will be educated on the noise sensitive receptors. This will include not only their location, but also the type (resident, school, business, etc.), hours of operation, and any prior concerns communicated.
- Motorized construction equipment will be equipped with an appropriate, well-maintained muffler and will include silencers on both air intakes and air exhaust when reasonable. Contractors will have an established maintenance program for their equipment fleet and will ensure that necessary maintenance/repairs are performed before putting equipment into service. Equipment will also be pulled out of service to address deficiencies identified during operation. When noise sensitive receptors are present, specific attention will be given to the muffler systems on all combustion engines, as that is often a primary source of construction noise.
- To the greatest extent practicable, construction equipment and vehicles carrying rock, concrete, or other materials will utilize designated routes that will cause the least disturbance to noise sensitive receptors.
- Where practicable, existing features will be utilized to minimize the impacts of construction noise on noise sensitive receptors. Such features will include bridges, berms, retaining walls, and buildings. Temporary features already necessary for performing the work, such as stockpiles and tool trailers, may also be strategically utilized to assist in this effort. Where necessary, temporary features, such as hay bales, will be constructed specifically to minimize construction noise where noise sensitive receptors are present.
- Where noise sensitive receptors are present, specific consideration will be given to the selection of equipment to be utilized. This may include the age of the equipment as newer equipment typically employs new technology with respect to emissions and noise, if shielding or engine enclosures are standard, size appropriateness, and power source (gas/diesel, electric/solar, pneumatic, hydraulic).
- A NPDES Permit will be obtained from OEPA before construction activities begin.
- A Kentucky Pollutant Discharge Elimination System (KPDES) Permit will be obtained from KDOW before construction activities begin.
- KYTC and ODOT will implement measures for erosion and sediment control during construction (see Section 4.2.4 for additional details regarding this commitment).



4.12 Utilities and Railroads

The following sections describe changes to utility and railroad impacts and coordination activities that have occurred since the 2012 EA/FONSI, as well as anticipated impacts for Refined Alternative I (Concept I-W).

4.12.1 Utilities

The list of utilities that own facilities in the project area was updated to reflect changes in ownership, new facilities, and the reduced project footprint since the 2012 EA/FONSI. The utility facilities currently located in the project area include:

- altafiber (previously Cincinnati Bell)
- AT&T Distribution
- AT&T Distribution MCG
- AT&T Metro/LNS
- AT&T Ohio
- AT&T Transmission – Long Distance
- Charter/Spectrum
- City of Cincinnati Stormwater Management Utility
- City of Cincinnati Traffic
- Crown Castle Fiber
- Duke Energy – Electric (Distribution)
- Duke Energy – Electric (Transmission)
- Duke Energy – Gas
- Lumen
- MCI-Verizon
- Metropolitan Sewer District of Greater Cincinnati (MSD)
- Northern Kentucky Water District
- Sanitation District No. 1 of Northern Kentucky (SD1)
- T-Mobile Facilities
- Windstream Communications
- Zayo Group

The utility impacts described for Selected Alternative I in the 2012 EA/FONSI have not changed for Refined Alternative I (Concept I-W). Individual utility impacts will continue to be refined, and required relocations will be confirmed as each project phase progresses through detailed design.

The following utility coordination activities have occurred since the 2012 EA/FONSI:

- Subsurface utility engineering was completed in both Ohio and Kentucky in 2014.
- In 2017, ODOT identified potential stormwater detention options in coordination with MSD.
- In 2019, Duke Energy relocated facilities near the Ohio River and has remediated the areas where ODOT will acquire easements from the West End Substation in accordance with the requirements of the OEPA Voluntary Action Program, although work continues on other portions of the Duke Energy property.



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- Preliminary utility coordination for Phase II (ODOT PID 113361) was initiated in December 2021, with several companies responding with utility mapping, updated ownership information, and contact information for future coordination.
 - In response to a City of Covington request, KYTC conducted a coordination meeting with the City and SD1 in March 2021 to discuss stormwater management.
 - In December 2022, KYTC prepared a [Willow Run Storm Water Separation Feasibility Study Report](#) to evaluate alternative drainage layouts for storm and sanitary separation.
 - KYTC has continued to coordinate required utility easements during the development of the right-of-way plans in Kentucky for Phase III (ODOT PID 116649/KYTC Project Item No. 6-17).
 - In 2022, ODOT and MSD held seven meetings to discuss potential highway stormwater outfalls using existing MSD facilities.
 - Coordination meetings for Phase II (ODOT PID 113361) were held with Cincinnati Bell (now at&fiber), Greater Cincinnati Water Works, and Duke Energy between February and April of 2022.
 - Stage 1 plans for Phase II (ODOT PID 113361) were sent to utility companies in July 2022.
 - KYTC and ODOT distributed an initial notice requesting utility location information for Phase III (ODOT PID 116649/KYTC Project Item No. 6-17) in October 2022.
 - KYTC and ODOT held utility coordination meetings for Phase III (ODOT PID 116649/KYTC Project Item No. 6-17) on October 24, 2022.

Coordination with utilities will continue through the design and construction phases to minimize project-related impacts to their infrastructure.

Stormwater

The majority of the project corridor in Kentucky, beginning at Kyles Lane and extending to the Ohio River, is located in the Willow Run watershed, as shown in Figure 24. This watershed drains to the Ohio River through a combined sewer system which overflows during high-volume rain events, flooding the river with combined sewer overflow. The BSB corridor encompasses 27 percent of the Willow Run watershed. Under existing conditions, all the runoff from the I-71/I-75 corridor flows into the combined sewer system, contributing to flooding in the Peasenburg neighborhood and contributing to overflow events. Furthermore, elevated water levels can cause the Ohio River to backflow into the combined sewer system, leading to flooding in the Goebel Park Complex.

In the 2012 EA/FONSI, KYTC committed to include stormwater BMPs and to coordinate with SD1 to separate the highway drainage from combined sewer systems or provide adequate stormwater detention. Since 2012, the City of Covington has reassumed stormwater responsibility from SD1. The City is responsible for



stormwater runoff until it reaches the combined sewer system, at which point it becomes the responsibility of SD1. Given this development, KYTC, the City of Covington, and SD1 will act cooperatively on water quality issues within the Ohio River and Willow Run watersheds. KYTC will participate with City and SD1 efforts to bring applicable agencies together to discuss, investigate, and evaluate mutually beneficial arrangements.

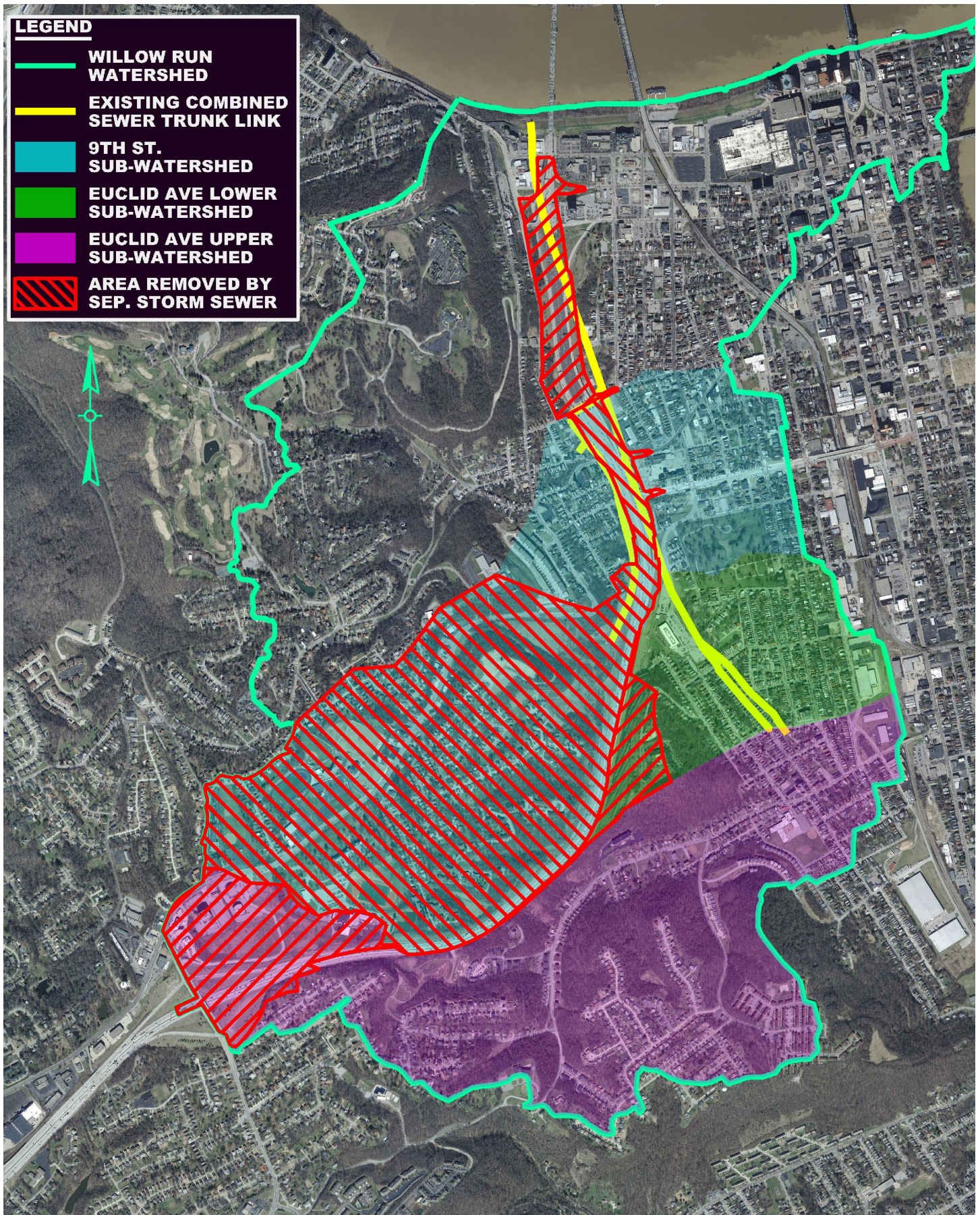
In northern Kentucky, transportation projects must address the quantity of stormwater runoff by separating interstate runoff from combined sewer systems. While only runoff from new impervious area is required to be separated, KYTC will separate all interstate runoff from the BSB corridor from the existing combined sewer system. Modeling completed for the [Willow Run Storm Water Separation Feasibility Study Report](#) shows that these separation efforts will remove a total of 503 acres (27 percent of the total Willow Run watershed area) from the existing Willow Run combined sewer system. This will substantially reduce the volume flowing into the combined sewer system and the frequency of overflow events, including in the Goebel Park Complex. While the separation measures will reduce the volume flowing into the existing combined sewer system, including in the Peaselburg area, modeling showed that the separation measures alone would not eliminate surcharging in the Peaselburg neighborhood. During detailed design, KYTC will work with the City of Covington and SD1 to address surcharging in the Peaselburg neighborhood based on the local design criteria for a 25-year storm, which will further reduce flooding in this neighborhood. BMPs will also be developed by the resident engineer and contractor prior to onsite activities to ensure continuous sediment and erosion control throughout the construction and post-construction period (see Section 4.2.4).

In Ohio, extreme rain events cause combined sewer overflows into Mill Creek, which is located west of the project. In the 2012 EA/FONSI, ODOT committed to include stormwater BMPs and to coordinate with MSD to separate the highway drainage from the combined sewer systems or provide adequate detention.

In the Cincinnati area, transportation projects must address both the quantity and quality of stormwater runoff, both by separating stormwater runoff from combined sewer systems and providing measures (BMPs) to reduce stormwater pollutants. Since 2012, ODOT and MSD have held multiple coordination meetings to discuss drainage design. The stormwater system along the BSB corridor in Ohio will be completely replaced, and the new system will be designed to meet current ODOT standards. The project will separate highway drainage from the existing combined sewer system in Ohio, and ODOT will partner with MSD to build infrastructure to drain directly to Mill Creek and/or the Ohio River. To address water quality treatment requirements in Ohio, vegetated options for stormwater BMPs will be utilized to the maximum extent practicable. Given the dense urban land use in the project area, the majority of the stormwater BMP treatment requirements will be addressed via off-site mitigation. In late 2022, ODOT and OEPA began discussions regarding providing offsite mitigation at a 1.5:1 ratio in the I-74 median within the same watershed as Phases I and II of the BSB Corridor Project. The technical review of the offsite mitigation will be completed during detailed design, and ODOT will continue to coordinate with OEPA as each project phase progresses through detailed design.



Figure 24: Willow Run Watershed



4.12.2 Railroads

The 2012 EA/FONSI stated that railroads would not be impacted by the project. Although not discussed, Selected Alternative I (from the 2012 EA/FONSI) included seven mainline and C-D road bridges over property owned by the Central Railroad of Indiana and CSX Transportation. For Selected Alternative I (from the 2012 EA/FONSI), the southbound C-D road from I-75 merged with the southbound C-D road from I-71 near 3rd Street in Cincinnati and passed over the railroads on one, combined bridge before crossing the Ohio River on the new companion bridge. These bridges would have required aerial easements (aerial rights only) from and access to railroad property.

Refined Alternative I (Concept I-W) reconfigures how interstate and local traffic cross the Ohio River. The southbound C-D traffic from I-75 and I-71 pass over the railroads on separate bridges and then merge together before crossing the Ohio River on the existing BSB. As a result, Refined Alternative I (Concept I-W) includes eight total mainline and C-D road bridges over property owned by the Central Railroad of Indiana (with no active tracks) and two active tracks owned by CSX Transportation, see Figure 8. These eight bridges will require aerial easements (aerial rights only) from, and access to, CSX property.

KYTC and ODOT held a coordination meeting with CSX on November 9, 2022 to discuss proposed work, construction requirements, horizontal and vertical clearances, and coordination requirements. In addition, ODOT and CSX executed a preliminary engineering agreement on December 15, 2022. ODOT will continue railroad coordination through the project's progressive design-build contract (Phase III), including acquisition of aerial easements and development of a railroad construction agreement and access permits for the CSX property.

4.13 Section 4(f) Properties

Section 4(f) of the U.S. Department of Transportation Act of 1966 (Section 4(f)) requires the consideration of publicly owned parks, recreation areas, and wildlife and waterfowl refuges during transportation project development. Section 4(f) also considers publicly or privately owned historic sites that are on or eligible for the NRHP. Section 4(f) is implemented by FHWA through 23 CFR part 774.

A use of a Section 4(f) property occurs under the following conditions:

- Permanent incorporation – A transportation project acquires new right-of-way or a permanent easement from a Section 4(f) property;
- Temporary occupancy – A transportation project results in a temporary use of property that is adverse in terms of the preservationist purpose of Section 4(f); or
- Constructive use – The proximity impacts of a transportation project on a Section 4(f) property, even without acquisition of the property, are so great that the activities, features, and attributes of the property are substantially impaired.¹

¹ FHWA. "[Section 4\(f\) Tutorial](#)." Environmental Review Toolkit. Accessed April 4, 2023.



Exceptions to the requirement for Section 4(f) approval are listed under 23 CFR § 774.13. The following exceptions apply to this project:

- Temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f);
- Maintenance, preservation, rehabilitation, operation, modernization, reconstruction, or replacement of historic transportation facilities if such work will not adversely affect the historic qualities of the facility that caused it to be on or eligible for the NRHP; and
- National Historic Trails and the Continental Divide National Scenic Trail designated under the National Trails System Act, 16 USC §§ 1241-1251, with the exception of those trail segments that are historic sites as defined in 23 CFR § 774.17.

Once a use has been determined, the intensity or magnitude of impact to the Section 4(f) property can be described either as “*de minimis*” or not “*de minimis*.” A *de minimis* impact involves the use of Section 4(f) property that is generally minor in nature and is one that, after taking into account avoidance, minimization, mitigation, and enhancement measures, results in no adverse effect to the activities, features, or attributes qualifying a park, recreation area, or refuge for protection under Section 4(f).

For historic properties, a *de minimis* impact is one that results in a determination of “no adverse effect” or “no historic properties affected” in accordance with Section 106. A *de minimis* impact determination requires agency coordination with the official having jurisdiction over the Section 4(f) property and opportunities for public involvement.

A *Final Individual Section 4(f) Evaluation* was prepared in July 2012 during the development of the 2012 EA. On August 8, 2012, and in accordance with 23 CFR § 774.17, FHWA approved the use of the Section 4(f) properties associated with Selected Alternative I (from the 2012 EA/FONSI). All required environmental commitments pertaining to Section 4(f) were included in the 2012 FONSI. Table 36 summarizes the impacts to Section 4(f) properties for Selected Alternative I (from the 2012 EA/FONSI).

A review of the project area conducted for this supplemental EA confirmed that the publicly owned parks and recreation areas documented in the 2012 EA/FONSI are still present and revealed additional sites that were not previously identified. Several publicly owned parks and recreation areas are in and near the project area but will not be impacted by Refined Alternative I (Concept I-W). These properties are summarized below (properties that were included in the 2012 EA/FONSI are marked with an “*”):

- General Ormsby Mitchel Park (KY) – 7.6-acre city park with tennis and basketball courts currently under renovation to construct a covered pavilion located at 261 Grandview Drive in Fort Mitchell.
- Fort Wright Nature Center (KY) – 13-acre nature area with trails, covered shelters, and a pond located off of Highland Pike near Highland Cemetery in Fort Wright.
- Neighborhood Park (Lewisburg)* (KY) – Small neighborhood park with playground, a picnic table, and benches located at West 11th Street and Hermes Avenue in Covington.



- Devou Park* (KY) – 700-acre public city park and golf course located at 1344 Audubon Road in Covington.
- George Steinfeld Park (KY) – A landscaped public walkway with benches (Sixth Street Promenade) located between the West 6th Street one-way roadways in Covington.
- Lincoln Community Center* (OH) – City recreation center including a neighborhood pool, basketball courts, a playground, and a tennis court located at 1027 Linn Street in Cincinnati.
- Wade Walk Baseball Field* (OH) – Public city park including two baseball fields located at 1525 Linn Street in Cincinnati (identified as a park at Derrick and Turnbow and Linn Street in the 2012 EA/FONSI).
- Laurel Playground (OH) – Public city park including a playground, basketball courts, and a baseball field located at 501 Liberty Street in Cincinnati.
- Sands Playground (OH) – Playground and paved multipurpose play area located in the area bounded by Poplar Street, Baymiller Street, and Livingston Street in Cincinnati.
- Linn Livingston Park (OH) – Small neighborhood greenspace located at the intersection of Linn Street and Livingston Street in Cincinnati.
- Dyer Park* (OH) – Public city park with two baseball fields, basketball courts, a playground, and a sprayground located at 2110 Freeman Avenue in Cincinnati.

Four publicly owned parks will be impacted by Refined Alternative I (Concept I-W). These properties are listed below, and descriptions are provided in Sections 4.13.3, 4.13.6, 4.13.7, and 4.13.8 (properties that were included in the 2012 EA/FONSI are marked with an “*”):

- Goebel Park Complex* (KY).
- Firefighters Memorial (OH).
- Queensgate Playground and Ball Field* (OH).
- Ezzard Charles Park (OH).

KYTC and ODOT conducted updated evaluations of historic resources in the project’s APE in 2022 and 2023 to confirm existing and identify any new history/architecture properties. Those efforts concluded that Refined Alternative I (Concept I-W) would impact two NRHP-listed properties (the Lewisburg Historic District and Longworth Hall) and two proposed historic districts (the Hillsdale Subdivision Historic District and the Elberta Apartments Historic District). See Section 4.5.2 for a detailed discussion of history/architecture properties in the APE. See Figure 8 for mapping showing the locations of publicly owned parks and recreation areas and history/architecture properties.

Table 36 compares the impacts to Section 4(f) properties for Selected Alternative I (from the 2012 EA/FONSI) and Refined Alternative I (Concept I-W). The Section 4(f) properties that may be subject to a use by Refined Alternative I (Concept I-W) are discussed in further detail in the following sections. Additional details are provided in the [Draft Individual Section 4\(f\) Evaluation](#).



As described in Section 4.1.7, several Section 4(f) properties are situated in areas with minority and/or low-income populations and may be utilized by or serve these communities. Based on the nature of the Section 4(f) properties and the targeted EJ outreach performed for the project, the proximity of Section 4(f) properties to EJ communities would not affect the project's use of or the appropriate mitigation for those Section 4(f) properties. The beneficial and adverse effects of Refined Alternative I (Concept I-W) on minority and low-income populations are evaluated in Section 4.1.7 and the [Environmental Justice Analysis Report](#).

Table 36: Section 4(f) Property Impacts

Property	Selected Alternative I (from 2012 EA/FONSI) Impacts ²	Refined Alternative I (Concept I-W) Impacts
Hillsdale Subdivision Historic District (Approximately 10.4 acres, including 20 buildings)	Not identified in 2012 <i>Final Individual Section 4(f) Evaluation</i> or EA/FONSI	<i>De minimis</i> impact – 0.06 acre permanent right-of-way affecting 1 contributing element
Elberta Apartments Historic District (Approximately 30.6 acres, including 33 buildings)	Not identified in 2012 <i>Final Individual Section 4(f) Evaluation</i> or EA/FONSI	<i>De minimis</i> impact – 0.39 acre permanent easement affecting 3 contributing elements and 0.03 acre permanent right-of-way affecting 1 contributing element
Goebel Park Complex, including Goebel Park, Kenney Shields Park, and SFC Jason Bishop Memorial Dog Park (14.67 acres)	<i>De minimis</i> impact – 2.59 acres permanent right-of-way, loss of 360 feet of walking trail, loss of basketball courts and parking lot. ³	<i>De minimis</i> impact – 2.84 acres permanent right-of-way, 0.07 acre temporary easement, loss of 360 feet of walking trail, 2 basketball courts and associated resources, and proximity impacts to outdoor pool.
Lewisburg Historic District (Approximately 700 acres, including about 430 buildings)	Individual Section 4(f) – 2.1 acres permanent right-of-way affecting 28 contributing elements (21 full and 7 partial acquisitions).	Individual Section 4(f) – 0.23 acre permanent right-of-way requiring removal of 2 contributing elements and 0.06 acre temporary easement affecting 3 contributing elements; 0.48 acre right-of-way from 8 parcels that are partially located in the NRHP boundary.
Longworth Hall (1,160 feet in length, five stories tall)	Individual Section 4(f) – Removal of 204 feet of the eastern section of the building.	Same as Selected Alternative I. ⁴
Firefighters Memorial (Approximately 0.9 acre and located within the existing right-of-way)	Not identified in 2012 <i>Final Individual Section 4(f) Evaluation</i> or EA/FONSI	Temporary Occupancy – Reconstruction of curb and sidewalk in existing right-of-way adjacent to site; no change in ownership of the land; temporary closures of sidewalk and memorial plaza areas; no permanent adverse physical impacts; access to and operation of memorial maintained.



Property	Selected Alternative I (from 2012 EA/FONSI) Impacts ²	Refined Alternative I (Concept I-W) Impacts
<i>Table 36 (cont.)</i>		
Queensgate Playground and Ball Field (Approximately 5.3 acres)	<i>De minimis</i> impact – 0.9 acre permanent right-of-way, tree removal, and loss of outfield area of existing Ball Field.	<i>De minimis</i> impact – 0.40 acre permanent right-of-way, 0.32 acre permanent easement, tree removal, and loss of outfield area of existing Ball Field.
Ezzard Charles Park (formerly Laurel Park) (Approximately 6.5 acres and located within the existing right-of-way in the project area)	Not identified in 2012 <i>Final Individual Section 4(f) Evaluation</i> or EA/FONSI	Temporary Occupancy – Reconstruction/relocation of existing sidewalk and reconstruction of median in existing right-of-way or easement; no change in ownership of the land; temporary sidewalk closures; no permanent adverse physical impacts; no tree removal; access to and operation of park maintained.
West McMicken Avenue Historic District (21 buildings) ¹	None.	None.
Western Hills Viaduct ¹	<i>De minimis</i> impact – Reconstruction of 1,108 feet of the viaduct eastern approach ramps to connect to I-75.	None.

1. The 2012 *Final Individual Section 4(f) Evaluation and EA/FONSI* addressed impacts to the West McMicken Avenue Historic District and the NRHP-listed Western Hills Viaduct. Refined Alternative I (Concept I-W) does not impact these properties, and a Section 4(f) use will not occur.
2. Impacts as identified in the *Final Individual Section 4(f) Evaluation* (July 2012).
3. The SFC Jason Bishop Memorial Dog Park (included in the Goebel Park Complex) was opened in December 2022 and was not included in the 2012 EA/FONSI. The 2012 EA stated Alternative I would avoid impacts to the walking trail, but the FONSI subsequently identified 360 feet of impacts for Selected Alternative I.
4. ODOT is in the process of purchasing the full Longworth Hall property at a mutually agreed upon price and from a willing seller as a result of the right-of-way acquisition process. The portions of the building not removed will remain occupied. ODOT may use interior space or the exterior grounds surrounding the building during the project's construction, but no impacts to the building's continued use for commercial office, retail, and event space are anticipated. Likewise, no additional adverse effects to the historic integrity of Longworth Hall are anticipated as a result of ODOT's activities in the building and on the exterior grounds.

4.13.1 Hillsdale Subdivision Historic District

The Hillsdale Subdivision Historic District was not addressed in the 2012 *Final Individual Section 4(f) Evaluation* and EA/FONSI and was proposed as eligible for inclusion on the NRHP as part of updated field studies conducted in 2022.

The proposed Hillsdale Subdivision Historic District occupies approximately 10.4 acres and is located east of I-71/I-75 and south of Kyles Lane in the City of Fort Wright. The proposed NRHP boundary includes several parcels intersecting Rivard Drive and Kennedy Road, just east of I-71/I-75. The Hillsdale Subdivision Historic District encompasses 19 single family residences and 1 additional building where the Fort Wright Civic Club



and the Little Treehouse Learning Center are located. Three sites are recommended as contributing properties within the proposed historic district.

Refined Alternative I (Concept I-W) will acquire 0.06 acre of new strip right-of-way along the back property line of one contributing element at 51 Rivard Drive that is not individually eligible for the NRHP. The new right-of-way is required for the slope adjacent to the highway lanes, but the interstate will be about 100 feet away from the rear of the property at 51 Rivard Drive. None of the buildings in the Hillsdale Subdivision Historic District will be removed. The interstate widening will place the highway lanes closer to the Hillsdale Subdivision Historic District. Noise analyses completed for Refined Alternative I (Concept I-W) predicted noise impacts for 8 of the 20 properties in the district, and a noise barrier is proposed to reduce predicted noise levels for all 20 properties. The noise barrier and a section of retaining wall are proposed outside of the NRHP boundary between the Hillsdale Subdivision Historic District and the interstate and will improve the viewshed due to the incorporation of aesthetic treatments on these features.

The Kentucky SHPO concurred that the project will have no adverse effect on the Hillsdale Subdivision Historic District on November 17, 2022 (see Appendix B, Cultural Resources). Based on the no adverse effect determination and the Kentucky SHPO's concurrence, FHWA determined that the BSB Corridor Project will result in a *de minimis* use of the Hillsdale Subdivision Historic District. FHWA's determination is documented in a letter dated March 21, 2023 (see Appendix B, Section 4(f)).

Additional details about the Hillsdale Subdivision Historic District are provided in Section 4.5.2 and the [Draft Individual Section 4\(f\) Evaluation](#). See Section 4.8.1 for additional details about noise barriers in Kentucky and Section 4.9 for additional details about aesthetics.

4.13.2 Elberta Apartments Historic District

The Elberta Apartments Historic District was not addressed in the 2012 *Final Individual Section 4(f) Evaluation* and EA/FONSI and was proposed as eligible for inclusion on the NRHP as part of updated field studies conducted in 2022.

The proposed Elberta Apartments Historic District occupies approximately 30.6 acres and is located west of I-71/I-75 between St. Joseph Lane and Cedar Ridge Lane in the City of Park Hills. The proposed NRHP boundary includes a 1960s-era apartment leasing office building and 32 multi-unit mid-to-late twentieth century apartment buildings, all of which are contributing elements. The Elberta Apartments Historic District is situated in an area with a low-income population, and low-income individuals may reside in one or more of the apartment buildings. The beneficial and adverse effects of Refined Alternative I (Concept I-W) on low-income populations are evaluated in Section 4.1.7 and the [Environmental Justice Analysis Report](#).

Refined Alternative I (Concept I-W) will acquire 0.39 acre of permanent easement from three contributing elements and 0.03 acre of new strip right-of-way from one contributing element in the Elberta Apartments Historic District. None of the apartment buildings in the district will be removed. Although the expanded highway right-of-way will be closer to the historic district, portions of the existing right-of-way are already close to the apartment buildings. The proposed permanent easement is required for a new drainage pipe, but neither the easement nor the pipe will result in permanent direct or indirect impacts to the historic integrity of the



Elberta Apartments Historic District. A proposed retaining wall will be located outside of the proposed NRHP boundary and will have minimal visibility from the Elberta Apartments Historic District. Noise analyses completed for Refined Alternative I (Concept I-W) predicted noise impacts for 3 of the 32 properties in the district, and a noise barrier is proposed to reduce predicted noise levels for 14 buildings. The proposed noise barrier will be built outside of the NRHP boundary in the vicinity of St. Joseph Lane and will improve the viewshed due to the incorporation of aesthetic treatments on the barrier.

The Kentucky SHPO concurred that the project will have no adverse effect on the Elberta Apartments Historic District on November 17, 2022 (see Appendix B, Cultural Resources). Based on the no adverse effect determination and the Kentucky SHPO's concurrence, FHWA determined that the BSB Corridor Project will result in a *de minimis* use of the Elberta Apartments Historic District. FHWA's determination is documented in a letter dated March 21, 2023 (see Appendix B, Section 4(f)).

Additional details about the Elberta Apartments Historic District are provided in Section 4.5.2 and the [Draft Individual Section 4\(f\) Evaluation](#). See Section 4.8.1 for additional details about noise barriers in Kentucky and Section 4.9 for additional details about aesthetics.

4.13.3 Goebel Park Complex

There have been no substantial changes to the boundaries of the Goebel Park Complex since the early 1980s. The complex is owned by the City of Covington and includes three interconnected public parks: Goebel Park, Kenney Shields Park, and the SFC Jason Bishop Memorial Dog Park. The complex occupies 14.67 acres and is located east of I-71/I-75 between West 5th Street and West 9th Street. Goebel Park is the largest park component at 12.03 acres and offers a public pool, picnic shelters, a gazebo, a playground, and a grill. A walking trail connects Goebel Park to Kenney Shields Park. The park also hosts the SFC Jason Bishop Memorial and a German-style Carroll Chimes Clock Tower. Kenney Shields Park is 2.26 acres and offers basketball courts and a walking trail that connects to the Goebel Park pool and the Clock Tower. The portions of Goebel Park and Kenney Shields Park that are located closest to I-71/I-75 are low-lying and are prone to flooding when elevated water levels cause the Ohio River to backflow into the combined sewer system. The SFC Jason Bishop Memorial Dog Park is 0.38 acre and offers a fenced area that provides a dedicated space for members of the public to exercise their pets and is connected to Kenney Shields Park. The Goebel Park Complex is not eligible for the NRHP, and the resources located in the park, including a Carroll Chimes Clock Tower, are not yet of sufficient age to be considered eligible for the NRHP. See Section 4.5.2 for additional information about potential future evaluation of the Goebel Park Complex for NRHP eligibility.

The Goebel Park Complex is also situated in an area with low-income populations and may be utilized by these individuals. The beneficial and adverse effects of Refined Alternative I (Concept I-W) on low-income populations are evaluated in Section 4.1.7 and the [Environmental Justice Analysis Report](#). Figure 25 shows the existing features in the Goebel Park complex.

The 2012 *Final Individual Section 4(f) Evaluation* and FONSI documented impacts to Goebel Park and Kenney Shields Park, including 2.59 acres permanent right-of-way and the loss of two basketball courts, parking lot, and portions of a walking trail.



Refined Alternative I (Concept I-W) includes an extension of Simon Kenton Way between West 9th Street and West 5th Street and the construction of new stormwater facilities that were not included in the 2012 FONSI. These refinements require about 7 feet of additional right-of-way along the western edge of the Goebel Park Complex and will result in a minor (0.25-acre) increase in total impacts in the complex. The Simon Kenton Way extension was presented at Kentucky neighborhood meetings held in November and December 2022. During those meetings, two comments not in favor of the extension were received, although neither commenter provided an explanation for their position. While no other comments specific to the Simon Kenton Way extension were received, the project team received numerous verbal and written comments from both the general public and city officials related to problems with traffic congestion in the neighborhoods surrounding downtown Covington. The extension of Simon Kenton Way will support the project's purpose and need to improve traffic flow by providing additional north-south community connectivity and will help to address concerns raised during targeted neighborhood outreach efforts. KYTC has reduced the number of lanes on the West 5th Street exit ramp and the Simon Kenton Way extension based on traffic operational analyses using design year 2049 certified traffic developed for the project. In addition, KYTC is utilizing retaining walls along these roadways to minimize impacts to the Goebel Park Complex to the greatest extent possible.

Figure 26 shows the proposed permanent right-of-way and temporary easement to be acquired from the complex. Refined Alternative I (Concept I-W) will acquire 2.84 acres of permanent right-of-way and 0.07 acre of temporary easement from the Goebel Park Complex. The land to be acquired includes 0.50 acre in Kenney Shields Park, which is currently being utilized for two basketball courts and associated resources such as parking and sidewalks providing access to the courts. The land acquisition also includes 2.34 acres in Goebel Park. This land is low-lying, prone to flooding, and contains a mixture of mown grassy areas and groups of mature trees. The recreational use of the land to be acquired in the Goebel Park portion of the complex consists of a 360-foot section of walking trail that stretches through the complex. Interstate widening will also place the highway lanes closer to the park, which will result in proximity impacts to an outdoor pool. Noise analyses completed for Refined Alternative I (Concept I-W) predicted noise impacts for nearly all areas of the Goebel Park Complex within about 500 feet of existing I-71/I-75. A small area within Kenney Shields Park is predicted to experience a reduction in noise levels. During construction, temporary dust, air quality, and construction noise impacts are anticipated due to construction activities in the vicinity of the Goebel Park Complex.

During the development of the 2012 EA/FONSI, KYTC and the City of Covington (the official with jurisdiction over the Goebel Park Complex) coordinated to identify a set of mitigation measures for impacts to Goebel Park (which included Kenney Shields Park). On July 12, 2012 FHWA determined that Selected Alternative I (from the 2012 EA/FONSI) would have a *de minimis* impact on Goebel Park/Kenney Shields Park. KYTC concurred with the *de minimis* determination on July 12, 2012, and the City of Covington concurred on July 20, 2012.

During the preparation of the supplemental EA, FHWA and KYTC coordinated with the City of Covington regarding updated measures to address impacts to the Goebel Park Complex resulting from Refined Alternative I (Concept I-W). The City of Covington has been actively engaged in developing, and has agreed to, the following minimization and mitigation measures for the Goebel Park Complex:

- Development of a new Goebel Park Complex Master Plan. Approximately \$100,000 of project funds will be utilized for the development of a new Goebel Park Complex Master Plan. The City of Covington will



engage community members and key stakeholders in the new master planning process, which will assess existing conditions and community priorities for the Goebel Park Complex, establish a broad vision for how the complex can meet identified goals and needs, develop a list of recommended actions, and outline an implementation plan for a minimum 10-year planning period. The final Master Plan will document the future plans, uses, and locations of facilities in the Goebel Park Complex. The new Goebel Park Complex Master Plan process will begin within six months after NEPA approval and must be completed within one year of initiation of the planning process.

- The use of an estimated 2.84 acres of flood-prone park property from the southwest corner of the Goebel Park Complex (2.34 acres in Goebel Park and 0.50 acre in Kenney Shields Park) will be mitigated and replaced with an estimated 2.23 acres of currently state-owned property that is at a higher elevation, not prone to flooding, and adjacent to the northwest corner of the Goebel Park Complex.
- The taking of approximately 360 feet of walking trail will be mitigated by reconstructing the walking trail within the complex at a location to be determined in coordination with the City of Covington during the project's final design phase.
- The taking of the basketball courts and associated resources (in Kenney Shields Park) will be mitigated by allocating approximately \$94,500 of project funds for the replacement and enhancement of the basketball courts or for other outdoor recreation facilities within the park to be established during the new master planning process facilitated by the City of Covington.
- Building a new outdoor pool and associated facilities within the Goebel Park Complex. This will be mitigated by funding approximately \$1,337,400 of project funds for the construction of a new outdoor pool and associated facilities or other comparable aquatic facility serving the same recreational purpose within the Goebel Park Complex to be established during the new master planning process facilitated by the City of Covington.
- In the event that project phasing requires the basketball courts to be impacted prior to replacement facilities being constructed, up to \$75,000 of additional project funds will be allocated to construction of a temporary facility within a portion of the Goebel Park Complex not impacted by the project.

The proposed mitigation measures for the Goebel Park Complex are compensatory to the impact to the Section 4(f) property. The replacement property will be compatible with and will not diminish the outdoor recreation areas in the complex. The replacement property is higher in elevation than the portions of the complex that will be acquired by the project and not prone to flooding. In addition, the replacement land is flatter and closer to other prominent park features. Based on these characteristics, the replacement land has greater potential for future enhancements to outdoor recreational activities and amenities within the Goebel Park Complex, which will be established in the new Master Plan that will be funded by the proposed mitigation measures for the complex. The operation of the basketball courts will be maintained throughout construction, outdoor recreation will remain the primary function of the site, and it will remain free and open to the public. The project will not necessitate the closure of the pool, although decisions about pool operations are made by the City of Covington. Figure 27 shows the land in the Goebel Park Complex that is impacted by Refined Alternative I (Concept I-W) and the proposed replacement land.



Figure 25: Existing Goebel Park Complex

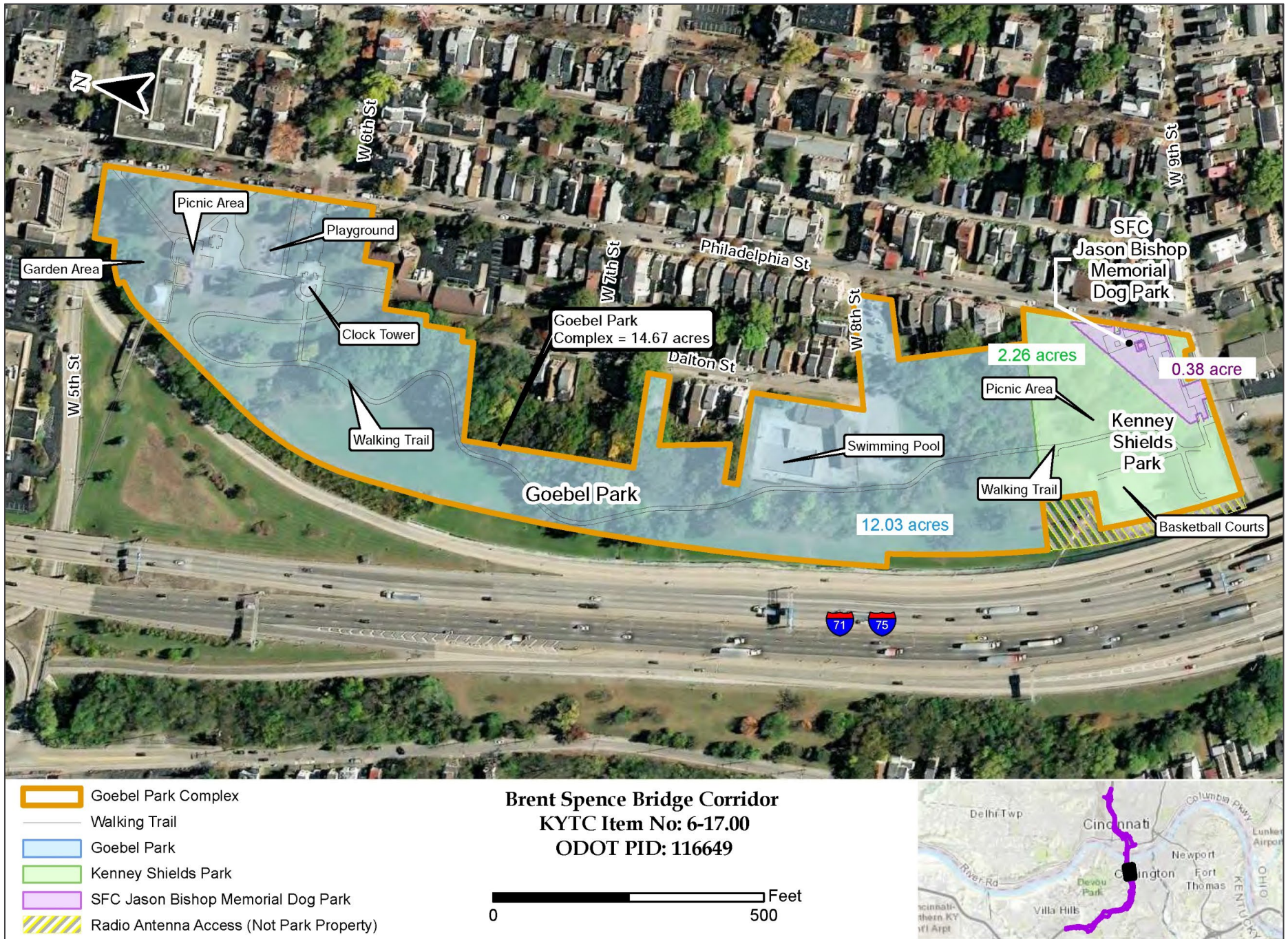


Figure 26: Goebel Park Complex Proposed Permanent Right-of-Way and Temporary Easement

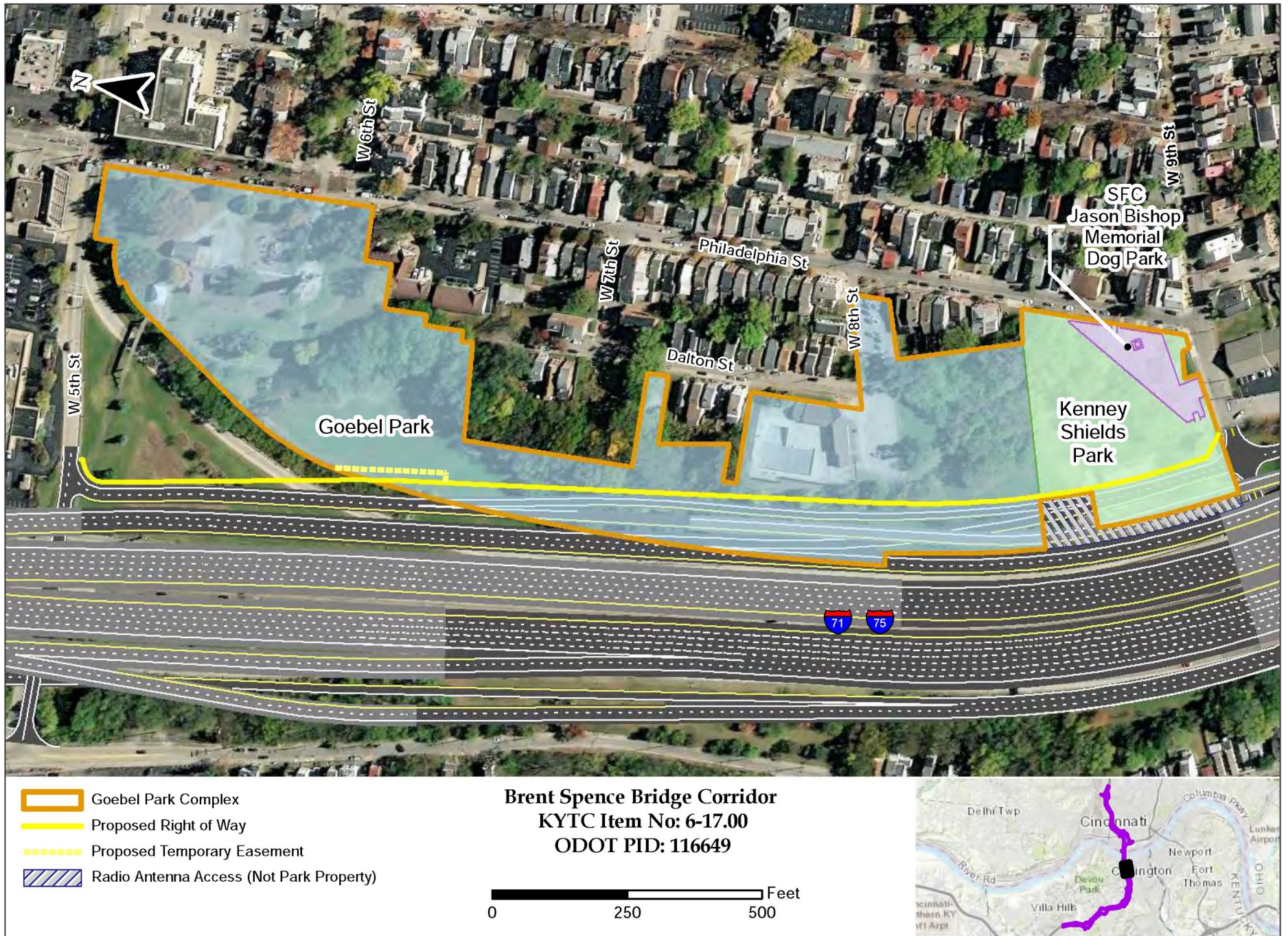
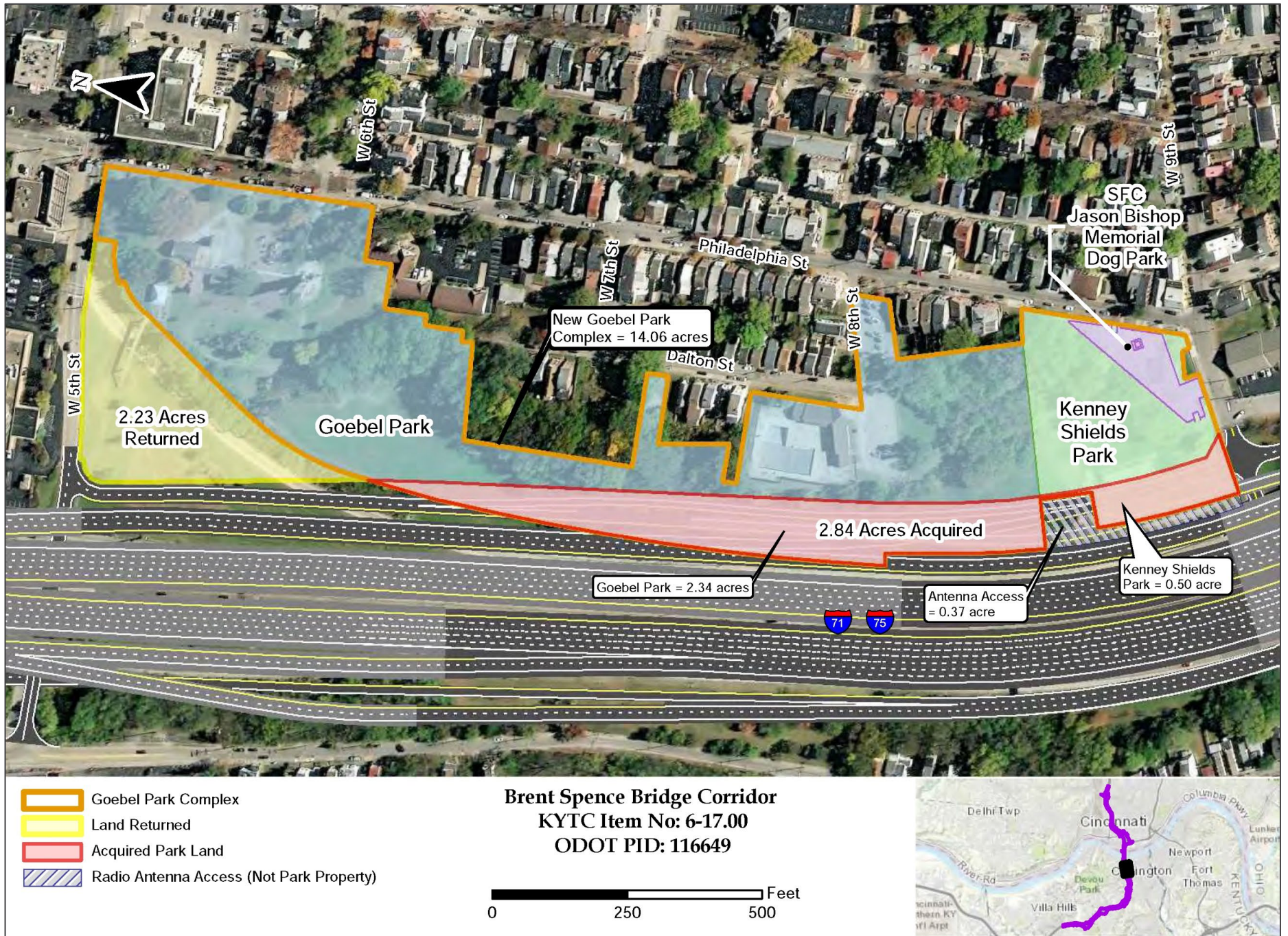


Figure 27: Goebel Park Complex Impacts and Replacement Land



In addition to the mitigation measures for the Section 4(f) use, proposed noise/visual screening barriers will provide enhanced noise reduction and improve the viewshed in the Goebel Park Complex due to the incorporation of aesthetic treatments on the barriers. During detailed design, KYTC has committed to coordinating the composition of the barriers with the City of Covington to determine where transparent noise barriers would be beneficial to preserve views of Goebel Park from the highway, particularly the Clock Tower. Additional details about the noise/visual screening barriers are provided in Section 4.8.1.

KYTC has also committed to separating all interstate runoff from the BSB corridor from the existing combined sewer system, which will reduce the frequency of combined sewer overflows, including in the Goebel Park Complex. These stormwater management measures are a broad proposed improvement and project-wide enhancement. Additional details about stormwater management are included in Section 4.12.1.

As part of project-wide efforts to minimize and mitigate temporary dust and air quality impacts, KYTC and ODOT have committed to developing and implementing a dust control plan and other measures to minimize and prevent discharge of dust in the atmosphere. During construction, measures will also be implemented to minimize diesel emissions and to protect sensitive receptors (including parks) from impacts of diesel exhaust fumes. KYTC and ODOT have also committed to developing and implementing an ambient air quality monitoring program that will include the area occupied by the Goebel Park Complex. The outdoor ambient air quality monitoring program will provide greater protections against temporary air quality impacts during construction by providing continuous monitoring of air quality in the vicinity of the complex. Additional details about air quality during construction are provided in Sections 4.11.4 and 4.11.7.

During construction, KYTC and ODOT have also committed to implementing project-wide measures to minimize construction noise in NSAs, including the Goebel Park Complex. The project staff will be educated on noise sensitive receptors, including location, type, hours of operation, and any prior concerns communicated. Measures that will be implemented to minimize construction noise include careful selection of equipment to be utilized, utilization of well-maintained motorized equipment and muffler systems, selection of haul routes that will cause the least disturbance to noise sensitive receptors, use of existing and temporary features to shield noise sensitive receptors from construction activities, and scheduling of work to minimize noise impacts to noise sensitive receptors. KYTC has also committed to coordinating with the City of Covington regarding construction noise abatement measures within the city. To the extent practicable, these measures may include limiting construction activities and construction noise during specific periods of time and limiting activities that create high levels of construction noise, such as pile driving and blasting, to certain times of day. Additional details about construction noise are provided in Sections 4.8.3, 4.11.5, and 4.11.7.

There is no prudent alternative that avoids the use of the Goebel Park Complex, and Refined Alternative I (Concept I-W) includes all possible planning to minimize harm to the property. The resulting impacts, with the identified mitigation measures, will not adversely affect the activities, features, and attributes that qualify the Goebel Park Complex for protection under Section 4(f). The proposed replacement property is 0.61 acre smaller than the area that will be acquired from the Goebel Park Complex. When the project is complete, the total land area for the Goebel Park Complex will be reduced from 14.67 acres to approximately 14.06 acres, which represents a 4.2 percent reduction in the total acreage of the Goebel Park Complex. The replacement



land is currently occupied by the existing West 5th Street ramp. The project plans will require the contractor to remove the interstate infrastructure and grade the replacement land in coordination with the City of Covington, and the transfer to the City will be completed within two years after KYTC acceptance of the completed work in the vicinity of the Goebel Park Complex. Additional details about the land transfer are provided in Section 4.14.6.

Given the above, FHWA intends to make a determination of *de minimis* impacts to the Goebel Park Complex. In accordance with 23 CFR § 774.5(b)(2), the public will be provided 30 days to comment on the impacts to the complex, and any comments received will be forwarded to the City of Covington for its review and consideration. Following the opportunity for public review and comment, FHWA will obtain written concurrence from the City of Covington that the project will not adversely affect the activities, features, or attributes that qualify the Goebel Park Complex for protection under Section 4(f). FHWA will make the final *de minimis* impact determination based on the outcome of the public comment process and written concurrence from the City of Covington. To date, public comments related to the Goebel Park Complex have been in support of noise barriers, preserving views of the complex from I-71/I-75, and preserving views across the highway from the complex.

4.13.4 Lewisburg Historic District

The Lewisburg Historic District is located within the City of Covington and occupies approximately 700 acres in an area roughly bounded by I-71/I-75 to the east and southeast, a steep hill slope to the west and southwest, and the extension of West 8th Street to the north. The Lewisburg Historic District is comprised of about 430 buildings situated in a mixed-use urban setting characterized by narrow lot sizes and an urban appearance. Setback from the street is minimal in most instances.

Selected Alternative I (from the 2012 EA/FONSI) resulted in an adverse effect to the Lewisburg Historic District due to the acquisition of 2.1 acres of permanent right-of-way, including the full acquisition of 21 and the partial acquisition of 7 contributing resources. An MOA executed on June 7, 2012 specified mitigation measures that included the recordation of demolished structures, the establishment of a \$420,000 grant program to improve and rehabilitate the façades of residential and commercial properties in the Lewisburg Historic District, and the monitoring and protection of historic structures from vibration during construction. On August 8, 2012, FHWA determined that there was no feasible and prudent avoidance alternative to the use of the land from the Lewisburg Historic District, and the project included all possible planning to minimize harm to the historic district.

Refined Alternative I (Concept I-W) also results in an adverse effect to the Lewisburg Historic District; however, impacts have been substantially reduced from the 2012 design. Section 4.5.2 provides a detailed description of the impacts of Refined Alternative I (Concept I-W) on the Lewisburg Historic District, which are summarized below:

- Approximately 0.23 acre of permanent right-of-way and 0.06 acre of temporary easement will be acquired.



- Three properties will be acquired and removed, including contributing elements at 606 West 11th Street and 604 West 12th Street and a non-contributing element at 605 West 11th Street.
- A vacant parcel within the NRHP boundary at 620 Lewis Street will be acquired.
- Temporary easement will be required from the eastern property boundaries of three contributing elements at 608 and 609 West 11th Street and 606 West 12th Street.
- The NRHP boundary will be narrowed along its eastern edge in the vicinity of Bullock Street, 11th Street, and 12th Street.
- Approximately 0.48 acre of strip right-of-way will be acquired from the rear of eight parcels, but their historic integrity will not be impacted because the existing NRHP boundary excludes the rear portions of the parcels.
- A small amount of encroachment on the eastern NRHP boundary of the Lewisburg Historic District will occur adjacent to the NRHP-listed brick shotgun houses along Lewis Street, but the shotgun houses themselves will not be impacted.
- Areas for equipment and construction staging will extend across a corner of the NRHP boundary near Crescent Avenue at the northern end of the NRHP boundary, but there are no buildings in this area.
- Interstate widening will place the highway lanes closer to the Lewisburg Historic District, although portions of the existing right-of-way are already close to existing residences.
- Noise analyses completed for Refined Alternative I (Concept I-W) predicted noise impacts at 267 properties in the Lewisburg Historic District, and noise barriers are proposed to reduce noise levels for all properties analyzed within the district. Proposed noise barriers and retaining walls will be constructed along I-71/I-75 outside of the NRHP boundary and will improve the viewshed due to the incorporation of aesthetic treatments on these features.

The Kentucky SHPO concurred with the eligibility determinations and finding of adverse effect for the Lewisburg Historic District on November 17, 2022 and June 7, 2023 (see Appendix B, Cultural Resources). Measures to mitigate the adverse effects to the Lewisburg Historic District are documented in the Section 106 Programmatic Agreement and include the recordation of removed structures; the establishment of a \$1.2 million grant program to improve and rehabilitate the façades of residential and commercial properties in the Lewisburg Historic District; and the protection, monitoring, and repair of historic structures from vibration during construction. Additional details about the mitigation measures for Lewisburg Historic District are provided in Section 4.5.2.

In addition to the mitigation measures for the Section 4(f) use, and as described above, KYTC is proposing noise barriers to reduce noise levels and improve the viewshed in the Lewisburg Historic District. During detailed design, KYTC has committed to coordinating the composition of the barriers with the City of Covington to determine where transparent noise barriers would be beneficial to preserve views of the skyline and across I-71/ I-75 from Lewisburg. See Section 4.8.1 for additional details about noise barriers in Kentucky.



Avoidance alternatives for the Lewisburg Historic District are discussed in Section 4.13.13. The [Draft Individual Section 4\(f\) Evaluation](#) documents the impacts to the Lewisburg Historic District and evaluates avoidance alternatives and measures to minimize harm. The [Draft Individual Section 4\(f\) Evaluation](#) will be available for review during the public availability for this supplemental EA, and a *Final Individual Section 4(f) Evaluation* will be prepared following the public hearings. See Section 5.5 for additional information about the public hearings.

4.13.5 Longworth Hall

The B&O Railroad Freight Station and Storage Warehouse, also known as Longworth Hall, is listed on the NRHP and is located immediately west of I-75 at 700 Pete Rose Way in the City of Cincinnati. The building originally measured 1,277 feet in length, but construction of I-71/75 in 1961 resulted in the removal of the easternmost 150 feet of the building. Later, a five-story 30,000 square foot brick addition was built at the east end of the north façade of the original building. Part of the fifth floor was later destroyed by fire. Longworth Hall is currently a privately owned mixed-use building primarily comprised of office spaces. It also features an event center that can host up to 400 guests and a design center that caters to architects and interior designers. Longworth Hall is also situated in an area with minority and low-income populations and may be utilized by a minority or low-income business owner, tenant, employee, or customer. The beneficial and adverse effects of Refined Alternative I (Concept I-W) on minority and low-income populations are evaluated in Section 4.1.7 and the [Environmental Justice Analysis Report](#).

Impacts to Longworth Hall have not changed since the 2012 *Final Individual Section 4(f) Evaluation* and EA/FONSI. Refined Alternative I (Concept I-W) will pass through 204 feet of the eastern end of the building, requiring that three 15-foot, two 13-foot, and six 12-foot bays of the building be removed. This affected section of the building is the portion which was previously altered by reducing its length by 150 feet in 1961 to allow for the construction of I-71/I-75. Given the character of the building and its setting, noise and visual impacts are not expected to alter the historic integrity of the structure.

The Ohio SHPO concurred that a finding of “adverse effect” remains applicable to the BSB Corridor Project on January 25, 2023 (see Appendix B, Cultural Resources). Measures to mitigate the adverse effects to Longworth Hall are documented in the Section 106 Programmatic Agreement and include completing repairs, upgrades, restoration work, enhancements, and refurbishment on the portions of the building impacted by construction and the portions of the building to remain. Additional details about the Section 106 mitigation measures for Longworth Hall are provided in Section 4.5.2.

ODOT is in the process of purchasing the full Longworth Hall property at a mutually agreed upon price and from a willing seller as a result of the right-of-way acquisition process. The portions of the building not removed will remain occupied. ODOT may use interior space or the exterior grounds surrounding the building during the project’s construction, but no impacts to the building’s continued use for commercial office, retail, and event space are anticipated. Likewise, no additional adverse effects to the historic integrity of Longworth Hall are anticipated as a result of ODOT’s activities in the building and on the exterior grounds; while no further Section 106 mitigation measures are required, ODOT has committed to implementing the following measures



to minimize and mitigate impacts to Longworth Hall pursuant to Section 4(f) to ensure the preservation of the property:

1. While in ODOT's ownership, ODOT will be responsible for maintaining Longworth Hall and its historic integrity.
2. Since ODOT will own the building at the time of restoration, all materials removed that retain historic integrity, including the unused reconstructed windows, will be appropriately stored onsite and will remain with the building for later reuse.

Avoidance alternatives for Longworth Hall are discussed in Section 4.13.13. A [Draft Individual Section 4\(f\) Evaluation](#) documents the impacts to Longworth Hall and evaluates avoidance alternatives and measures to minimize harm. The [Draft Individual Section 4\(f\) Evaluation](#) will be available for review during the public availability for this supplemental EA, and a *Final Individual Section 4(f) Evaluation* will be prepared following the public hearings. See Section 5.5 for additional information about the public hearings.

4.13.6 Firefighters Memorial

The Greater Cincinnati Firefighters Memorial occupies approximately 0.9 acre and is located at 537 Central Avenue in Cincinnati. The memorial is maintained by the Cincinnati Park Board and is situated within (encroaching upon) the existing I-75 limited access right-of-way along Central Avenue. It is bordered by 6th Street, Central Avenue, 5th Street, and the fence that runs parallel to the northbound I-75 ramps. The memorial includes a statue to honor firefighters throughout Greater Cincinnati and Northern Kentucky who have died in the line of duty. In addition to the memorial statue, the Firefighters Memorial includes an open plaza and greenspace. The Firefighters Memorial is also situated in an area with minority populations and may be utilized by these individuals. The beneficial and adverse effects of Refined Alternative I (Concept I-W) on minority populations are evaluated in Section 4.1.7 and the [Environmental Justice Analysis Report](#).

The Firefighters Memorial was not addressed in the 2012 *Final Individual Section 4(f) Evaluation* and EA/FONSI. Refined Alternative I (Concept I-W) will reconstruct portions of 6th Street along the northern edge of the Firefighters Memorial, including the curb and sidewalk adjacent to the site. No permanent impacts to the Firefighters Memorial will occur, and there will be no change to the ownership of the land. During construction, portions of the adjacent sidewalk and plaza area may be closed on a temporary basis to protect the park and the public from construction activities. Refined Alternative I (Concept I-W) will also reconstruct and widen 5th Street near the southern edge of the green space adjacent to the Firefighters Memorial. However, this mulched area is currently occupied by traffic control equipment and is not used for recreation. Therefore, no temporary or permanent impacts to the green space are anticipated due to the construction on 5th Street. Noise analyses concluded that Refined Alternative I (Concept I-W) will not create a perceptible increase in noise levels for the Firefighters Memorial.

Refined Alternative I (Concept I-W) will remove and consolidate several existing ramps in downtown Cincinnati, moving the I-75 infrastructure further away from the memorial and opening up about 10 acres of land for potential redevelopment and/or public use adjacent to the memorial. The potential redevelopment and/or public



space are expected to complement the existing urban land uses in the vicinity of the Firefighters Memorial. In addition, Refined Alternative I (Concept I-W) will incorporate a new shared-use path and aesthetic treatments along the 6th Street bridge, just north of the memorial. As a result, the visual environment surrounding the Firefighters Memorial is expected to be improved.

ODOT committed to implementing the following measures to minimize harm during construction activities affecting the Firefighters Memorial:

- Access to the Firefighters Memorial will be maintained at all times, except for the time needed to temporarily occupy the property, which will be less than the time needed for construction of the project.
- Temporary construction fencing will be installed along proposed construction limits prior to the start of construction activities to protect the Firefighters Memorial and the public.
- Appropriate signage will be installed to alert users of the Firefighters Memorial of construction activities, access restrictions or closures, and to direct users to secondary access points.
- The contractor will be required to closely coordinate the construction schedule with ODOT and the City of Cincinnati prior to the start of construction activities.

Temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f) are excepted from the requirements of Section 4(f) approval. The following conditions must be satisfied:

- Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
- The scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal;
- There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;
- The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and
- There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

In consideration of the scope of Refined Alternative I (Concept I-W), the type of work, and the measures to minimize harm, the effects on the Firefighters Memorial are temporary in duration and minor in scope. There are no anticipated permanent adverse physical impacts, and no incorporation of land from the Firefighters Memorial into a transportation facility will occur. The final condition of the memorial will be at least as good as that which currently exists, and the primary activities, features, and attributes of the site will not change. The Cincinnati Park Board, which is the official with jurisdiction over the Firefighters Memorial, concurred with these findings and the measures to minimize harm on August 5, 2022.



On January 31, 2023, FHWA determined that the proposed temporary occupancy of the Firefighters Memorial meets the exception from the requirement for Section 4(f) approval. This determination is in accordance with 23 CFR § 774.13(d)(1)-(5). Copies of coordination documents for the Firefighters Memorial are included in Appendix B, Section 4(f).

4.13.7 Queensgate Playground and Ball Field

The Queensgate Playground and Ball Field is a public recreational facility that occupies approximately 5.3 acres and is located at 707 Court Street in Cincinnati. It is owned by the City of Cincinnati and maintained by the Cincinnati Park Board. The property includes the Chris Nelms All-Star Field (baseball), two playgrounds, benches, picnic tables, and open space. The Queensgate Playground and Ball Field is also situated in an area with minority and low-income populations and may be utilized by these individuals. The beneficial and adverse effects of Refined Alternative I (Concept I-W) on minority and low-income populations are evaluated in Section 4.1.7 and the [Environmental Justice Analysis Report](#).

The 2012 *Final Individual Section 4(f) Evaluation* and EA/FONSI concluded that Selected Alternative I (from the 2012 EA/FONSI) required 0.9 acre of permanent right-of-way acquisition, including the loss of outfield areas in the Queensgate Playground and Ball Field. Trees and shrubs along the southern edge of the park would also be removed. The CRC submitted a conceptual site plan detailing how the CRC would utilize the mitigation funds on November 2, 2012. ODOT accepted the invoice and the conceptual site plan on November 2, 2012 and paid \$198,050 to the CRC on December 12, 2012. The CRC reconfigured the park to replace two small ball fields with one all-star ball field and installed a new playground, benches, and picnic tables in 2014.

ODOT completed right-of-way acquisition from the Queensgate Playground and Ball Field in 2014. Based on the final right-of-way plans, the impacts to the Queensgate Playground and Ball Field were reduced to 0.72 acre (0.40 acre of proposed right-of-way and 0.32 acre of permanent easement). The refinements incorporated into Refined Alternative I (Concept I-W) do not change the impacts to the Queensgate Playground and Ball Field. The outfield fence for the reconfigured baseball field encroaches upon the permanent easement owned by ODOT, but it will not be impacted by construction of the project. Similar to Selected Alternative I (from the 2012 EA/FONSI), Refined Alternative I (Concept I-W) will move I-75 and Winchell Avenue closer to the Queensgate Playground and Ball Field; however, the park already directly abuts these roadways. Noise analyses completed for Refined Alternative I (Concept I-W) predicted noise impacts in the playground area, and a noise barrier is proposed to reduce noise levels in the park and playground area. In addition, ODOT will build 57-inch barriers in the I-75 median in the vicinity of the Queensgate Playground and Ball Field. These barriers will be 15 inches taller than standard ODOT bridge barriers, and the increased height will further reduce tire pavement noise.

In addition to the proposed noise barrier, a retaining wall will be built along the southwest corner of the park. A new sidewalk and shared-use path will be built on Linn Street, improving pedestrian and bicycle access to the Queensgate Playground and Ball Field. Trees and shrubs along the southern edge of the park will be removed during the construction of the highway, retaining wall, and noise barrier. Aesthetic treatments will be



incorporated on the retaining wall, the proposed noise barrier, and the new Linn Street bridge over I-75. Therefore, the visual environment surrounding the Queensgate Playground and Ball Field will be improved. See Section 4.8.2 for additional information about noise barriers in Ohio and Section 4.9 for additional information about aesthetics.

Mitigation measures for the impacts to the Queensgate Playground and Ball Field were established in an [MOA between ODOT and CRC](#), which was signed by the CRC¹ on April 21, 2011 and by ODOT on May 5, 2011. The measures to minimize and mitigate impacts to the Queensgate Playground and Ball Field are summarized below:

- ODOT will acquire property from CRC in accordance with all applicable federal and state regulations. Compensation for land and property, excluding ball field lighting, will be via the normal ODOT property acquisition procedures. (Note: ODOT completed right-of-way acquisition from the Queensgate Playground and Ball Field in 2014.)
- ODOT, upon receipt of an acceptable plan detailing how the CRC will utilize funds for recreational purposes, will pay \$198,050 to the CRC to be applied toward the submitted plan (including ball field lighting). (Note: The CRC submitted a conceptual site plan detailing how the CRC would utilize the mitigation funds on November 2, 2012. ODOT accepted the invoice and the conceptual site plan on November 2, 2012 and paid \$198,050 to the CRC on December 12, 2012. The CRC reconfigured the park to replace two small ball fields with one all-star ball field and installed a new playground, benches, and picnic tables in 2014.)
- Limited access right-of-way fencing along the park and highway boundary will be installed along the CRC property as part of ODOT's construction project. The fence will consist of 10-foot-high chain link fencing. (Note: This mitigation has not yet been completed.)

As stated above, the mitigation measures related to property acquisition and reconfiguring the ball fields were completed between 2012 and 2014 based on the [MOA between ODOT and CRC](#) and the 2012 FONSI. The remaining mitigation measure involves installing limited access right-of-way fencing along the park boundary. During construction, a proposed 10-foot noise barrier may be installed along the park and highway boundary in lieu of the limited access right-of-way fencing. In accordance with its *Analysis and Abatement of Highway Traffic Noise Policy Statement*, ODOT will conduct noise abatement public involvement with benefited receptors in the vicinity of the Queensgate Playground and Ball Field. If the noise public involvement concludes that a noise barrier will not be built, then ODOT has committed to installing the limited access right-of-way fencing as noted above.

Coordination with the public and the CRC was conducted in accordance with 23 CFR § 774.5(b)(2). The project was presented in public meetings in May 2006 and May 2009, and the public was provided the opportunity to offer comments about potential impacts, including to the Queensgate Playground and Ball Field. The May 2006 public meetings occurred early in the project development, and no specific impacts were

¹ The CRC was the official with jurisdiction over the Queensgate Playground and Ball Field during the development of the 2012 EA/FONSI.



presented. The May 2009 public meetings occurred following the development of conceptual alternatives, and information regarding potential park impacts for all alternatives was available for review. No public comments regarding the impacts to the Queensgate Playground and Ball Field were received.

ODOT summarized the public and agency involvement related to the Queensgate Playground and Ball Fields and notified the CRC of the intent to seek a *de minimis* determination on March 4, 2011. In a letter to CRC on May 9, 2011, ODOT confirmed its intent to seek a *de minimis* Section 4(f) finding based on the executed MOA. Public comments regarding the *de minimis* impacts were also accepted during the public hearings for the 2012 EA held on April 24, 2012 and April 25, 2012. No comments regarding the impacts to the Queensgate Playground and Ball Field were received during the hearing process.

In its approval of the 2012 *Final Individual Section 4(f) Evaluation*, FHWA determined that the use of the Queensgate Playground and Ball Field includes measures to minimize harm through avoidance, minimization, mitigation, or enhancements. The resulting impacts, with the identified measures to minimize harm, will not adversely affect the activities, features, and attributes that qualify the Queensgate Playground and Ball Field for protection under Section 4(f). Therefore, FHWA determined that the BSB Corridor Project, with the committed mitigations, will have a *de minimis* impact, as defined by 23 CFR § 774.17, on the Queensgate Playground and Ball Field.

Additional Section 4(f) coordination was not required for Refined Alternative I (Concept I-W) because the impacts have been slightly reduced, the right-of-way has already been acquired under the 2012 FONSI, ODOT has fulfilled its financial obligations, and the ball fields have been reconfigured in accordance with the MOA.

4.13.8 Ezzard Charles Park

Ezzard Charles Park (formerly Laurel Park) is a public park that occupies approximately 6.5 acres. The primary park area is located at 500 Ezzard Charles Drive in Cincinnati. Portions of Ezzard Charles Park in the project area consist of sidewalks and tree lawns that are situated within (encroaching upon) the existing transportation right-of-way along Ezzard Charles Drive. The primary recreational area of Ezzard Charles Park consists of a memorial statue, plaza, and tree grove located over 1,000 feet from I-75, and Refined Alternative I (Concept I-W) will not impact these areas. Ezzard Charles Park is owned by the City of Cincinnati and maintained by the Cincinnati Park Board. Ezzard Charles Park is also situated in an area with minority and low-income populations and may be utilized by these individuals. The beneficial and adverse effects of Refined Alternative I (Concept I-W) on minority and low-income populations are evaluated in Section 4.1.7 and the [Environmental Justice Analysis Report](#).

Ezzard Charles Park was not addressed in the 2012 *Final Individual Section 4(f) Evaluation* and EA/FONSI. Refined Alternative I (Concept I-W) will replace the two existing one-way bridges carrying Ezzard Charles Drive over I-75 with one combined two-way bridge. The transition to the new bridge will slightly alter the vertical profile of Ezzard Charles Drive and shift the roadway north within the existing right-of-way in the vicinity Ezzard Charles Park. On the north side of Ezzard Charles Drive, the work will match the existing curb line and will reconstruct a 6.5-foot sidewalk. On the south side of Ezzard Charles Drive, an existing sidewalk will be



relocated to tie into the new curb ramps and crosswalk. In addition, an existing median island on Ezzard Charles Drive will be removed and replaced with a median island that is a minimum of 11.9 feet wide.

The area of Ezzard Charles Park that will be impacted by the project is limited to tree lawns, a median, and sidewalks along Ezzard Charles Drive that are within the existing transportation right-of-way and where the primary use is not recreation. The overall pavement area of Ezzard Charles Drive will decrease, and the new pavement will not extend beyond the existing curb line. Although the construction limits will extend beyond the existing roadway right-of-way in some areas, they will remain within an existing slope easement. During construction, portions of the adjacent sidewalks may be closed on a temporary basis to protect the park and the public from construction activities.

Noise levels were not specifically evaluated for the portions of Ezzard Charles Park adjacent to the project area because these areas consist solely of sidewalks and tree lawns within (encroaching upon) the existing transportation right-of-way. However, these portions of the park may benefit from proposed noise barriers for the residential areas north and south of Ezzard Charles Drive. ODOT will also build 57-inch barriers in the I-75 median in the vicinity of Ezzard Charles Drive. These barriers will be 15 inches taller than standard ODOT bridge barriers, and the increased height will further reduce tire pavement noise.

Refined Alternative I (Concept I-W) will install new sidewalks and a shared-use path on the Ezzard Charles Bridge just west of Ezzard Charles Park, improving pedestrian and bicycle access to the park and connections between the park and Union Terminal. Aesthetic features will also be incorporated on the Ezzard Charles Bridge and the proposed noise barriers, improving the visual character of the area. The new Ezzard Charles Drive bridge over I-75 will provide 50 feet of green space on each side that could support potential future civic space or retail development by the City of Cincinnati. The green space will be adjacent to and will complement the portions of Ezzard Charles Park in the project area. Any potential future civic space or retail development would also complement existing land uses surrounding Ezzard Charles Drive near I-75.

ODOT committed to implementing the following measures to minimize harm during construction activities affecting Ezzard Charles Park (formerly Laurel Park):

- Access to Ezzard Charles Park will be maintained at all times, except for the time needed to temporarily occupy the property, which will be less than the time needed for construction of the project.
- Temporary construction fencing will be installed along proposed construction limits prior to the start of construction activities to protect Ezzard Charles Park and the public.
- Appropriate signage will be installed to alert users of Ezzard Charles Park of construction activities, access restrictions or closures, and to direct users to secondary access points.
- Where pavement is removed, the roadway and roadbed material will be removed to clean subgrade, and areas no longer occupied by roadway pavement will be restored.
- The area will be returned to the same use as exists today.



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- The contractor will be required to closely coordinate the construction schedule with ODOT and the City of Cincinnati prior to the start of construction activities.
 - Trees within the existing tree lawn along Ezzard Charles Drive will not be removed. If tree removal becomes necessary during construction, the removal will be coordinated with and approved by the Cincinnati Park Board.

Temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f) are excepted from the requirements of Section 4(f) approval. The following conditions must be satisfied:

- Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
- The scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal;
- There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;
- The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and
- There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

In consideration of the scope of Refined Alternative I (Concept I-W), the type of work, and the measures to minimize harm, the effects on Ezzard Charles Park are temporary in duration and minor in scope. There are no anticipated permanent adverse physical or impacts, and no incorporation of land from Ezzard Charles Park into a transportation facility will occur. The final condition of the memorial will be at least as good as that which currently exists, and the primary activities, features, and attributes of the site will not change. The Cincinnati Park Board, which is the official with jurisdiction over Ezzard Charles Park, concurred with these findings and the measures to minimize harm on December 14, 2022.

On January 31, 2023, FHWA determined that the proposed temporary occupancy of Ezzard Charles Park (formerly Laurel Park) meets the exception from the requirement for Section 4(f) approval. This determination is in accordance with 23 CFR § 774.13(d)(1)-(5). Copies of coordination documents for Ezzard Charles Park are included in Appendix B, Section 4(f).

4.13.9 West McMicken Avenue Historic District

The 2012 EA/FONSI did not indicate any Section 4(f) use of the West McMicken Avenue Historic District for the tight urban diamond interchange, which was the selected alternative for the interchange at the existing Western Hills Viaduct. The refined interchange layout at I-75 and the new Western Hills Viaduct incorporated into Refined Alternative I (Concept I-W) has a footprint similar to the tight urban diamond interchange from the



2012 EA/FONSI. Therefore, a Section 4(f) use will not occur in the West McMicken Avenue Historic District. See Section 4.5.2 for additional information about historic properties in the project's APE.

4.13.10 Western Hills Viaduct

The 2012 EA/FONSI documented a *de minimis* impact to the Western Hills Viaduct due to the reconstruction of 1,108 feet of the eastern approach ramps to connect to I-75. Since the 2012 EA/FONSI, the City of Cincinnati has developed a separate project with independent utility and completed NEPA review to remove the Western Hills Viaduct and build a new structure on a new alignment. Refined Alternative I (Concept I-W) will tie into the new Western Hills Viaduct and will not physically impact the existing structure, which is scheduled for removal. Therefore, a Section 4(f) use of the Western Hills Viaduct will not occur. See Section 4.5.2 for additional information about historic properties in the project's APE.

4.13.11 Lewis and Clark National Historic Trail

The 2012 EA/FONSI did not address the Lewis and Clark National Historic Trail. The portion of the trail present in the project area was not designated until 2019.

The Lewis and Clark National Historic Trail, which is administered by NPS, follows the historic outbound and inbound routes of the Lewis and Clark Expedition of 1803-1806 from Pittsburgh, Pennsylvania to the Pacific Ocean and includes the portion of the Ohio River in the project area. The entire length of the Lewis and Clark National Historic Trail, from the Ohio River in Pittsburgh, Pennsylvania to the mouth of the Columbia River in Oregon, is included in the National Trails System Act, as amended in 2019. The trail's primary use is for recreation. While there are elements along the trail that are listed on or have been determined eligible for listing on the NRHP, the trail itself has not been. There are no elements associated with the trail that are listed on or eligible for listing on the NRHP in the project's APE. Furthermore, there are no points of interest related to the trail in or near the project area according to the NPS website for the trail.¹ High potential historic sites associated with the 2019 trail extension have not yet been published; however, based on coordination with NPS, there are no high potential historic sites in the project area.

As a National Historic Trail, this resource falls under the Section 4(f) exception in 23 CFR § 774.13:

- (f) Certain trails, paths, bikeways, and sidewalks, in the following circumstances:
 - (2) National Historic Trails and the Continental Divide National Scenic Trail, designated under the National Trails System Act, 16 USC §§ 1241–1251, with the exception of those trail segments that are historic sites as defined in § 774.17.

Therefore, the Lewis and Clark National Historic Trail within the project area meets the exception from the requirement for Section 4(f) approval in accordance with 23 CFR § 774.13(f)(2).

¹ [Ohio – Lewis & Clark National Historic Trail](#). National Park Service. Accessed September 21, 2023.



Refined Alternative I (Concept I-W) will not result in any permanent impacts to the activities, features, or attributes of the Lewis and Clark National Historic Trail. The reconfiguration and rehabilitation of the existing BSB will not require any work in the Ohio River, and the existing BSB will maintain its current vertical clearance above the river. Refined Alternative I (Concept I-W) will build a new double-decker companion bridge west of the existing BSB bridge and will place two new piers in the Ohio River. The new companion bridge will be located on a stretch of the Ohio River with numerous roadway and railroad bridges and will not result in any visual impacts to the trail. The under clearance for the new companion bridge will be no lower than 532 feet in elevation, which accounts for fluctuations in the river levels due to seasonal flow and provides additional clearance to accommodate river cruise ships. The navigation opening will be no narrower than the existing BSB, and the south pier will be no more than 75 feet from land to provide maneuverability within the channel. Highway and aesthetic lighting incorporated into the new companion bridge and/or the existing BSB will be designed to avoid interference with river navigation.

During detailed design, soil and geotechnical borings will be conducted in the river bottom. The new companion bridge may be constructed using temporary access fills and barge-mounted equipment. River traffic will be maintained during construction, although temporary restrictions in the navigation channel may be required to erect portions of the new structure. Because navigation within the Ohio River will be maintained, impacts to the recreational use of the Lewis and Clark National Historic Trail are expected to be minor.

During design and construction, KYTC and ODOT have committed to notifying NPS of any access restrictions affecting the Lewis and Clark National Historic Trail prior to any project-related activities affecting the trail, which is the Ohio River. In addition, KYTC and ODOT will install appropriate signage to alert users of the trail of project-related activities or access restrictions in the Ohio River.

4.13.12 Other Historic Properties

In accordance with 36 CFR part 800 and Section 106 of the National Historic Preservation Act, the Kentucky SHPO and the Ohio SHPO determined that Refined Alternative I (Concept I-W) results in an adverse effect on the Lewisburg Historic District and Longworth Hall, no adverse effect on 13 NRHP properties (including the Hillsdale Historic District and the Elberta Apartments Historic District), and no effect on the remaining historic properties in the project's APE. See Section 4.5.2 for additional details about the effect findings for historic properties.

Descriptions of the Section 4(f) use and impacts to the Hillsdale Subdivision Historic District, the Elberta Apartments Historic District, the Lewisburg Historic District, and Longworth Hall are discussed in Sections 4.13.1, 4.13.2, 4.13.4, and 4.13.5, respectively. Permanent or temporary incorporation of land will not occur on historic properties with a determination of no effect; therefore, Section 4(f) does not apply to these properties. Refined Alternative I (Concept I-W) will not require permanent or temporary incorporation of land from 10 of the sites with a finding of no adverse effect, and minor visual effects that will occur due to highway construction do not constitute a constructive use (see Table 37); therefore, Section 4(f) does not apply to these properties. The rehabilitation of the existing BSB meets the exception from the requirement for Section 4(f) approval in accordance with 23 CFR § 774.13(a)(3)(i)-(ii).



If previously unidentified historic properties or unanticipated effects on known historic properties, are discovered after completion of the Section 106 process, ODOT and KYTC have committed to following the unanticipated discovery plans for their respective states, as described in Appendix A of the Section 106 Programmatic Agreement.

Table 37: Section 4(f) Summary of Historic Properties with No Adverse Effect

Site No. ¹	Site Name ¹ Address	Refined Alternative I (Concept I-W) ²		
		NRHP Status	Effects	Section 4(f) Determination
KECL-107	C&O Railroad Bridge Ohio River East of BSB	Eligible	No Adverse Effect	Minor visual effects only ² – Section 4(f) does not apply
KE-09	West Side/Main Strasse Historic District	Listed	No Adverse Effect	Minor visual effects only ² – Section 4(f) does not apply
KECL-815	Bavarian Brewing Company/Kenton Co Government Center 1840 Simon Kenton Way	Listed	No Adverse Effect	Proposed new right-of-way outside of NRHP boundary and minor visual effects ² – Section 4(f) does not apply
KEC-462	Bavarian Brewery Bottling Works/Glier’s Goetta 533 Goetta Place	Eligible	No Adverse Effect	Minor visual effects only ² – Section 4(f) does not apply
KEC-458	Residence 45 Rivard Drive	Eligible	No Adverse Effect	Minor visual effects only ² – Section 4(f) does not apply
KEC-1038	Quality Inn/Radisson Hotel 626 West 5 th Street	Eligible	No Adverse Effect	Portion of existing parking lot within existing right-of-way (outside of NRHP boundary) and minor visual effects ² – Section 4(f) does not apply
KEC-820	Brent Spence Bridge	Eligible	No Adverse Effect	Rehabilitation and minor visual effects – Meets the exception for Section 4(f) approval in accordance with 23 CFR § 774.13(a)(3)(i)-(ii)
KEC-1068	Covington Levee	Eligible	No Adverse Effect	Minor visual effects only ² – Section 4(f) does not apply
KECL-692	House 536 West 13 th Street	Eligible	No Adverse Effect	Minor visual effects only ² – Section 4(f) does not apply
KEC-1011	House 534 West 13 th Street	Eligible	No Adverse Effect	Minor visual effects only ² – Section 4(f) does not apply
KEC-1075	Clay Wade Bailey Bridge	Eligible	No Adverse Effect	Minor visual effects only ² – Section 4(f) does not apply

1. Site numbers and names reflect the most current information according to the 2022 [Cultural Historic Survey Report](#). No adverse effect also applies to KE-07 and KE-08 (the Elberta Apartments Historic District) and KE-013 (the Hillsdale Subdivision Historic District), but the Section 4(f) use of these resources is discussed separately in Sections 4.13.2 and 4.13.1, respectively.
2. Refined Alternative I (Concept I-W) will not require permanent or temporary incorporation of land from within the property’s NRHP boundary. Minor visual effects noted for the site do not constitute a constructive use.



4.13.13 Avoidance Alternatives

Unless the use of a Section 4(f) property is determined to have a *de minimis* impact or is excepted from required approval, FHWA must determine that no feasible and prudent avoidance alternative exists before approving the use of such land. Feasible and prudent avoidance alternatives are those that avoid using any Section 4(f) property and do not cause other severe problems of a magnitude that substantially outweigh the importance of protecting the Section 4(f) property. Avoidance alternatives evaluated for the BSB Corridor Project are summarized below:

- No-Build Alternative. The No-Build Alternative avoids Section 4(f) properties; however, it does not meet the project purpose and need and is not considered to be a prudent and feasible alternative for the BSB Corridor Project. See Section 3.1 for additional details about the No-Build Alternative.
- Location alternatives that re-route the entire project along a different alignment. The northern Kentucky and Cincinnati areas include numerous historic districts, properties that are individually eligible for the NRHP, and public recreational facilities. Given the character of the area, there is a high likelihood that location alternatives would also impact Section 4(f) properties.

About 70 percent of the traffic in the BSB corridor has origins and destinations north of the I-71/I-75 split in Kentucky and south of I-275 in Ohio.¹ Alternatives that re-route the entire project along a different alignment would not address poor traffic operations and congestion for the high proportion of local traffic utilizing the BSB corridor. Likewise, location alternatives would not address existing safety problems and geometric deficiencies in the BSB corridor. Alternatives on new location would also divert traffic away from, rather than maintain, connections to key regional and national transportation corridors. Given the above, locational alternatives may impact Section 4(f) properties and would not improve traffic flow, improve safety, correct geometric deficiencies, or maintain connections to key regional and national corridors. Therefore, location alternatives would not meet the project purpose and need and are not considered to be feasible and prudent alternatives for the BSB Corridor Project.

- Alternative actions, such as rail transit or bus service, or some other action that does not involve construction such as the implementation of transportation management systems or similar measures. Transit alternatives that could avoid Section 4(f) properties, such as express bus and bus rapid transit on existing general purpose lanes, were evaluated by OKI and the Miami Valley Regional Planning Commission in a major planning study called the [North South Transportation Initiative](#) (February 2004). The study concluded that transit improvements alone would not address capacity issues on I-71/I-75. Therefore, transit improvements alone would not meet the project purpose and need and are not considered to be feasible and prudent alternatives for the BSB Corridor Project.
- Alignment shifts that re-route a portion of the project to a different alignment to avoid a specific resource. All of the conceptual alternatives and feasible alternatives developed for the BSB Corridor Project directly impact both historic properties and public parks. Due to the densely developed urban

¹ Origin and destination data is reported for the year 2050, which is the regional planning horizon for OKI's long-range transportation plan.



environment of the project area and the presence of Section 4(f) properties on both sides of the corridor and in close proximity to one another, it was not possible to incorporate alignment shifts that avoid impacts to Section 4(f) properties and satisfy the project's purpose and need.

- Design changes that modify the proposed design in a manner that would avoid impacts, such as reducing the planned median width, building a retaining wall, or incorporating design exceptions. Refined Alternative I (Concept I-W) incorporates several refinements that reduce the project's overall footprint, including reducing shoulder widths to match updated design criteria, lowering design speeds to reduce the required radii of curvature, constructing retaining walls, and reducing the width of the new companion bridge. Although these refinements have substantially reduced impacts in the Lewisburg Historic District when compared to Selected Alternative I (from the 2012 EA/FONSI), impacts to Section 4(f) properties could not be avoided by design changes alone. Additional details about the refinements incorporated into Refined Alternative I (Concept I-W) are provided in Sections 3.2 and 3.3.

Based on the above discussion, there are no feasible and prudent avoidance alternatives as described in 23 CFR § 774.3. Additional details about avoidance alternatives are provided in the [Draft Individual Section 4\(f\) Evaluation](#).

Avoidance alternatives for the Section 4(f) resources that will be adversely affected by Refined Alternative I (Concept I-W), the Lewisburg Historic District and Longworth Hall, are provided in the following sections. FHWA has determined that Refined Alternative I (Concept I-W) will result in an exception to the requirement for Section 4(f) approval or a *de minimis* use of the remaining Section 4(f) properties that will be impacted, and further evaluation of avoidance alternatives for these properties is not required.

Lewisburg Historic District

All of the alternatives developed for the BSB Corridor Project impact the Lewisburg Historic District. Since the approval of the 2012 EA/FONSI, KYTC and ODOT have conducted a Value Engineering Workshop (October 2012), a Performance-Based Design Workshop (December 2019), and other studies and activities to identify and evaluate measures to improve the design and constructability of the project while reducing the costs and impacts. Based on those activities, several refinements were incorporated into Refined Alternative I (Concept I-W) to reduce the project's overall footprint. Specifically, the incorporation of retaining walls and the reduction in the width of the new companion bridge substantially reduced impacts in the Lewisburg Historic District. When compared to Selected Alternative I (from the 2012 EA/FONSI), Refined Alternative I (Concept I-W) reduces permanent right-of-way acquisition in the Lewisburg Historic District from 2.1 acres to 0.23 acre, a 1.87-acre reduction. In addition, the full acquisition of contributing elements in the Lewisburg Historic District is reduced from 21 to 2. However, the value engineering refinements could not completely avoid impacts to the Lewisburg Historic District. Additional details about the refinements incorporated into Refined Alternative I (Concept I-W) are provided in Sections 3.2 and 3.3.

The Goebel Park Complex and its components are protected Section 4(f) resources located adjacent to and east of I-71/I-75, directly across from the Lewisburg Historic District. Any design refinements that shift roadway alignments away from either of these Section 4(f) resources would result in greater impacts to the other



Section 4(f) property and, perhaps, additional residential and commercial relocations. Therefore, avoidance alternatives specific to the Lewisburg Historic District are not considered to be reasonable or feasible. The locations of Section 4(f) properties are shown in Figure 8 and Figure 14.

Longworth Hall

Conceptual Alternative B, which was developed in 2007 and 2008, was the only alternative that avoided direct impacts to Longworth Hall. This alternative was unique from the other conceptual and feasible alternatives because it followed a new alignment across the Ohio River and through the Queensgate neighborhood in Cincinnati. Conceptual Alternative B passed within 37 feet of the west end of Longworth Hall. All other alternatives considered had a direct impact to the east end of the building, which is located within eight feet of I-75. Although Alternative B did not directly impact Longworth Hall, it would have impacted two other Section 4(f) properties in Kentucky. It would have encroached upon the western edge of the Goebel Park Complex and the eastern edge of the Lewisburg Historic District.

The conceptual alternatives analysis concluded that Alternative B resulted in adverse impacts to communities, residences, businesses, regulated materials sites, and utilities, which were substantially higher than other alternatives under consideration. In addition, Alternative B had substantially greater overall complexity, constructability risk, and cost when compared to other alternatives. Finally, the concept was strongly opposed by both the City of Cincinnati (Ohio) and the City of Covington (Kentucky). Therefore, it was not found to be a feasible and prudent alternative and was removed from further consideration. Additional information about Conceptual Alternative B and reasons for eliminating it from further consideration are provided in the 2012 [EA](#).

As previously described, since the approval of the 2012 EA/FONSI, KYTC and ODOT have conducted several value engineering studies and activities to identify and evaluate measures to improve the design and constructability of the project while reducing the costs and impacts. Those studies and activities did not identify any measures to further reduce impacts on Longworth Hall.

4.13.14 Least Overall Harm

A least overall harm analysis is required when there is no feasible and prudent avoidance alternative to non-*de minimis* use of Section 4(f) properties. The 2012 *Final Individual Section 4(f) Evaluation* demonstrated that Selected Alternative I (from the 2012 EA/FONSI) caused the least overall harm to Section 4(f) properties and incorporated all possible planning to minimize harm from non-*de minimis* uses of Section 4(f) properties. Refined Alternative I (Concept I-W), which is a value engineering refinement of Selected Alternative I (from the 2012 EA/FONSI), further reduces overall harm to Section 4(f) properties (see Table 36). The extension of Simon Kenton Way and the construction of new stormwater facilities incorporated into Refined Alternative I (Concept I-W) require about 7 feet of additional right-of-way along the western edge of the Goebel Park Complex and will result in a minor (0.25-acre) increase in total impacts on the complex; however, the measures to minimize and mitigate harm have also increased, resulting in a finding of *de minimis* Section 4(f) use for the Goebel Park Complex. Mitigation measures for the Goebel Park Complex include replacement land; reconstruction of the walking trail within the complex; and funding for a new Goebel Park Complex Master



Plan, replacement and enhancement of the basketball courts or other outdoor recreation facilities within the park, and a relocated outdoor pool and associated facilities or other comparable aquatic facility serving the same purpose within the park. In addition, FHWA will obtain concurrence from the official with jurisdiction that the park will not be adversely affected and is a *de minimis* Section 4(f) use. Additional information about the Goebel Park Complex is provided in Section 4.13.3.

When compared to Selected Alternative I (from the 2012 EA/FONSI), impacts to the other Section 4(f) properties in the project area remain the same for or have been reduced by Refined Alternative I (Concept I-W). Most notably, impacts within the Lewisburg Historic District (individual Section 4(f) use) have been reduced by 1.87 acres, and the removal of contributing elements has been reduced from 21 to 2. While the impacts to Longworth Hall (individual Section 4(f) use) have not changed, ODOT is in the process of purchasing the full Longworth Hall property at a mutually agreed upon price and from a willing seller and may use interior space or the exterior grounds surrounding the building during project construction; however, no additional adverse effects are anticipated as a result of ODOT's activities in the building and on the exterior grounds,

Refined Alternative I (Concept I-W) impacts four Section 4(f) properties that were not identified in the 2012 *Final Individual Section 4(f) Evaluation* or EA/FONSI: the Hillsdale Subdivision Historic District (*de minimis* Section 4(f) use), the Elberta Apartments Historic District (*de minimis* Section 4(f) use), the Firefighters Memorial (temporary occupancy), and Ezzard Charles Park (temporary occupancy). The park properties were not identified in the original studies, and the historic sites were identified during the recent efforts to update the evaluation of historic resources in the project's APE. Selected Alternative I (from the 2012 EA/FONSI) would have impacted all of these Section 4(f) properties to at least the same extent as Refined Alternative I (Concept I-W).

Given the above, the refinements incorporated into Refined Alternative I (Concept I-W) result in reduced overall harm to Section 4(f) properties when compared to Selected Alternative I (from the 2012 EA/FONSI).

Refined Alternative I (Concept I-W) was evaluated to confirm that the value engineering refinements incorporated into Selected Alternative I (from the 2012 EA/FONSI) do not change the determination of least overall harm to Section 4(f) properties. The least overall harm is determined by balancing seven factors outlined in 23 CFR § 774.3(c)(1)(i)-(vii). A discussion of these factors as they relate to the Lewisburg Historic District and Longworth Hall is provided below:

- i. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property). Mitigation measures for impacts to the Lewisburg Historic District and Longworth Hall were established in a Section 106 Programmatic Agreement. The mitigation measures for the Lewisburg Historic District are described in detail in Section 4.5.2 and include the recordation of demolished structures; the establishment of a \$1.2 million grant program to improve and rehabilitate the façades of residential and commercial properties in the Lewisburg Historic district; and the protection, monitoring, and repair of historic structures from vibration during construction. The mitigation measures for the Lewisburg Historic District that are incorporated into Refined Alternative I (Concept I-W) have increased when compared to Selected Alternative I (from the 2012 EA/FONSI). The façade grant has



been increased from \$420,000 to \$1.2 million, and the vibration monitoring measures have been more rigorously defined. Mitigation measures to improve and rehabilitate façades will result in an overall benefit to the historic district.

The mitigation measures for Longworth Hall are described in detail in Section 4.5.2 and include various repair, upgrade, restoration, enhancement, and refurbishment on the portions of the building impacted by construction and the portions of the building to remain. The Section 106 mitigation measures for Longworth Hall that are incorporated into Refined Alternative I (Concept I-W) have not changed when compared to Selected Alternative I (from the 2012 EA/FONSI). ODOT is in the process of purchasing the full Longworth Hall property at a mutually agreed upon price and from a willing seller and may use interior space or the exterior grounds surrounding the building during project construction. No additional adverse effects are anticipated as a result of ODOT's activities in the building and on the exterior grounds; while no further Section 106 mitigation measures are required, additional mitigation measures are proposed pursuant to Section 4(f) to ensure the preservation of the property. The Section 106 mitigation measures for Longworth Hall are discussed in Section 4.5.2, and the additional Section 4(f) mitigation measures are discussed in Section 4.13.5.

- ii. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection. Refined Alternative I (Concept I-W) will permanently remove 0.23 acre of land and 2 contributing structures from the Lewisburg Historic District, which represents a small percentage of the approximately 700 acres and 430 buildings present in the historic district. The relative severity of harm to the Lewisburg Historic District has been greatly reduced when compared to Selected Alternative I (from the 2012 EA/FONSI), which required 2.1 acres of permanent right-of-way affecting 28 contributing elements (21 full and 7 partial acquisitions).

The removal of 204 feet of Longworth Hall will not diminish the historic integrity of the structure, which is 1,160 feet in total length. While in ODOT's ownership, ODOT will be responsible for maintaining Longworth Hall and its historic integrity. An architectural façade and preservation easement for Longworth Hall will remain with the deed as part of the purchase by ODOT and for any future sale of the property and will thus be transferred to future potential owners in perpetuity. The relative severity of harm to Longworth Hall has not changed when compared to Selected Alternative I (from the 2012 EA/FONSI).

- iii. The relative significance of the Section 4(f) property. The relative significance of the Lewisburg Historic District and Longworth Hall have not changed since the 2012 EA/FONSI.

The Lewisburg Historic District is among 11 historic districts eligible for listing on the NRHP that are present in the project's area for potential effects and is typical of the historic nature of the neighborhoods in the City of Covington. Based on the NRHP nomination, the Lewisburg Historic District is significant as an important example of suburban growth in Covington and for its inventory of typical working and middle class domestic architecture of the second half of the nineteenth century and early twentieth century; as well as some notable examples of domestic, institutional, and commercial architecture. The project-related impacts to the Lewisburg Historic District will not diminish these attributes. The façade grant program and the protection, monitoring, and repair of historic structures



from vibration during construction will help to preserve the characteristics that contribute to the historic significance of the Lewisburg Historic District.

Longworth Hall is located in an industrial area, and there are no similar land uses located in its vicinity. Based on the NRHP nomination, Longworth Hall is significant because it contributes to the understanding of freight movement by railroad during a period when this was an important mode of transportation and as a unique example of functional railroad architecture embellished with Romanesque Revival details. It exhibits distinctive characteristics of the style and is further enhanced because of its exceptional length. The removal of 204 feet of Longworth Hall will not diminish these attributes. The length of the remaining building will be 956 feet. The repairs, upgrades, restoration work, and refurbishment measures incorporated into the mitigation measures will help to preserve the distinctive characteristics of its style. The interpretive plaque or signage incorporated into the mitigation measures will help to promote understanding of the building's historic contribution to freight movement by railroad. ODOT's purchase of the full Longworth Hall property and activities in the building and on the exterior grounds will not affect the relative significance of the building.

- iv. The views of the official(s) with jurisdiction over each Section 4(f) property. The Kentucky SHPO is the official with jurisdiction over the Lewisburg Historic District, and the Ohio SHPO is the official with jurisdiction over Longworth Hall. For the 2012 EA/FONSI, separate MOAs were developed to outline mitigation measures for the Lewisburg Historic District and Longworth Hall. The Kentucky SHPO was a signatory to the MOA for the Lewisburg Historic District, and the Ohio SHPO was a signatory to the MOA developed for Longworth Hall. For the supplemental EA, the separate MOAs were combined into one project-level Section 106 Programmatic Agreement that outlines the mitigation measures for the Lewisburg Historic District and Longworth Hall. The Kentucky SHPO and the Ohio SHPO are signatories to the Section 106 Programmatic Agreement.
- v. The degree to which each alternative meets the purpose and need for the project. The 2012 EA/FONSI demonstrated that Selected Alternative I met the project purpose and need. Refined Alternative I (Concept I-W) reduces the project footprint, improves the project's functionality, and does not substantially change the key design components of Selected Alternative I (from the 2012 EA/FONSI). Therefore, Refined Alternative I (Concept I-W) continues to meet the project purpose and need. See Section 3.9 for additional details about Refined Alternative I (Concept I-W) and purpose and need.
- vi. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f). Based on the analysis in the supplemental EA and the mitigation and enhancement measures documented in the project's environmental commitments, Refined Alternative I (Concept I-W) is not anticipated to result in substantial adverse impacts for resources not protected by Section 4(f). For comparison, the analysis in the 2012 EA/FONSI concluded that Selected Alternative I also would not result in substantial adverse impacts for resources not protected by Section 4(f).
- vii. Substantial differences in costs among the alternatives. The cost estimates in the 2012 EA/FONSI were updated to reflect current design contingencies, unit prices, inflation rates, and construction years for each project phase. The cost estimates were also revised to include actual right of way, estimated costs for unacquired right-of-way, and utility relocation costs. In addition, updated costs for public



relations, procurement, stipend, state labor, bridge painting, and design were included. Finally, previously expended preliminary development dollars were added to the estimated contract costs to estimate the total cost to implement the Refined Alternative I (Concept I-W).

A Cost, Schedule, and Risk Assessment workshop held by FHWA and the project team in October 2022 confirmed that the total project cost estimate is \$3.6 billion in the year of expenditure, which includes all costs required to deliver the project, including but not limited to planning, design, right-of-way acquisition, construction, construction management services, and agency labor.

The costs to deliver Selected Alternative I (from the 2012 EA/FONSI) were not updated to reflect current prices. However, based on the information presented in the [Design Summary Report](#) and the [2022 Project Summary with Associated Costs](#) (April 2022), the total costs for Refined Alternative I (Concept I-W) are less than the costs to construct Selected Alternative I (from the 2012 EA/FONSI). See Section 3.6 for additional information about costs.

As stated earlier, the 2012 *Final Individual Section 4(f) Evaluation* demonstrated that Selected Alternative I (from the 2012 EA/FONSI) caused the least overall harm to Section 4(f) properties. When evaluating the seven factors listed in 23 CFR § 774.3(c)(1), Refined Alternative I (Concept I-W) is substantively the same as Selected Alternative I (from the 2012 EA/FONSI) for factors (iii)-(vi). Refined Alternative I (Concept I-W) provides increased mitigation for impacts to the Lewisburg Historic District, reduced harm to the remaining portions of the Lewisburg Historic District, and reduced total project costs. Therefore, when balancing the seven factors in 23 CFR § 774.3(c)(1), Refined Alternative I (Concept I-W) causes the least overall harm in light of the statute's preservation purpose.

4.14 Section 6(f) Properties

Section 6(f) of the Land and Water Conservation Fund (LWCF) Act requires that a property using LWCF money be kept and used for public outdoor recreation unless the NPS approves substitution property of reasonably equivalent usefulness and location and of at least equal fair market value. The 2012 EA/FONSI identified Goebel Park (including Kenney Shields Park) as a Section 6(f) property. A review of the project area and LWCF mapping conducted for this supplemental EA revealed one additional Section 6(f) property – General Ormsby Mitchel Park – which is south of Dixie Highway and not impacted by the project. The following sections discuss Section 6(f) considerations for Goebel Park, which is referred to as the Goebel Park Complex in this supplemental EA.

4.14.1 Description of the Goebel Park Complex

The Goebel Park Complex is owned by the City of Covington and includes three interconnected public parks: Goebel Park, Kenney Shields Park, and the SFC Jason Bishop Memorial Dog Park. The complex occupies 14.67 acres and is located east of I-71/I-75 between West 5th Street and West 9th Street. Goebel Park is the largest park at 12.03 acres and offers a public pool, picnic shelters, a gazebo, a playground, and a grill. A walking trail connects Goebel Park to Kenny Shields Park. The park also hosts the SFC Jason Bishop



Memorial and a German-style Carroll Chimes Clock Tower. Kenney Shields Park is 2.26 acres and offers basketball courts and a walking trail that connects to the Goebel Park pool and the Clock Tower. The portions of Goebel Park and Kenney Shields Park that are located closest to I-71/I-75 are low-lying and are prone to flooding when elevated water levels cause the Ohio River to backflow into the combined sewer system. The SFC Jason Bishop Memorial Dog Park is 0.38 acre, offers a fenced area that provides a dedicated space for members of the public to exercise their pets, and is connected to Kenney Shields Park. The location of the Goebel Park Complex is shown in Figure 8. Figure 25 shows the existing features in the Goebel Park Complex.

The Goebel Park Complex is accessible to pedestrians and bicycles via sidewalks and walking paths connecting to surrounding neighborhoods. Vehicular access is also provided, and parking is available on adjacent streets and in small parking lots. Goebel Park and Kenney Shields Park are open to the public free of charge seven days a week from dawn until dusk. Picnic pavilions can also be reserved for planned use. The Goebel Park pool is free to residents of the City of Covington and is open for a limited season between June and August. The SFC Jason Bishop Memorial Dog Park is open to the public Monday through Saturday from 7:00 am to 6:00 pm and Sunday from 7:00 am to 5:00 pm. Two large-scale events occur in the Goebel Park Complex each season: the Covington Oktoberfest in September and the Northern Kentucky Pride Festival.

4.14.2 Land and Water Conservation Fund Allocations

Goebel Park received a LWCF grant from NPS as part of a Goebel Park Expansion Project completed by the City of Covington (NPS Project No. 21-00541). The initial project approval on May 11, 1978 provided \$172,283 for the acquisition of eight parcels of land, relocation assistance, and demolition. The project was amended on September 28, 1979 to add \$252,250 for the development of the swimming pool and bath house. A third amendment to add \$256,000 for the acquisition of three other parcels of land was approved on July 18, 1980.

The LWCF property acquisitions and swimming pool construction occurred in areas that are currently designated as Goebel Park and Kenney Shields Park. The SFC Jason Bishop Memorial Dog Park was opened in December 2022. Goebel Park, Kenney Shields Park, and the SFC Jason Bishop Memorial Dog Park are adjacent and interconnected facilities that function as one recreational resource, which has been designated as the Goebel Park Complex. Therefore, the entire Goebel Park Complex is subject to Section 6(f) and required to meet the post-completion compliance responsibilities described in 36 CFR part 59.

4.14.3 Impacts to the Goebel Park Complex and to Resources Within the Area

The 2012 FONSI documented 2.59 acres of permanent right-of-way impacts to Goebel Park/Kenney Shields Park for Selected Alternative I and included an environmental commitment to complete the Section 6(f) conversion with approval by NPS. No additional work to fulfill this commitment occurred prior to the development of this supplemental EA.

The following sections describe how Refined Alternative I (Concept I-W) will impact the Goebel Park Complex by describing the physical alterations that are proposed, including replacement land to be converted for



park/recreational use. The following sections also identify how each resource area will be potentially impacted by such alterations within and adjacent to the Goebel Park Complex.

Physical Alterations and Conversion for Replacement Land

Refined Alternative I (Concept I-W) includes an extension of Simon Kenton Way between West 9th Street and West 5th Street and the construction of new stormwater facilities that were not included in the 2012 FONSI. These refinements require about 7 feet of additional right-of-way along the western edge of the Goebel Park Complex and will result in a minor (0.25-acre) increase in total impacts on the complex. The project will acquire 2.84 acres of permanent right-of-way and 0.07 acre of temporary easement from the Goebel Park Complex, including 360 feet of walking trails, two basketball courts, and associated resources. Interstate widening will place the highway lanes closer to the park, which may negatively affect the outdoor pool facility due to its proximity to the proposed roads. The nearest traffic lane, which is currently about 185 feet from the swimming pool, will be shifted to about 60 feet from the pool when the project is completed. Figure 26 shows the proposed permanent right-of-way and temporary easement in the Goebel Park Complex.

The acquisition of an estimated 2.84 acres of flood-prone park property from the southwest corner of the complex will be mitigated and replaced with an estimated 2.23 acres of adjacent state-owned property that is at a higher elevation than the 2.84 acres being converted and not prone to flooding. The replacement property is currently occupied by the northbound I-71/I-75 exit ramp to West 5th Street. Refined Alternative I (Concept I-W) will relocate the ramp closer to the highway, creating excess land that will be vacated by the project. Additional details about the proposed replacement property are provided in Section 4.14.6.

Travel Patterns and Access

Refined Alternative I (Concept I-W) will not permanently change vehicular access to the Goebel Park Complex, and overall improvements in traffic flow may benefit motorists traveling to and from the complex. Refined Alternative I (Concept I-W) provides a new shared use path along the outside lanes on Simon Kenton Way and new/rebuilt sidewalks along the outside lanes on Bullock Street. Also, new and rebuilt sidewalks are included along Pike Street west of I-71/I-75 and under the MLK/West 12th Street, Pike Street, West 9th Street, West 5th Street, and West 3rd Street bridges, including a 5-foot switchback accessible ramp to replace steep stairs between Pike Street and Lewis Street. Refined Alternative I (Concept I-W) also includes a new shared-use path under the West 5th Street bridge, which ties into the shared-use paths in the Goebel Park Complex. The shared-use path extends along Crescent Avenue to connect to the existing shared-use path along the Ohio River. Given the above, Refined Alternative I (Concept I-W) is anticipated to improve access to the Goebel Park Complex for all modes of travel. See Section 4.1.4 for additional details about travel patterns and access, including mapping showing the locations of proposed sidewalks and shared use paths.

Land Use Plans or Policies

KYTC committed to providing funds to the City of Covington for the development of a new Goebel Park Complex Master Plan. The City of Covington will engage community members and key stakeholders in the new master planning process, which will assess existing conditions and community priorities for the Goebel



Park Complex, establish a broad vision for how the complex can meet identified goals and needs, develop a list of recommended actions, and outline an implementation plan for a minimum 10-year planning period. The final Master Plan will document the future plans, uses, and locations of facilities in the Goebel Park Complex. The Section 6(f) conversion will not change the public recreational use within the Goebel Park Complex and is part of the City of Covington's land use planning efforts for this community resource.

Socioeconomics and Environmental Justice

Refined Alternative I (Concept I-W) will acquire 2.84 acres of city-owned land in the Goebel Park Complex. The 2.23 acres of proposed replacement land is currently owned by the state of Kentucky. Because the impacted and proposed replacement land is publicly held and not part of the local tax base, the Section 6(f) conversion will not affect tax revenues.

The Goebel Park Complex is in and adjacent to census block groups with the following socioeconomic populations or groups: older adults (over age 64), individuals with LEP, adults with disabilities, and/or zero-car households. It also occupies a census tract with disadvantaged communities, as identified by the CEJST. The Goebel Park Complex is also utilized by children 18 years and under.

Environmental justice populations include low-income and minority populations. The Goebel Park Complex is in and adjacent to census block groups with low-income populations. Minority populations are not present in the census block groups surrounding the complex.

The proposed work in the vicinity of the Goebel Park Complex, including the Section 6(f) conversion, will result in minor adverse effects on older adults, individuals with LEP, adults with disabilities, zero-car households, disadvantaged communities, children, and low-income populations due to cumulative loss of parkland and anticipated temporary access and mobility, noise, and air quality impacts during construction.

Temporary construction impacts will be minimized to the greatest extent practicable through proactive communication with the City of Covington and the public and the development of a Traffic Management Plan, MOT plans, an Incident Management Plan, a dust control plan and other measures to minimize and prevent discharge of dust, measures to minimize and prevent diesel emissions, an ambient air quality monitoring program, and measures to manage construction noise.

Enhancement measures coupled with other project features will benefit older adults, individuals with LEP, adults with disabilities, zero-car households, disadvantaged communities, children, and low-income populations. The project will improve pedestrian and bicycle connections to, from, and within the Goebel Park Complex by reconstructing the walking trail and connecting it to a network of sidewalks and shared use paths north and south of the complex. Noise/visual screening barriers proposed along the portion of I-71/I-75 adjacent to the Goebel Park Complex will reduce traffic noise. Air quality analysis conducted for Refined Alternative I (Concept I-W) concluded that vehicle emissions and greenhouse gas emissions in Kenton County, which includes the Goebel Park Complex, would be substantially reduced when compared to existing conditions. The proposed replacement land is at a higher elevation than the flood-prone portions of the complex that will be acquired for the project, resulting in reduced flooding in the Goebel Park Complex. Refined Alternative I (Concept I-W) will include features to improve aesthetics within and around the Goebel Park



Complex, including landscaping, streetscapes, and treatments for piers, abutments, retaining walls, and noise/visual screening barriers.

When avoidance, minimization, and mitigation are considered, Refined Alternative I (Concept I-W), including the proposed Section 6(f) conversion, is expected to result in net benefits for older adults, individuals with LEP, adults with disabilities, zero-car households, disadvantaged communities, and children in the vicinity of the Goebel Park Complex. See Sections 4.1.8, 4.1.9, and 4.1.10 for additional information about socioeconomic populations or groups, disadvantaged communities, and children.

Based on the above discussion, Refined Alternative I (Concept I-W), including the proposed Section 6(f) conversion, will not cause disproportionately high and adverse effects on any minority or low-income populations. See Section 4.1.7 for additional information about environmental justice.

Ecological Resources

Project-related work in the Goebel Park Complex, including the provision of replacement land, will not impact unique ecosystems, coastal barrier resources or coastal zones, marine and/or estuarine resources, wetlands, streams and rivers, migratory birds, floodplains¹, or geological resources. Refined Alternative I (Concept I-W) will remove approximately 1.1 acres of terrestrial habitat in the areas of the Goebel Park Complex to be acquired for highway right-of-way, which includes potential forested habitat for the federally endangered gray bat, Indiana bat, and NLEB. Potential forested habitat for the tricolored bat, which USFWS has proposed for listing as a federally endangered species, also exists in areas to be acquired for right-of-way. The project was coordinated with USFWS, which confirmed the determination of “may affect, not likely to adversely affect” for the gray bat and the NLEB and “may affect, likely to adversely affect” for the Indiana bat. FHWA has determined that the project may affect but is not likely to jeopardize the continued existence of the tricolored bat, nor will it result in the destruction or adverse modification of critical habitat proposed to be designated for the species. USFWS also determined that the requirements of Section 7 of the Endangered Species Act have been fulfilled for the BSB Corridor Project. The following measures will be incorporated into the project to minimize and mitigate effects on these species:

- Potential incidental take for the Indiana bat will be mitigated through a contribution to the IBCF in accordance with the *Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat*.
- No tree removal will occur in Kentucky from June 1 to July 31.

In addition to the above, BMPs and KYTC *Standard Specifications* will be used during and after construction to further protect endangered bats and their food sources by controlling project-related erosion and sediment. The application of BMPs and KYTC *Standard Specifications* will also provide protection against the introduction or spread of noxious weeds or non-native invasive species. See 4.2 for additional information about ecological resources, including the full list of measures incorporated into the project to minimize and mitigate impacts to threatened or endangered species.

¹ Elevated water levels can cause the Ohio River to backflow into the combined sewer system, leading to flooding in the Goebel Park Complex, but the complex itself is not located within a floodplain.



Air Quality

Air quality evaluations considered PM2.5, carbon monoxide, and ozone. The project area is in attainment with NAAQS for PM2.5 and carbon monoxide, and the project is in conformance with NAAQS for ozone. In addition, a [Quantitative MSAT Analysis Report](#) concluded the project is consistent with MSAT requirements. To further evaluate air quality considerations for Refined Alternative I (Concept I-W), KYTC and ODOT completed an emissions burdens analysis that modeled the levels of volatile organic compounds, nitrogen oxides, and PM2.5 for 2020 existing, 2050 no-build, and 2050 build scenarios. The analyses concluded that emissions would be substantially decreased for both the 2050 no-build and 2050 build scenarios when compared to the existing scenario. These reductions are primarily due to the implementation of the latest federal emissions standards coupled with fleet turnover.

When the 2050 build scenario is compared to the 2050 no-build scenario, the levels of volatile organic compounds and nitrogen oxides are anticipated to be less in Kenton County, which includes the Goebel Park Complex. When the 2050 build scenario is compared to the 2050 no-build scenario, PM2.5 is anticipated to be slightly greater (2.8 percent) in Kenton County due to an increase in vehicle miles of travel that will occur throughout the area transportation network when the project is built. However, the 2.8 percent difference in PM2.5 emissions is less than the associated 3.4 percent difference in vehicle miles of travel in Kenton County. Given the above, the project is not anticipated to further degrade, and may improve, overall air quality in the Goebel Park Complex. See Section 4.6 for additional information about air quality.

Greenhouse Gases and Climate Change

KYTC and ODOT modeled the levels of greenhouse gas emissions¹ expected to occur in 2020 existing, 2050 no-build, and 2050 build scenarios. The analyses concluded that greenhouse gas emissions would be substantially decreased for both the 2050 no-build and 2050 build scenarios when compared to the existing scenario. These reductions are primarily due to the implementation of the latest federal emissions standards coupled with fleet turnover. Greenhouse gas emissions are expected to be slightly greater (0.7 percent) when the 2050 build condition is compared to the 2050 no-build condition. This is primarily due to an increase in vehicle miles of travel that will occur throughout the area transportation network when the project is built. However, the 0.7 percent difference in greenhouse gas emissions is less than the associated 1.7 percent difference in vehicle miles of travel. The increase in greenhouse gas emissions is expected to have minimal effects on climate change in the vicinity of the Goebel Park Complex. See Section 4.7 for additional information about greenhouse gases and climate change.

Noise

Refined Alternative I (Concept I-W) will increase the capacity of I-71/I-75 and move vehicles closer to recreational areas within the Goebel Park Complex. Noise levels within the Goebel Park Complex were evaluated in accordance with KYTC's *Noise Analysis and Abatement Policy*, and the results were documented in a [Traffic Noise Impact Analysis: Brent Spence Bridge Corridor Project Kentucky – Northern Section](#). Based

¹ For the emissions burdens analysis, greenhouse gas emissions (also called carbon dioxide equivalent emissions) were calculated from projected carbon dioxide, nitrous oxide, and methane gas emissions weighted according to the global warming potential of each gas as defined by USEPA in its MOtor Vehicle Emission Simulator (MOVES3).



on the analysis, the existing noise levels (2022) approach or exceed FHWA's NAC for all areas of the Goebel Park Complex within about 500 feet of existing I-71/I-75, including the pool and Kenney Shields Park. The playground area is further away from I-71/I-75, and existing noise levels in this area do not approach or exceed FHWA's NAC. For Refined Alternative I (Concept I-W), FHWA NAC will be exceeded in all of the Goebel Park Complex in the design year (2049), except a small area within Kenney Shields Park, which will experience a reduction in noise levels. KYTC evaluated noise abatement measures and determined a noise barrier is feasible but not reasonable for the Goebel Park Complex.

Recognizing from neighborhood outreach efforts that traffic noise is a primary concern of area residents, KYTC conducted a technical study to evaluate noise/visual screening barriers in the vicinity of the Goebel Park Complex. The results of the technical study are documented in a [Noise Analysis Technical Memorandum: Brent Spence Bridge Corridor Project Kentucky – Northern Section](#). Based on the technical feasibility, public comments received during outreach activities, and coordination with the City of Covington, KYTC is proposing noise/visual screening barriers along I-71/I-75 for the entire length of the Goebel Park Complex. The noise/visual screening barriers will reduce noise levels in all areas of the Goebel Park Complex to below FHWA's NAC. See Section 4.8.1 for additional information about noise in Kentucky.

Visual

Interstates 71 and 75 are physically prominent features in the vicinity of the Goebel Park Complex. The project is not expected to change the light scape for the Goebel Park Complex, as lighting within the complex itself and from I-71/I-75, adjacent streets, and surrounding development will remain. Refined Alternative I (Concept I-W) will result in the following changes to the visual setting of the Goebel Park Complex:

- The proposed interstate will be higher than the existing highway on the approaches to the new companion bridge. In the vicinity of the Goebel Park Complex, the maximum height increase will be 31 feet for the northbound lanes on I-71/I-75. In general, the change in height decreases as the distance from the new companion bridge increases.
- The widening of I-71/I-75, the construction of C-D roadway system, and the extension of Simon-Kenton Way will move roadway lanes up to 125 feet closer to the complex.
- Retaining walls and noise/visual screening barriers will be built along the portions of the highway fronting the complex.

KYTC is closely coordinating the project aesthetic plans with the City of Covington, which owns the Goebel Park Complex. Items being discussed include landscaping, streetscapes, gateways, and treatments for piers, abutments, retaining walls, and noise/visual screening barriers. The proposed noise/visual screening barriers will vary in height from 16 to 24 feet, as required to achieve noise reduction goals in accordance with KYTC's noise policy at different locations along the length of the barriers. The noise/visual screening barriers will improve the viewshed due to the incorporation of aesthetic treatments on the barriers. KYTC is also evaluating the use of transparent noise barriers in some locations to preserve views of the Goebel Park Complex from the highway, particularly the Clock Tower, and has committed to coordinating the composition of the barriers with the City of Covington during detailed design. Given the above, the project is expected to result in net visual benefits for the Goebel Park Complex. See Section 4.9 for additional information about visual resources.



Construction Impacts

Temporary dust, air quality, and construction noise impacts are anticipated in the vicinity of the Goebel Park Complex during construction. To mitigate these effects, KYTC and ODOT will develop and implement a dust control plan and other measures to minimize and prevent discharge of dust in the atmosphere. During construction, measures will also be implemented to minimize diesel emissions and to protect sensitive receptors from impacts of diesel exhaust fumes. KYTC and ODOT will also develop and implement an ambient air quality monitoring program that will include the area occupied by the Goebel Park Complex.

KYTC will also coordinate with the City of Covington regarding construction noise abatement measures within the city. To the extent practicable, these measures may include limiting construction activities and construction noise during specific periods of time and limiting activities that create high levels of construction noise, such as pile driving and blasting, to certain times of day. See Section 4.11 for additional information about construction impacts and associated minimization and mitigation measures incorporated into the project.

Water Quality and Quantity

The area occupied by the Goebel Park Complex is in the Willow Run watershed. Under existing conditions, all the runoff from the I-71/I-75 corridor flows into a combined sewer system, contributing to flooding in the adjacent residential areas and contributing to overflow events. Furthermore, elevated water levels can cause the Ohio River to backflow into the combined sewer system, leading to flooding in the Goebel Park Complex. While only runoff from new impervious area is required to be separated, KYTC has further committed to separating all interstate runoff from the BSB corridor. Modeling completed for the [Willow Run Storm Water Separation Feasibility Study Report](#) shows that these separation efforts will remove a total of 503 acres (27 percent of the total Willow Run watershed area) from the existing Willow Run combined sewer system. This will substantially reduce the volume flowing into the combined sewer system and the frequency of overflow events, including in the Goebel Park Complex. Furthermore, the proposed Section 6(f) conversion replacement property is higher in elevation than the portions of the complex that will be acquired by the project and not prone to flooding. BMPs will also be developed by the resident engineer and contractor prior to onsite activities to ensure continuous erosion control throughout the construction and post-construction period. See Sections 4.2.4 and 4.12.1 for additional information about BMPs and stormwater management.

The Goebel Park Complex is located within a source water protection for the Louisville Water Company (KY0560258). BMPs incorporated into the project's environmental commitments will help to prevent, reduce, or eliminate stormwater runoff, soil erosion, and movement of nutrients, bacteria, and contaminants into unprotected waterways that may pose threats to public drinking water supplies. In addition, the project includes an environmental commitment requiring the preparation of a Spill Prevention Control and Countermeasures Plan that will provide additional protections for the Louisville Water Company source water protection zone during construction. The project's environmental commitments also include the preparation of a groundwater protection plan for the protection of groundwater in accordance with 401 KAR 5:037. Given the proposed scope of work and the protection measures incorporated into the project's environmental commitments, Refined Alternative I (Concept I-W) is not anticipated to impact drinking water resources in the vicinity of the Goebel Park Complex. Additional details about drinking water resources are provided in Section 4.2.7.



Indirect and Cumulative Effects

The proposed Section 6(f) conversion is not expected to result in any indirect effects in the vicinity of the Goebel Park Complex. When considered with other past, present, and reasonably foreseeable projects, the Section 6(f) conversion is expected to result in a minor contribution to the cumulative loss of public recreational land and habitat loss for threatened or endangered species. Cumulative effects to parks and threatened or endangered species habitat are expected to be offset by mitigation measures incorporated into the project. See Section 4.10 for additional information about indirect and cumulative effects.

Resource Areas Not Impacted

Farmland, regulated materials, and cultural resources (historic/architecture or archaeological) are not present in the Goebel Park Complex or on the proposed replacement land. Therefore, the proposed Section 6(f) conversion will not impact these resources.

4.14.4 Alternatives to Conversion

There is no prudent alternative that avoids the use of the Goebel Park Complex, and Refined Alternative I (Concept I-W) includes all possible planning to minimize harm to the property. The resulting impacts, with the identified mitigation measures, will not adversely affect the activities, features, and attributes of the Goebel Park Complex.

4.14.5 Mitigation Measures

To mitigate impacts to the Goebel Park Complex, KYTC is returning 2.23 acres of land that is currently occupied by the West 5th Street ramp to the park. The replacement land will be at a higher elevation than the impacted area, which will reduce flooding in the park. Other impacts to the Goebel Park Complex will be mitigated through reconstruction of the walking trail within the complex and funding for the development of a new Goebel Park Master Plan, replacement and enhancement of the basketball courts or other outdoor recreational facilities in the park, and construction of a relocated outdoor pool and associated facilities or other comparable aquatic facility serving the same recreational purpose within the complex. In the event that project phasing requires the basketball courts to be impacted prior to replacement facilities being constructed, up to \$75,000 of additional project funds will be allocated to construction of a temporary facility within a portion of the Goebel Park Complex not impacted by the project. The mitigation measures are described in detail in Section 4.13.3.

4.14.6 Replacement Property

Section 6(f) requires that permanent conversions of protected properties provide replacement property of at least equal fair market value and reasonably equivalent usefulness and location as the portion of the Section 6(f) property to be converted. To address these requirements, the acquisition of an estimated 2.84 acres of flood-prone park property from the southwest corner of the complex will be replaced with an estimated 2.23 acres of adjacent state-owned property that is at a higher elevation than the 2.84 acres being



converted and not prone to flooding. The replacement property is currently occupied by the northbound I-71/I-75 exit ramp to West 5th Street. Refined Alternative I (Concept I-W) will relocate the ramp closer to the highway, creating excess land that will be vacated by the project. As part of the conversion process, the impacted land and replacement property are appraised in accordance with applicable standards for Section 6(f) appraisals. Appraisals for the 2.84 acres of impacted land and the 2.23 acres of replacement property are currently being updated. Figure 27 shows the land impacted by Refined Alternative I (Concept I-W) and the proposed replacement property. Figure 28 shows the final proposed boundary for the Goebel Park Complex.

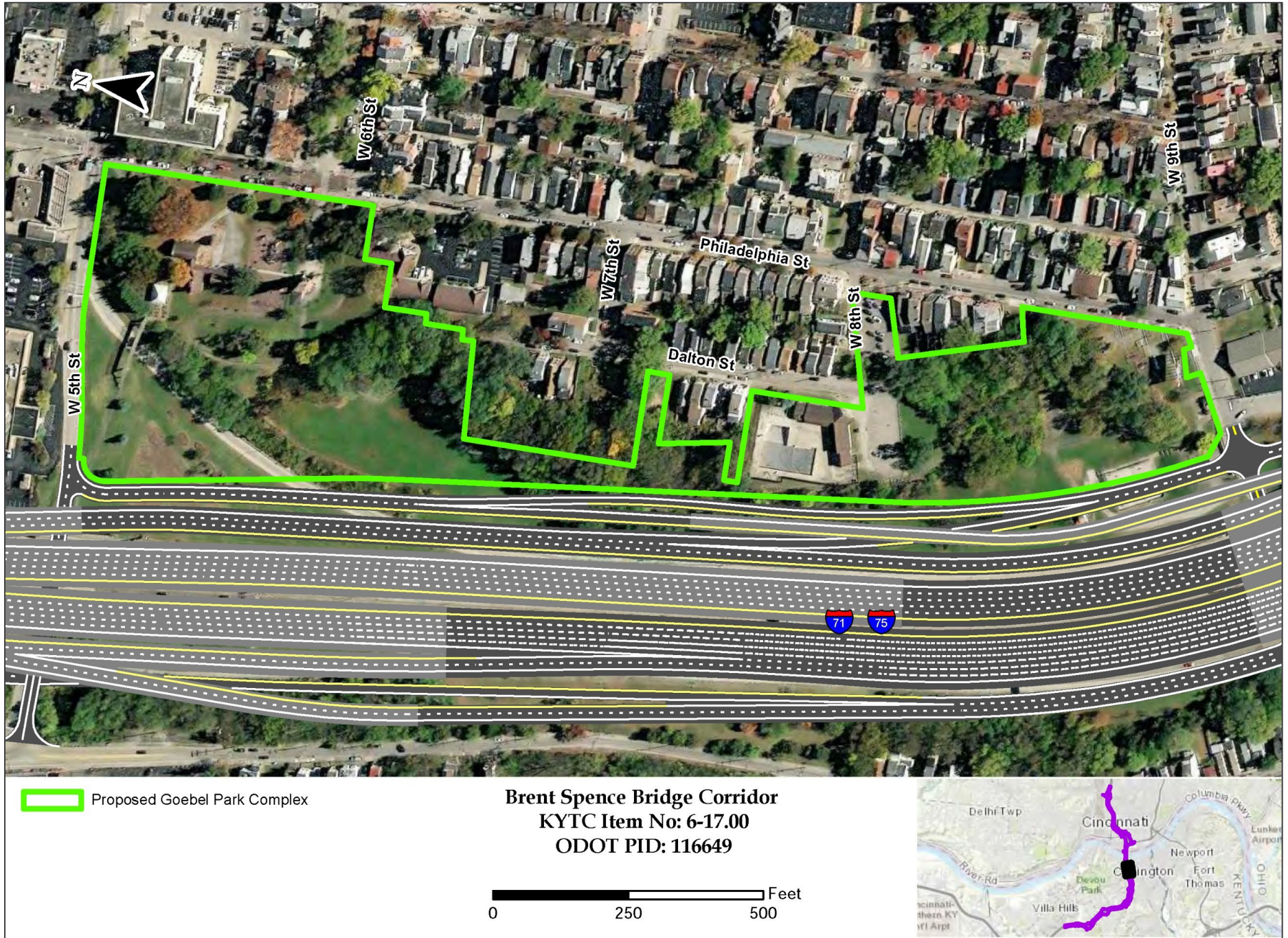
The proposed replacement property is 0.61 acre smaller than the area that will be acquired. When the conversion is complete, the total land area will be reduced from 14.67 acres to approximately 14.06 acres, which represents a 4.2 percent reduction in the total acreage of the Goebel Park Complex. The replacement property will be compatible with and will not diminish the outdoor recreation areas in the complex. The replacement property is higher in elevation than the portions of the complex that will be acquired by the project and not prone to flooding. In addition, the replacement land is flatter and closer to other prominent park features. Based on these characteristics, the replacement land has greater potential for future enhancements to outdoor recreational activities and amenities within the Goebel Park Complex. The future plans, uses, and locations of facilities in the Goebel Park Complex will be established during the new master planning process, which will be facilitated by the City of Covington and funded by the proposed mitigation measures for the complex. The operation of the basketball courts will be maintained throughout construction, outdoor recreation will remain the primary function of the site, and it will remain free and open to the public.

KYTC and the Kentucky Department for Local Government (DLG) conducted early coordination with NPS regarding the Section 6(f) conversion in October 2022 and June 2023. On November 16, 2023, NPS provided a signed amendment to the project agreement (NPS Project No. 21-00541.1) approving the conversion. NPS coordination documents are included in Appendix B, Section 6(f). The updated appraisals for the impacted land and the replacement property will be shared with NPS upon their completion.

Because the replacement land is currently occupied by the existing West 5th Street ramp, finalization of the conversion will occur after construction on that portion of the project is complete. During detailed design, KYTC will coordinate the project's right-of-way acquisition and construction schedules with the City of Covington's new master planning efforts for the Goebel Park Complex to determine when impacts will occur and when property will be available. The project plans will require the contractor to remove the interstate infrastructure and grade the replacement land in coordination with the City of Covington. KYTC will transfer the ownership of the replacement land to the City of Covington after construction of the West 5th Street ramp is complete. Once the land transfer is complete, the City of Covington will continue all future maintenance responsibility for the Goebel Park Complex, including the replacement land. FHWA and KYTC will ensure that Kentucky DLG completes the Section 6(f) conversion in accordance with NPS requirements within two years after KYTC acceptance of the completed work in the vicinity of the Goebel Park Complex.



Figure 28: Final Proposed Boundary for Goebel Park Complex



4.14.7 Summary

The Section 6(f) conversion will not:

- Have significant negative impacts on public health or safety.
- Have significant impacts on unique natural resource or geographic characteristics such as historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands; floodplains; national monuments; migratory birds; and other ecologically significant or critical areas.
- Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources.
- Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks.
- Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects.
- Have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects.
- Have significant adverse effects on properties listed or eligible for listing in the NRHP as determined by NPS.
- Have significant impacts to species listed, or proposed to be listed, on the *List of Endangered or Threatened Species* or have significant impacts on designated critical habitat for these species.
- Violate a federal law, or a state, local, or tribal law or requirement imposed for the protection of the environment.
- Have a disproportionately high and adverse effect on low income or minority populations.
- Limit access to and ceremonial use of Native American sacred sites on federal lands by Native American religious practitioners or significantly adversely affect the physical integrity of such sacred sites.
- Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species.

On November 16, 2023, NPS provided a signed determination that the Section 6(f) conversion is categorically excluded from further NEPA analysis based on the evaluation of the environmental impacts and documentation provided within the 2012 EA and this supplemental EA. NPS environmentally certified the LWCF conversion as a categorical exclusion under item C.2. “*Land exchanges which will not lead to significant changes in the use of the land*” of the Department of the Interior (DOI) Departmental Manual, Series 31, part 516, Chapter 12. The categorical exclusion concluded that there will be minimal loss of recreation at the remaining Goebel Park



Complex as a result of the conversion from outdoor recreation use. The NPS categorical exclusion certification is included in Appendix B, Section 6(f).

4.15 Permits

The anticipated permits required for Refined Alternative I (Concept I-W) include:

- Section 404 permit from USACE for jurisdictional wetland and stream impacts. Details about wetland and stream impacts are provided in Sections 4.2.1 and 4.2.2.
- Section 401 Water Quality Certification from KDOW and OEPA for wetland and/or stream impacts. Details about wetland and stream impacts are provided in Sections 4.2.1 and 4.2.2.
- Section 9 permit from USCG for impacts to the Ohio River. Details about navigational considerations for the Ohio River are provided in Section 4.2.2.
- Section 10 permit from USACE for impacts to the Ohio River (as applicable for work and/or structures that are not under the purview of the USCG bridge program). Details about navigational considerations for the Ohio River are provided in Section 4.2.2.
- Floodplain permits from the City of Cincinnati and the City of Covington for impacts to the floodplain of the Ohio River. Floodplains are discussed in Section 4.2.5.
- Conditional Letter of Map Revision (CLOMR)/Letter of Map Revision (LOMR) from the Federal Emergency Management Agency (FEMA) for impacts to the regulated floodway for the Ohio River. Floodplains are discussed in Section 4.2.5.
- Section 408 permission from USACE for project-related impacts to the levee and pump station constructed as part of a Civil Works project. Separate Section 408 permission is required for geotechnical borings that are in or adjacent to the levee. Potential project-related impacts to the levee and pump station are discussed in Section 4.2.5.
- NPDES permit from OEPA and a KPDES permit from KDOW for stormwater sediment and erosion control. Stormwater sediment and erosion control during construction is discussed in Section 4.11.6.

Waters of the U.S. are regulated by USACE based on the definitions and limits of jurisdiction contained in 33 CFR parts 328 and 329. Discharges of dredged or fill material to waters of the U.S., including navigable streams or rivers, jurisdictional ditches, and jurisdictional wetlands, require a permit from USACE under Section 404 of the Clean Water Act. River, stream, and wetland impacts also require Section 401 Water Quality Certification by KDOW and OEPA. KYTC and ODOT held a kick-off meeting for the Section 404 and Section 401 permits on March 3, 2023 and conducted a preliminary jurisdictional determination site visit on March 6, 2023. Representatives from USACE, OEPA, and KDOW were present at both meetings. On May 8, 2023, USACE provided a preliminary jurisdictional determination that the aquatic resources in the project area (which are described in Sections 4.2.1 and 4.2.2) may be jurisdictional waters of the U.S. Based on the preliminary jurisdictional determination, the aquatic resources in the project area will be evaluated as if they are waters of the U.S., and the determination of impacts, compensatory mitigation, and other resource protection measures will be addressed through the Section 404 permitting process. On July 21, 2023, USACE



concluded with the project's permitting schedule for inclusion on the federal [Permitting Dashboard for Infrastructure Projects](#). Agency coordination related to waterway permitting is included in Appendix B, Permitting.

Mitigation measures for jurisdictional wetland and stream impacts will be developed during the permitting process. Mitigation measures for wetland impacts are anticipated to involve the debit of credits from the KYTC Bath County/Ova Arnett advanced mitigation site. If sufficient credits are not available at the Bath County/Ova Arnett advanced mitigation site, wetland impacts will be mitigated through the purchase of credits from the In-Lieu Fee Mitigation Program administered by KDFWR. Mitigation measures for stream and river impacts are anticipated to involve the purchase of credits from the Licking River Mitigation Bank operated by Ecosystem Investment Partners. The mitigation credits will be used to repair and/or restore wetlands and to restore ecological functions to streams within the same watershed, river basin, and/or mitigation service area as the impacted water resources. Mitigation measures will be finalized in coordination with USACE, KDOW, and/or OEPA during the progressive design-build contract (Phase III).¹

Impacts to the Ohio River are also regulated by USCG under Section 9 of the Rivers and Harbors Act of 1899. USCG requires the project to comply with the Clean Water Act, and Section 401 Water Quality Certifications are required from both KDOW and OEPA before the new companion bridge qualifies for a Section 9 permit. KYTC and ODOT conducted preliminary coordination with USCG in January 2013 and December 2022 and submitted a project initiation request in January 2023. USCG responded that it did not have any comments on the project initiation request on March 16, 2023. On July 19, 2023, USCG concurred with the project's permitting schedule for inclusion on the federal [Permitting Dashboard for Infrastructure Projects](#). Coordination with USCG is included in Appendix B, Permitting.

Any work in, on, over, or under a navigable water typically requires a USACE permit under Section 10 of the Rivers and Harbors Act of 1899. However, bridges over Section 10 navigable waters are regulated by the USCG under the General Bridge Act of 1946. Furthermore, any utilities that would be connected to and function as integral features of the new companion bridge would be under the purview of the USCG bridge program and would not require a Section 10 permit from the Corps. A Section 10 permit is only required from USACE for any Ohio River work and/or structures that would not facilitate the construction of the new companion bridge and its integral features. Such work includes the geotechnical borings to be conducted in the Ohio River during detailed design.

Project-related activities affecting jurisdictional wetlands or streams or USACE Civil Works facilities will not commence until the applicable permits and/or permissions have been issued – Section 401 Water Quality Certification through the OEPA and KDOW, USACE Section 404 (and any applicable Section 10), USCG Section 9, and/or USACE Section 408 permission – for any project-related activities or construction subsections impacting these resources to ensure compliance with the Clean Water Act of 1972, the Rivers and Harbors Act of 1899, and 33 USC Section 408.

¹ No wetland or stream impacts will occur in Phases I or II of the project.



Floodplain permits will be obtained from the City of Cincinnati and the City of Covington before construction activities impacting floodplains/floodways occur. In addition, a CLOMR/LOMR will be obtained from FEMA.

Impacts to Civil Works projects are regulated by USACE under Section 14 of the Rivers and Harbors Act of 1899, which is codified in 33 USC § 408 and require a Section 408 permission to alter federally authorized Civil Works projects. KYTC and ODOT conducted preliminary coordination with USACE regarding the Section 408 permission for the levee, floodwall, and pump station on the Kentucky side of the Ohio River on March 17, 2022; June 1, 2022; and December 19, 2023 (see Appendix B, Permitting).

Discharges of highway runoff to surface waters in Ohio require an NPDES permit from OEPA, and discharges to waters in Kentucky require a KPDES permit from KDOW.

KYTC and ODOT will obtain the applicable permits, certifications, and/or permissions prior to beginning project-related activities affecting each resource. All activities planned to occur in waterways or that may affect USACE Civil Works facilities (e.g., geotechnical investigations, temporary dewatering, construction access, etc.) will be coordinated with KYTC and ODOT to determine permitting and/or permission requirements prior to conducting such activities. All appropriate permit conditions will be included in the project's construction documents, and all permit conditions will be followed during construction.

5. PUBLIC INVOLVEMENT AND AGENCY COORDINATION

The sections below provide a description of the public and agency coordination that has occurred from the 2012 EA/FONSI to the publication of this supplemental EA.

5.1 Public and Stakeholder Involvement

Public and stakeholder outreach activities that have occurred since the 2012 EA/FONSI include:

- Conducting a Travel Survey Analysis in December 2013.
- Updating the membership of the Project Advisory Committee and Aesthetics Committee to reflect the most current stakeholder groups present in the area and to reflect current staff positions from 2022 to the present.
- Holding two Project Advisory Committee meetings in June 2022 and August 2023.
- Holding one full Aesthetics Committee meeting, two Ohio subcommittee meetings, three Covington subcommittee meetings, and three Fort Wright/Fort Mitchell subcommittee meetings in 2022 and 2023.
- Conducting ongoing outreach efforts to allow stakeholders and the public to stay informed about the project, gather feedback, and answer questions.



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- Completing major updates to the project website (<https://brentspencebridgecorridor.com/>) in 2014 and 2022, including providing the opportunity to submit comments about the project and subscribe to project updates. The project website will be maintained through the construction of the project.
 - Establishing a project Facebook page (<https://www.facebook.com/BSBCorridor>), Threads feed (<https://www.threads.net/@bsbcorridor>), and X (formerly Twitter) channel (<https://twitter.com/BSBCorridor>) in 2022 and 2023. Social media accounts will be maintained through the construction of the project.
 - Establishing and maintaining a project mailing list from 2022 to the present.
 - Distributing electronic project newsletters (e-newsletters) three times in 2013 and with regular frequency since 2022.
 - Issuing press releases to provide periodic project updates and announce key project milestones.
 - Conducting 12 small-scale targeted EJ/neighborhood outreach meetings in communities directly adjacent to the project’s construction limits and with known populations of minorities, low-income individuals, and other socioeconomic groups to share updates on the project and to offer residents the opportunity to share feedback with the project team in November and December 2022.
 - Conducting four broad-scale EJ/neighborhood outreach meetings to engage communities that are near the BSB corridor but will not be directly impacted by construction in December 2022.
 - Developing a “PublicInput.com” website specific to neighborhoods in and near the project area that was available for the duration of the targeted EJ/neighborhood outreach effort. The website provided project information and opportunities for participants to offer feedback about the project by responding to questions posted on the site in November and December 2022 and January 2023.
 - Conducting two open-house style project update meetings to provide information about the project’s status, including Refined Alternative I (Concept I-W), anticipated impacts, proposed mitigation and enhancement measures, and the progressive design-build process in August 2023.
 - Coordination with federal cooperating and participating agencies on a monthly basis during 2023.
 - Coordination with local and state agencies.

Detailed discussion of the public and stakeholder involvement that has occurred since the 2012 EA/FONSI is provided in the [Public Involvement Summary](#). Public and stakeholder outreach will continue as the project moves forward.

5.1.1 Public Comments

The project feedback received from 2012 to the publication of this supplemental EA is summarized below. The [Public Involvement Summary](#) includes documentation of comments received and responses to each.



2012-2021

In 2014 and 2015, KYTC and ODOT received a number of inquiries about the project in addition to several comments that were submitted via the project website. KYTC and ODOT responded to all inquiries and comments. The majority of the comments centered around opposition to tolling the BSB or the project in general. Studies related to tolling the BSB were stopped in 2015, and tolling is not included as a financing strategy to construct Refined Alternative I (Concept I-W).

The project was placed on hold in 2015, with no substantial public comments received between 2015 and 2021. KYTC and ODOT responded to all inquiries and comments received during that time.

2022-Present

Following a major website update and increased publicity for the project, public comments were regularly submitted to KYTC and ODOT beginning in 2022. Comments were also directly emailed to members of the project team or the project email address. Comments generally centered around:

- Questions about the project and information requests;
- Property and right-of-way impacts;
- Volume of truck traffic and associated traffic congestion and noise (particularly the use of engine brakes);
- Future traffic volumes and traffic operations;
- Traffic impacts during construction;
- Increased traffic and associated noise and air quality concerns;
- Multimodal accommodations, including fixed transit (such as light rail);
- Aesthetics and gateway opportunities;
- Project costs and funding;
- Construction schedule and opportunities to work on the project;
- Improving local street connections across I-75 in Ohio;
- Reducing the project footprint;
- Creating additional developable land; and
- Lowering (trenching) and/or constructing freeway caps on I-75 in Ohio.

The project team provided individual responses to all comments received via the project website or email on a weekly basis. A document listing all comments and responses is available on the project website and is updated on a monthly basis. A copy of this document is provided in the [Public Involvement Summary](#).



Alternative Concepts Letters

In June and July 2022, the Governor of Ohio and the Director of ODOT received several letters encouraging ODOT to reduce the project footprint and to explore alternative concepts to further community goals during the project's design-build process. ODOT responded to each letter stating its plans to deliver the project using a design-build approach that would allow design-build teams to submit alternative technical concepts (also called innovations). In addition, ODOT committed to exploring methods to further reduce the project footprint and to evaluating connectivity within CBDs. ODOT also committed to making community goals consistent with residential/commercial growth, aesthetics, and reduced overall environmental impacts a primary focus of the project.

Bridge Forward Coalition

In December 2021, KYTC and ODOT received a *Working Position Paper: Redesign of the Brent Spence Bridge Project* prepared by the Bridge Forward Coalition (Bridge Forward). The *Position Paper* included specific design strategies and three alternative design concepts for the BSB Corridor Project. The stated goals of the concepts presented in the *Position Paper* were to redesign the project to promote economic development in the region.

KYTC and ODOT reviewed the concepts presented in the *Position Paper*. Two concepts, Modified Alternative B and Modified Concept 85, were previously evaluated and eliminated from consideration during the project's preliminary development activities due to impacts, complexity, engineering concerns, constructability, risk, costs, and/or local opposition. The final concept, the Boland Concept, was not found to be geometrically feasible and would result in a greater project footprint and more environmental impacts than Refined Alternative I (Concept I-W). The Boland Concept would result in grades up to 7.7 percent, which would require design exceptions and would present traffic operational and safety concerns, particularly considering the high volumes of heavy truck traffic traveling through the corridor. In addition, it would not maintain continuity along US-50, would increase traffic on the local street network in the City of Covington, and would not provide additional options for maintaining cross-river traffic if an incident or future construction or maintenance activities occur on the BSB. The Boland Concept does not meet the project's purpose and need. It negatively affects traffic flow and safety, introduces substantial new geometric deficiencies, and does not maintain connections to US-50 (a key regional transportation corridor). Given the above, none of the concepts presented in the *Position Paper* were recommended for further consideration.

KYTC and ODOT prepared a detailed response to the *Position Paper*, which was emailed to the original commenter, made publicly available on the project website in October 2022, and is included in the [Public Involvement Summary](#). Since October 2022, Bridge Forward has continued to share information and additional ideas for refining the project design with KYTC and ODOT. Responses to comments that were formally submitted via the project website or email are documented in the [Public Involvement Summary](#).

In addition, KYTC and ODOT met with members of Bridge Forward eight times to discuss their ideas and concepts, answer questions, and provide information about the project. After the third meeting in March 2023, Bridge Forward presented a concept for connecting US-50 to I-75, I-71, the C-D roadway system, and the local



road system. In April 2023, Bridge Forward prepared a revised version of the same concept and presented it to the Cincinnati City Council on May 3, 2023. An engineering firm was hired by Bridge Forward to further refine the concepts, and Bridge Forward submitted a revised version to KYTC and ODOT on June 26, 2023 (the June 2023 Concept).

The June 2023 Concept alters the design of the I-75 ramps to and from downtown Cincinnati by stacking the movements and moving US-50 to the lowest level of the interchange with the goal of creating a concept similar to Fort Washington Way (the trenched portion of I-71 through downtown Cincinnati). KYTC and ODOT performed a high-level review of the June 2023 Concept. While the June 2023 Concept potentially provides an additional five acres of contiguous developable land when compared to Refined Alternative I (Concept I-W), the construction costs would be at least \$100 million more than Refined Alternative I (Concept I-W). In addition, due to a proposed tunnel, the operation and maintenance costs for the June 2023 Concept would be approximately \$1 million per year, while the operation and maintenance costs for Refined Alternative I (Concept I-W) are estimated at \$160,000 per year. The additional local streets and bridges included in the June 2023 Concept would also substantially increase the City of Cincinnati's local maintenance costs. A high-level traffic operational analysis showed that the June 2023 Concept would result in substantial queues on the local street network, which could result in gridlock during peak travel periods. Furthermore, the June 2023 Concept would result in grades up to 9 percent on local streets, and new arterial frontage roads would be about 30 to 40 feet higher than the surrounding land, which could present safety concerns and create a physical and/or visual barrier between downtown Cincinnati and Queensgate. The added conflict points and lengthened pedestrian crossings could also result in potential safety concerns. The June 2023 Concept does not meet the project's purpose and need. It presents numerous technical challenges that negatively affect traffic flow and safety with substantially higher construction, operation, and maintenance costs. KYTC and ODOT prepared a response to the June 2023 Concept, which was provided to Bridge Forward, made publicly available on the project website in August 2023, and is included in the [Public Involvement Summary](#).

Features incorporated into Refined Alternative I (Concept I-W) address many of the goals articulated by Bridge Forward, including:

- Minimizing the footprint of the highway;
- Using the interstate primarily as an efficient processor of regional, through traffic;
- Providing a network of safe, multimodal streets for local traffic; and
- Using only modern, progressive engineering practices.

These features include reconfiguring the river crossing to use the existing BSB for local traffic as part of the C-D roadway system and a new double-decker companion bridge to the west for through (interstate) traffic. In addition, performance-based design principles have been incorporated into the design of Refined Alternative I (Concept I-W), substantially reducing the project's footprint and associated impacts. Multimodal facilities have been incorporated into Refined Alternative I (Concept I-W), and KYTC and ODOT are continuing to coordinate the project with the cities of Cincinnati and Covington to address local concerns while further reducing the highway's footprint and impacts to the communities in the project area. Finally, Refined Alternative I



(Concept I-W) reconfigures the ramps in downtown Cincinnati to open up approximately 10 acres of land for potential redevelopment and/or public use directly adjacent to the Cincinnati CBD.

During Phase III of the BSB Corridor Project, KYTC and ODOT will evaluate innovation concepts and will consider incorporating measures that improve project quality, reduce costs, shorten schedule, support the project goals and objectives, and have support at the local level (see Section 3.7 and the *Public Engagement Plan*¹). Comments and concepts submitted by Bridge Forward will be further evaluated during this process.

Westway Emails

Beginning in August 2022, KYTC and ODOT received numerous emails suggesting potential changes to the project. In most cases the subject line of the emails read: “Brent Spence Bridge Project – Reconnecting Cincinnati Westway Design Improvements,” also known as the “Westway Emails”. The Westway Emails contained several suggestions that have been incorporated into Refined Alternative I (Concept I-W), including considering community priorities such as east-west connectivity, multimodal improvements, and economic development opportunities in the project’s design; employing rigorous traffic forecasting methods; reducing the project footprint; maintaining local connectivity; following a flexible design-build process; and coordinating project details with local agencies. The Westway Emails also suggested depressing I-75 and extending local streets across the highway to form an urban street grid. Similar to the Boland Concept, these concepts would not be geometrically feasible and would not meet the project purpose and need. Steep roadway grades (up to 7.7 percent on I-75 and 9 percent on local streets) would require design exceptions and would present traffic operational and safety concerns, particularly considering the high volumes of heavy truck traffic traveling through the corridor. The Westway Emails also suggested removing access points within downtown Cincinnati, which would substantially increase traffic on the local street network.

While depressing I-75 and creating an urban roadway grid do not meet the project purpose and need and are not feasible, several of the priorities mentioned in the Westway Emails have been incorporated into Refined Alternative I (Concept I-W). These include:

- Minimizing the footprint of the highway;
- Maintaining and improving local access;
- Providing a network of safe, multimodal streets for local traffic;
- Providing transportation infrastructure that supports local development goals and initiatives; and
- Engaging in a design-build process that provides flexibility and opportunities to maximize benefits and minimize costs.

KYTC and ODOT prepared a detailed response to the Westway Emails, which was made publicly available on the project website in October 2022 and is included in the [Public Involvement Summary](#).

¹ The project *Public Engagement Plan* is included in Appendix Q of the [Public Involvement Summary](#).



City of Cincinnati and Regional Chamber of Commerce

ODOT received comments from the City of Cincinnati on September 2, 2022 and the Cincinnati USA Regional Chamber of Commerce (Chamber) on July 11, 2022. The Chamber is a member of the Project Advisory Committee and provided feedback that was similar to comments received from the City. The comments focused on furthering the goals of getting the project done; reclaiming land; improving green space, pedestrian safety, bike facilities, etc.; and keeping a “city feel” on or under bridges for I-75. In response to the comments, ODOT incorporated refinements to the 3rd Street, 4th Street, 5th Street, and 6th Street ramps into Refined Alternative I (Concept I-W). Based on the ramp refinements, there will be approximately 10 acres between 3rd Street and 6th Street opened up for potential redevelopment and/or public use directly adjacent to the Cincinnati CBD. In addition, ODOT will continue to support the City of Cincinnati’s efforts to accommodate alternative modes and improve livability during the project’s development. ODOT prepared a detailed response to the City and Chamber comments, which was made publicly available on the project website in November 2022 and is included in the [Public Involvement Summary](#).

During public involvement activities, ODOT received multiple comments suggesting the inclusion of retail areas on the Ezzard Charles Drive bridge over I-75. On August 29, 2023, the City of Cincinnati requested that ODOT investigate decking or an expanded bridge on Ezzard Charles Drive to support future civic space or retail development. Based on further coordination with the City, ODOT has committed to building a wider bridge on Ezzard Charles Drive over I-75. The widened bridge will provide an additional 50 feet of green space on each side that could support potential future civic space or retail development by the City of Cincinnati. ODOT will fund the cost of the bridge design and will share the construction cost with the City. ODOT and the City will develop cost sharing and maintenance agreements prior to construction.

Cincinnati Process Improvements Emails

Beginning in November 2022, FHWA received numerous emails with the subject line: “Brent Spence Bridge Corridor – Cincinnati Process Improvements.” The emails were also received at various levels in the City of Cincinnati government. These emails contained several suggestions that have been incorporated into Refined Alternative I (Concept I-W), including returning developable land to the City of Cincinnati; improving pedestrian connections between the Cincinnati CBD Riverfront, Queensgate, and West End neighborhoods; designing urban streets to promote pedestrian and bicycle safety; and minimizing the project footprint. The emails also advocated for specific actions by elected officials from the City of Cincinnati. In February 2023, FHWA also received a copy of a Sierra Club Ohio letter to the City of Cincinnati Mayor and Council advocating for elected officials to share their local expertise in the project’s development. KYTC and ODOT have closely coordinated the project with the City of Cincinnati, and that partnership will continue through the project’s design and construction. Elected officials in the City of Cincinnati will continue to be afforded opportunities to provide feedback on the project.

Expand Transit Not Highways

In January 2023, A representative of the Devou Good Foundation sent numerous form letters with the subject line: “Expand Transit not Highways” to the project email address. The letters expressed opposition to highway



expansion projects and the BSB Corridor Project and advocated for shifting funding to expanding transit options and multimodal transportation projects while reducing non-local truck traffic. In 2004, OKI and the Miami Valley Regional Planning Commission completed a major planning study known as the [North South Transportation Initiative](#) (Initiative) that considered highway improvements in addition to transit improvements such as express bus, commuter rail, and others. The Initiative concluded that a highway improvement project was necessary to address capacity issues on I-75, including the BSB corridor. Refined Alternative I (Concept I-W) addresses the highway component of the Initiative and will reduce traffic congestion, substantially improve safety, and enhance travel for multiple modes of transportation. The transit component included in the Initiative must be developed and championed regionally, and KYTC and ODOT are ready to support this when it is advanced at a regional level.

Coalition for Transit and Sustainable Development

In January 2023, FHWA received a letter from the Coalition for Transit and Sustainable Development (Coalition) expressing concerns about the project's compliance with civil rights and EJ regulations. The letter discussed concerns about impacts to minority and low-income (EJ) populations, air quality, the West End neighborhood in Cincinnati, and the alternatives evaluated for the project. In February 2023, the Tri-State Trails, one of the signatories to the Coalition for Transit and Sustainable Development letter, withdrew its support for the Coalition's activities regarding the BSB Corridor Project. In February 2023, FHWA also received an email from a concerned citizen expressing the opinion that the issues presented in the Coalition's letter have been carefully and sufficiently studied. In March 2023, FHWA replied that concerns discussed in the letter will be considered prior to making a NEPA determination for the project. The January 2023 letter recommended three steps to address Coalition concerns (see underlined text below). Information on how these concerns have been addressed during the project's NEPA review is provided below:

- Formal technical consideration of design alternatives that take affirmative action towards remedying the ongoing disparate negative impacts of interstate highway construction through predominantly Black and low-income communities. Impacts to EJ populations are evaluated in Section 4.1.7 and the [Environmental Justice Analysis Report](#). The evaluation considers relocations, community resources, access, mobility, safety, air quality, greenhouse gases and climate change, noise, stormwater, visual setting, workforce development, indirect and cumulative effects, and temporary construction impacts. Cumulative effects on EJ populations are also evaluated in Section 4.10.2.

The Coalition's letter specifically mentioned impacts on the West End neighborhood in Ohio. Refined Alternative I (Concept I-W) results in minimal impacts on the West End neighborhood and includes mitigation and enhancement measures to enhance quality of life in West End. These measures include mitigation and enhancement for impacts to the Queensgate Playground and Ball Field, new and rebuilt pedestrian and bicycle facilities, safety improvements, noise barriers, aesthetic improvements, measures to minimize and mitigate temporary construction impacts, an interpretive display to be installed in a location in proximity to I-75, and additional width on the Ezzard Charles Drive bridge for potential civic space or retail development. Impacts to the human and natural environment in and around the West End neighborhood are evaluated in Chapter 4.



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- Rigorous exploration and objective evaluation of the use of congestion pricing or tolling as a “reasonable alternative” to highway expansion for congestion relief. Tolling interstate crossings of the Ohio River between Kentucky and Ohio is not permitted in the Commonwealth of Kentucky. In addition, the [North South Transportation Initiative](#) (Initiative) considered policy alternatives such as tolling and transportation system management alternatives such as high-occupancy vehicle toll lanes. The Initiative concluded that such measures must be implemented in combination with other improvements to be effective.
 - Analysis and mitigation of the adverse environmental impact of expanding interstate highway capacity through the cities of Cincinnati and Covington, which include but are not limited to concerns about air quality. This supplemental EA provides an analysis of the environmental impact of Refined Alternative I (Concept I-W) in accordance with NEPA. Air quality is evaluated in Section 4.6. Mitigation and enhancement measures are discussed in Section 6 and listed in ES-Table II.

Targeted Environmental Justice/Neighborhood Outreach Meetings

KYTC and ODOT held 12 small-scale targeted EJ/neighborhood outreach meetings in areas directly adjacent to the project’s construction limits to share project updates and to offer residents the opportunity to share feedback with the project team. One daytime and one evening broad-scale EJ/neighborhood outreach meeting were also held each state to engage neighborhoods that are near the BSB corridor but will not be directly impacted. Information presented at the meetings included a general project overview, refinements incorporated into the project’s design since the 2012 EA/FONSI, and proposed mitigation and enhancement measures. Exhibits on display at the meetings showed the proposed design, including right-of-way, relocated structures, noise barriers, historic properties and districts, parks, wetlands, streams, and multimodal facilities. Renderings and a flyover video illustrating what the finished project might look like were also displayed.

During the targeted EJ/neighborhood outreach meetings, which were conducted in areas with known populations of minorities, low-income individuals, and other socioeconomic groups, questions were posed to the project team and answered in real time. Questions most commonly centered around:

- How traffic will flow through the corridor, including how and when local traffic will enter and exit the C-D roadway system;
- Drainage and flooding issues in the Goebel Park Complex and the Peaselsburg neighborhood in Kentucky;
- Noise analysis methodology;
- The timeframe for the project, including sequence of construction;
- Property impacts and right-of-way acquisition; and
- Project costs and funding.



Concerns expressed during the meetings, on written comment forms, and on PublicInput.com generally included:

- The desire for noise barriers, specifically in the West End neighborhood in Ohio, the Mainstrasse neighborhood in Kentucky, and southwest of Dixie Highway in Fort Mitchell, Kentucky;
- Volume of truck traffic and associated traffic congestion and noise (particularly the use of engine brakes);
- Traffic impacts during construction;
- Increased traffic and associated noise and air quality concerns;
- Multimodal accommodations, including on local streets that cross I-71/I-75;
- Improving local street connections across I-75 in Ohio;
- Reducing the project footprint;
- Creating additional developable land;
- Lowering (trenching) and/or constructing freeway caps on I-75 in Ohio; and
- Adding fixed transit (such as light rail) to the project.

Every comment received during the targeted EJ/neighborhood outreach was evaluated by the project team, and individual responses were prepared and published on the project website, as detailed in the [Public Involvement Summary](#). No additional small pockets of EJ populations or other socioeconomic groups were identified during the EJ/neighborhood outreach activities. To the extent the project team was able to ascertain, questions, comments and feedback were consistent across all population groups. The project team did not identify any concerns unique to minorities, low-income individuals, older adults, individuals with LEP, individuals with disabilities, or zero-car households. Likewise, unanticipated additional community impacts were not identified during the neighborhood outreach.

Open-House Project Update Meetings

KYTC and ODOT held one open-house style project update meeting in each state to provide the public with information about the project's status. Information presented at the meetings included a pre-recorded presentation providing a general project overview, Refined Alternative I (Concept I-W), anticipated impacts, proposed mitigation and enhancement measures, construction phases and schedule, the design-build process, the innovation process for Phase III of the project, construction phases, and the project schedule. Exhibits on display at the meetings showed the proposed design, including right-of-way, relocated structures, noise barriers, historic properties and districts, parks, wetlands, streams, and multimodal facilities. Exhibits also summarized potential impacts to the human and natural environment and proposed mitigation and enhancement measures. Renderings and a flyover video illustrating what the finished project might look like were also displayed.



Concerns expressed during the meetings and in submitted comments generally included:

- Construction schedule and opportunities to work on the project;
- Property and right-of-way impacts;
- Future traffic volumes and traffic operations;
- Traffic impacts during construction;
- Multimodal accommodations, including fixed transit (such as light rail);
- Improving local street connections across I-75 in Ohio;
- Reducing the project footprint;
- Creating additional developable land; and
- Support for Bridge Forward concepts.

Every comment received from the open-house project update meetings was evaluated by the project team, and individual responses were prepared and published on the project website, as detailed in the [Public Involvement Summary](#).

5.1.2 Public Comment Outcomes

Community members generally supported the refinements, mitigation, and enhancements incorporated into the Refined Alternative I (Concept I-W), including the reduction of the project footprint, additional developable land, additional noise and noise/visual screening barriers, measures to reduce flooding and combined sewer overflows, new and improved multimodal facilities, and aesthetic features. Throughout the project's development, the public offered additional feedback and suggestions. KYTC and ODOT have incorporated several refinements into Refined Alternative I (Concept I-W) in direct response to the additional comments and feedback that were gathered, including:

- KYTC will implement measures to improve safety for pedestrians and school-age children who cross the northbound entrance ramp from Dixie Highway to I-71/I-75. Measures will include reducing length of the crosswalk, installing warning signs, and enhancing the pavement markings to better define the crosswalk for pedestrians and vehicles.
- KYTC is proposing a noise/visual screening barrier in the vicinity of Maple Avenue, south and west of Dixie Highway in Fort Mitchell.
- KYTC is proposing a noise/visual screening barrier in the Mainstrasse neighborhood, including in the vicinity of the Goebel Park Complex.
- During final design, KYTC will coordinate with the City of Covington to evaluate the use of transparent noise barriers in some locations to preserve views of the Goebel Park Complex from the highway and to preserve views of the skyline and across I-71/I-75 from surrounding neighborhoods.



- In accordance with current policies, ODOT will transfer approximately 10 acres of excess land opened up by refinements to the 3rd Street, 4th Street, 5th Street, and 6th Street ramps to the City of Cincinnati for potential redevelopment and/or public use.
- ODOT has committed to work with the City of Cincinnati to conduct before/after surveys of other roadways impacted by increased traffic during construction. ODOT will restore those roadways to pre-construction conditions once the project is complete.
- ODOT has committed to building a wider bridge on Ezzard Charles Drive over I-75 to provide an additional 50 feet of green space on each side that could support potential future civic space or retail development by the City of Cincinnati.

Refinements Considered and Dismissed

Based on public feedback, KYTC and ODOT considered several refinements that were ultimately dismissed, as summarized below:

- Depress I-75 and extend local streets across the highway to form an urban street grid. These concepts would not be geometrically feasible and would result in a greater project footprint than Refined Alternative I (Concept I-W). Furthermore, these concepts would not maintain continuity along US-50, would increase traffic on the local street network in the City of Covington, and would not provide additional options for maintaining cross-river traffic if an incident or future construction or maintenance activities occur on the BSB.
- Extend the noise analysis area further west and include a noise barrier for residences in the vicinity of Summit Lane in Fort Mitchell. KYTC prepared a [*Technical Memorandum: Additional Traffic Noise Assessment Kentucky Southern Section*](#) which concluded that constructing a noise barrier along I-71/I-75 would not substantially reduce noise in the vicinity of Summit Lane.
- Extend the pedestrian bridge across Winchell Avenue directly to Freeman Avenue in Cincinnati. Realigning the pedestrian bridge in this location would require constructing a pedestrian connection over I-75 and connecting it in the middle of the Freeman Avenue bridge. The current alignment for Refined Alternative I (Concept I-W) is more prudent from a design, constructability, and lifecycle cost perspective. The design of Refined Alternative I (Concept I-W) complies with the requirements of the Americans with Disabilities Act and provides an adequate crossing.
- Construct a sidewalk or shared-use path along 5th Street in Cincinnati. A prior sidewalk connection on 5th Street was closed when the Fort Washington Way project was constructed due to safety issues associated with at-grade crossings of this high-speed connection. Those safety concerns will continue to exist for Refined Alternative I (Concept I-W). KYTC and ODOT considered building a new pedestrian bridge or tunnel to provide grade-separated access along 5th Street. However, the cost was not found to be justified because alternate pedestrian and bicycle paths are available 500 feet north at 6th Street and another 400 feet north at 7th Street.



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- Reconnect Colerain Avenue across I-75 near the northern project limits. The abutments for the new Western Hills Viaduct present a large obstruction that would preclude reconnecting Colerain Avenue across I-75.
 - Cap I-75 through downtown Cincinnati and the West End neighborhood. ODOT and KYTC considered options for capping I-75 in Ohio. Once the interstate passes over the Ohio River, it cannot descend directly into downtown Cincinnati. South of 5th Street, I-75 must stay elevated to cross active CSX rail lines between Pete Rose Way and 3rd Street. In addition, any design requires accommodating a complicated system of mainline and ramp movements to provide local access and continuity along I-71, I-75, and US-50. Depressing the roadway to support a freeway cap while meeting these geometric constraints would require steep roadway grades that would not meet design standards. Such steep grades would present traffic operational and safety concerns, particularly considering the high volumes of heavy truck traffic traveling through the corridor.

Between 5th Street and Ezzard Charles Drive, there are several areas where I-75 is relatively level with the surrounding land uses. A freeway cap could be constructed either by leaving I-75 at the current elevation or by lowering the interstate. If the existing I-75 elevation is maintained, a freeway cap would need to be constructed 20 to 30 feet over the highway to provide adequate clearance for the freeway lanes. Given the proximity of Western Avenue and Winchell Avenue, the freeway cap would either need to extend over these roads, or Western and Winchell avenues would need to be raised up to be level with the top of the cap. Transitioning from the top of the highway cap back to the elevations of the surrounding land uses in a way that provides accessible and open connections east and west of I-75 would substantially increase the project's footprint beyond what is considered reasonable and would impact low-income housing, schools, parks, historic structures, commercial and industrial businesses, and local streets. These impacts could be reduced through the extensive use of retaining walls along either I-75 or Western and Winchell avenues. However, the retaining walls would render the cap inaccessible from surrounding land uses and would only serve to create an even greater barrier through downtown Cincinnati and the West End neighborhood. Building a freeway cap by lowering I-75 would avoid the need for retaining walls; however, the interstate would need to be lowered by 20 to 30 feet, which would require prohibitively steep grades to meet the geometric constraints of the CSX rail lines. Furthermore, capping the highway would likely require the removal of I-75 connections with 5th Street, 6th Street, 7th Street, and 8th Street and would not be able to accommodate US-50, which is an important regional connection.

I-75 is elevated above the surrounding land uses north of Ezzard Charles Drive. Capping the highway in this area would further exacerbate the concerns with geometric feasibility, impacts to surrounding land uses, and local accessibility discussed for portions of I-75 to the south.

Refinements to Be Evaluated During Design

In addition to the refinements already incorporated and based on preliminary investigations, several refinements suggested during public involvement activities appear to be feasible. During Phase III of the BSB Corridor Project, KYTC and ODOT will evaluate innovation concepts and will consider incorporating concepts that improve project quality, reduce costs, shorten schedule, support the project goals and objectives, and



have support at the local level (see Section 3.7 and the *Public Engagement Plan*¹). The following refinements suggested during public involvement activities will be further evaluated during the innovation process for the Phase III progressive design-build contract:

- Eliminate the 3rd Street ramp to the northbound C-D system in Cincinnati and redirect traffic to the proposed connection at the end of the Clay Wade Bailey Bridge;
- Reconfigure the lanes on the Clay Wade Bailey Bridge to add bicycle lanes;
- Reconfigure 6th Street in Cincinnati to accommodate two-way traffic; and
- Design concepts submitted by the Bridge Forward Coalition.

5.2 Local Agency Coordination

Since the 2012 EA/FONSI, KYTC and ODOT have conducted ongoing coordination with local cities and counties to develop the refinements included in Refined Alternative I (Concept I-W), complete mitigation activities, and identify additional measures to better integrate the project into the surrounding communities.

In Kentucky, KYTC has coordinated with the City of Covington on the following topics:

- Updates to the mitigation measures for the Lewisburg Historic District (see Section 4.5.2);
- Impacts and proposed mitigation measures in the Goebel Park Complex (see Section 4.13.3);
- The separation of interstate stormwater runoff from the combined sewer system and surcharging in the Peasenburg neighborhood (see Section 4.12.1);
- Aesthetics (see Section 4.9);
- Noise (see Section 4.8); and
- Traffic impacts resulting from the construction and operation of the project (see Sections 3.8 and 4.11.1).

On June 15, 2022, KYTC and the City of Covington finalized an MOU regarding the BSB Corridor Project and the NEPA process. The MOU establishes communication protocols and general project administration procedures. It also contains commitments regarding stormwater management, mitigation, and maintenance; evaluation of traffic impacts both during and after construction; funding for historic preservation; identification of context sensitive solutions; evaluation of impacts to EJ populations; and evaluation of the project's environmental commitments. On June 15, 2022, KYTC and the City of Covington also finalized an MOA establishing a Covington Project Director (Technical Liaison) for the BSB Corridor Project and defining funding, roles, and responsibilities for both agencies. Copies of the MOU and the MOA are included in Appendix B, Local Agency Coordination. KYTC is also coordinating with the cities of Fort Mitchell, Fort Wright, Park Hills, and Kenton County regarding aesthetics and other project details (see Section 4.9).

¹ The project *Public Engagement Plan* is included in Appendix Q of the [Public Involvement Summary](#).



In Ohio, ODOT has coordinated with the City of Cincinnati on the following topics:

- Value engineering refinements incorporated into the project (see Section 3.3.3);
- Aesthetics (see Section 4.9);
- Financial mitigation required for the Queensgate Playground and Ball Field (see Section 4.13.7);
- Temporary impacts to the Firefighters Memorial and Ezzard Charles Park (see Sections 4.13.6 and 4.13.8);
- The location of the northbound entrance ramp to I-75 from Freeman Avenue (see Section 3.3.2);
- The configuration of the Ezzard Charles Drive bridge over I-75 (see Section 3.3.2);
- Integration with the City’s Western Hills Viaduct project, including connectivity to Spring Grove Avenue and Harrison Avenue (see Section 3.3.1); and
- Changes to the configuration of several downtown Cincinnati ramps to open up land for potential redevelopment and/or public use (see Section 3.3.3).

ODOT has also coordinated with Hamilton County regarding the Western Hills Viaduct project.

Several local agencies have been designated participating agencies in the project’s development (see Section 5.4). KYTC and ODOT will continue to coordinate with appropriate local city, county, planning, and transit agencies throughout the procurement, final design, and construction phases of the project. Additional details about ongoing public and stakeholder involvement are provided in Section 5.6.

Several local agencies have provided feedback on the project development as members of the Project Advisory Committee, as described in the [Public Involvement Summary](#). KYTC and ODOT will continue to coordinate with the Project Advisory Committee to provide project updates and gather feedback during design and construction of the project. At a minimum, the Project Advisory Committee will be engaged at the following critical milestones: during the consideration of innovation concepts in the “proof-of-concept” phase for the Phase III progressive design-build contract, at the end of the “project development” phase of the Phase III progressive design-build contract, and prior to the construction of each project phase.

5.3 State and Federal Agency Coordination

Since the 2012 EA/FONSI, KYTC and ODOT have coordinated with state and federal agencies to obtain feedback on and approval for various aspects of the project. Table 38 summarizes these coordination efforts to date. FHWA also coordinated with Federally Recognized Tribes during the Section 106 process; that coordination is described in Section 4.5.5. Copies of agency coordination documents can be found in the relevant sections of Appendix B. Detailed discussion of coordination that occurred with specific resource agencies, including comments received and how those comments were addressed, is provided in the relevant sections of this supplemental EA.



Table 38: State and Federal Agency Coordination Summary

Agency	Topic	Date(s) of Coordination
Federal Agencies		
Advisory Council on Historic Preservation (ACHP)	Participating/Cooperating Agency	• 10/21/2014 • 09/29/2022
		• 11/26/2014 • 12/20/2022
	Longworth Hall MOA (superseded by Programmatic Agreement)	• 06/28/2017 • 06/03/2022
	Section 106 Programmatic Agreement	• 08/15/2023 • 10/23/2023 • 08/30/2023
Federal Emergency Management Agency (FEMA)	Participating/Cooperating Agency	• 10/14/2014 • 09/29/2022 • 10/30/2014 • 11/01/2022
Federal Transit Administration (FTA)	Participating/Cooperating Agency	• 10/14/2014 • 10/30/2014 • 10/23/2014 • 09/29/2022
National Park Service (NPS)	Participating/Cooperating Agency	• 10/21/2014 • 12/13/2023 • 11/06/2014 • 09/01/2023
	Section 6(f)	• 10/24/2022 • 11/16/2023 • 06/20/2023
U.S. Army Corps of Engineers (USACE)	Participating/Cooperating Agency	• 10/14/2014 • 09/29/2022 • 10/30/2014 • 11/02/2022 • 11/03/2014 • 11/08/2022
	Permitting	• 03/17/2022 • 03/06/2023 • 06/01/2022 • 05/08/2023 • 01/26/2023 • 07/21/2023 • 03/03/2023
U.S. Coast Guard (USCG)	Participating/Cooperating Agency	• 10/14/2014 • 09/29/2022 • 10/15/2014 • 11/01/2022
	Permitting	• 01/11/2013 • 03/16/2023 • 12/15/2022 • 07/19/2023 • 01/31/2023
U.S. Department of Housing and Urban Development (HUD)	Participating/Cooperating Agency	• 10/30/2014 • 09/29/2022 • 11/14/2022 • 09/30/2022
U.S. Department of the Interior (DOI)	Participating/Cooperating Agency	• 10/21/2014
	Section 4(f)	• 12/18/2023 • 01/03/2024
U.S. Environmental Protection Agency (USEPA)	Participating/Cooperating Agency	• 10/14/2014 • 10/24/2022
		• 10/30/2014 • 02/15/2023
		• 11/13/2014 • 03/24/2023 • 09/29/2022
	Air Quality	• 09/21/2023



Agency	Topic	Date(s) of Coordination
<i>Table 38 (cont.)</i>		
U.S. Fish and Wildlife Services (USFWS)	Participating/Cooperating Agency	<ul style="list-style-type: none"> • 10/14/2014 • 10/22/2014 • 10/30/2014
	Threatened/Endangered Species	<ul style="list-style-type: none"> • 09/29/2022 • 10/19/2022 • 11/1/2022
		<ul style="list-style-type: none"> • 05/31/2022 • 11/16/2022
		<ul style="list-style-type: none"> • 12/15/2022 • 09/21/2023
Kentucky State Agencies		
Kentucky Energy and Environment Cabinet	Participating/Cooperating Agency	• 11/13/2014
Governor's Office of Agricultural Policy	Participating/Cooperating Agency	• 11/13/2014
Kentucky Department of Agriculture	Participating/Cooperating Agency	• 11/13/2014
Kentucky Department for Environmental Protection (DEP)	Participating/Cooperating Agency	<ul style="list-style-type: none"> • 11/13/2014 • 11/18/2014
		<ul style="list-style-type: none"> • 09/27/2022 • 09/05/2023
Kentucky Division for Air Quality (KYDAQ)	Air Quality	• 08/21/2023
Kentucky Division of Water (KDOW)	Permitting	<ul style="list-style-type: none"> • 03/03/2023
	Participating/Cooperating Agency	<ul style="list-style-type: none"> • 03/06/2023 • 09/05/2023
Kentucky Department of Fish and Wildlife Resources (KDFWR)	Participating/Cooperating Agency	<ul style="list-style-type: none"> • 11/13/2014
	Threatened/Endangered Species	<ul style="list-style-type: none"> • 09/05/2023 • 12/15/2022
Kentucky Department of Natural Resources (DNR)	Participating/Cooperating Agency	<ul style="list-style-type: none"> • 11/13/2014 • 11/25/2014
Kentucky Environmental Education Council	Participating/Cooperating Agency	• 11/13/2014
Kentucky State Historic Preservation Officer (SHPO)	Participating/Cooperating Agency	<ul style="list-style-type: none"> • 11/13/201 • 12/01/2014 • 09/27/2022
	Area of Potential Effects (APE)	<ul style="list-style-type: none"> • 07/18/2023 • 09/05/2023 • 06/01/2022 • 06/07/2022
	Archaeological Resources	<ul style="list-style-type: none"> • 10/12/2022 • 04/24/2023
	Historic Resources	<ul style="list-style-type: none"> • 11/07/2022 • 11/17/2022 • 05/30/2023
	Section 4(f)	<ul style="list-style-type: none"> • 03/21/2023
	Section 106 Programmatic Agreement	<ul style="list-style-type: none"> • 10/04/2023
Office of Consumer and Environmental Protection	Participating/Cooperating Agency	• 11/13/2014
Office of Inspector General	Participating/Cooperating Agency	• 11/13/2014
Public Protection Cabinet	Participating/Cooperating Agency	• 11/13/2014
Office of Kentucky Nature Preserves (OKNP) (formerly Kentucky State Nature Preserves Commission)	Participating/Cooperating Agency	<ul style="list-style-type: none"> • 11/13/2014 • 11/20/2014



Agency	Topic	Date(s) of Coordination
<i>Table 38 (cont.)</i>		
Ohio State Agencies		
Ohio Department of Agriculture	Participating/Cooperating Agency	• 11/12/2014
Ohio Department of Natural Resources (ODNR)	Participating/Cooperating Agency	• 11/12/2014 • 09/13/2022 • 11/14/2014
	Ecological Resources	• 12/19/2022
Ohio Environmental Protection Agency (OEPA)	Participating/Cooperating Agency	• 11/12/2014 • 09/13/2022
	Air Quality	• 09/08/2023
	Permitting	• 03/03/2023 • 03/06/2023
Ohio State Historic Preservation Officer (SHPO)	Participating/Cooperating Agency	• 11/12/2014 • 09/13/2022 • 11/18/2014
	Longworth Hall MOA (superseded by Programmatic Agreement)	• 06/22/2017 • 06/03/2022
	Historic Resources	• 08/30/2022 • 01/06/2023 • 11/08/2022 • 01/25/2023
		Section 106 Programmatic Agreement

5.4 Participating and Cooperating Agencies

The 2012 EA/FONSI was developed with input from several participating agencies made up of federal and state agencies with an interest in the project. Agencies were invited to participate in the project’s development, and those that accepted were provided opportunities for feedback, culminating in the August 9, 2012 FONSI.

In 2014, FHWA, KYTC, and ODOT issued new participating/cooperating agency invitations to allow federal and state agencies the opportunity to provide input on studies assessing the impacts of tolling. Seven federal and four state agencies were subsequently identified as participating agencies. Studies related to tolling were stopped in 2015, and no formal coordination with the newly designated participating agencies occurred.

In 2022, FHWA issued new participating and cooperating agency invitations to federal agencies. Five federal cooperating agencies and four federal participating agencies were subsequently identified. FHWA held coordination meetings for federal participating and cooperating agencies throughout the development of this supplemental EA. KYTC and ODOT did not issue new invitations in 2022 but provided a project update to the previously identified participating agencies on September 13, 2022 (ODOT) and September 27, 2022 (KYTC).

On February 15, 2023, the Hamilton County Board of Commissioners submitted a request to FHWA to be designated a cooperating agency. On March 24, 2023, FHWA declined the request because the Hamilton



County Board of Commissioners does not have jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for a major federal action that may significantly affect the quality of the human environment¹ (see Appendix B, Participating/Cooperating Agencies). On May 26, 2023, FHWA issued additional participating agency invitations to local agencies, including the Hamilton County Board of Commissioners. As a result, ten local participating agencies were identified. Former and current cooperating and participating agencies are identified in Table 39.

Table 39: Participating and Cooperating Agencies

Agency	2012 EA/FONSI ¹	2014 Update ¹	2022-Present Update ¹
Federal Agencies			
Advisory Council on Historic Preservation (ACHP)	-	Participating	Participating
Federal Emergency Management Agency (FEMA)	-	Participating	Participating
Federal Transit Administration (FTA)	-	Participating	Participating
National Park Service (NPS)	-	-	Cooperating
U.S. Army Corps of Engineers (USACE)	Participating	Participating	Cooperating
U.S. Coast Guard (USCG)	Participating	Participating	Cooperating
U.S. Department of Housing and Urban Development (HUD)	-	-	Participating
U.S. Environmental Protection Agency (USEPA)	Participating	Participating	Cooperating
U.S. Fish and Wildlife Services (USFWS)	Participating	Participating	Cooperating
Kentucky State Agencies			
Kentucky Department for Environmental Protection (DEP) Kentucky Division for Air Quality (KYDAQ) ³ Kentucky Division of Water (KDOW) ³	Participating	Participating	Participating ²
Kentucky Department of Fish and Wildlife Resources (KDFWR)	Participating	-	-
Kentucky State Historic Preservation Officer (SHPO)	-	Participating	Participating ²
Ohio State Agencies			
Ohio Department of Natural Resources (ODNR)	Participating	Participating	Participating ²
Ohio Environmental Protection Agency (OEPA)	Participating	-	-
Ohio State Historic Preservation Officer (SHPO)	-	Participating	Participating ²
Local Agencies			
Boone County	-	-	Participating
City of Cincinnati	-	-	Participating

¹ In accordance with 40 CFR §1501.8 and 23 CFR part 771.



Agency	2012 EA/FONSI ¹	2014 Update ¹	2022-Present Update ¹
<i>Table 39 (cont.)</i>			
City of Covington	-	-	Participating
City of Fort Wright	-	-	Participating
City of Park Hills	-	-	Participating
Hamilton County Engineer	-	-	Participating
Hamilton County Regional Planning Commission	-	-	Participating
Kenton County	-	-	Participating
Ohio-Kentucky-Indiana Regional Council of Governments (OKI)	-	-	Participating
Transit Authority of Northern Kentucky (TANK)	-	-	Participating

1. Only agencies and groups that accepted the participating/cooperating agency invitations in 2012, 2014, 2022, and/or 2023 are listed. Federal agency invitations were sent in 2022 and 2023. State agency invitations were sent in 2014. Local agency invitations were sent in 2023.

2. New invitations to state agencies were not issued in 2022/2023.

3. The KYDAQ and the KDOW are divisions within the Kentucky DEP.

Cooperating agencies have been provided the opportunity to review and comment on the project during the development of this supplemental EA. All cooperating and participating agencies will be provided the opportunity to offer feedback on this supplemental EA during the public availability period, and individual responses will be prepared for any comments received from participating and cooperating agencies. Copies of participating and cooperating agency coordination documents¹ are included in Appendix B, Participating/Cooperating Agencies.

5.5 Public Hearing

Agencies and the public will have the opportunity to review the supplemental EA and other project information and provide comments to KYTC and ODOT for 30 days after it is made publicly available. During that time, in-person public hearings will be scheduled in Kentucky and Ohio. In addition, there will be a virtual public hearing. The public availability of the supplemental EA and the public hearings will be advertised through direct mailings, social media, press releases, print media, the project website, the project e-newsletter, and advertisements disseminated to the same neighborhoods that were engaged during the targeted EJ/neighborhood outreach. Direct mailings and flyers advertising the public hearings will include information in Spanish offering translation and interpretation services upon request. Comment forms will be available in both English and Spanish. The public hearings will provide opportunities for attendees to review exhibits and other project information. In addition, members of the project team will be available to answer questions. Verbal and

¹ The participating agency coordination for the 2012 EA/FONSI was conducted in accordance with the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The 2014 coordination was conducted in accordance with the Moving Ahead for Progress in the 21st Century Act (MAP-21). The most recent coordination is being conducted in accordance with the Fixing America's Surface Transportation Act (FAST).



written comments will be accepted at the hearing, as well. The comment period for the supplemental EA will last for 15 days after the public hearings.

5.6 Ongoing Public and Stakeholder Involvement

KYTC and ODOT are committed to a robust public and stakeholder involvement process during the design and construction of the BSB Corridor Project. To facilitate public involvement and outreach, the project *Public Engagement Plan* will be updated to guide public and stakeholder engagement (including environmental justice populations, identified socioeconomic populations and groups, and disadvantaged communities) during detailed design and construction. At a minimum, the following opportunities for public and stakeholder involvement will occur:

- When innovations are proposed, KYTC and ODOT will share recommendations with local cities and counties and will gather feedback from local agencies that may be affected by any changes. Each local entity will be responsible for soliciting public feedback on innovations as part of their review and comment process. When KYTC, ODOT, and FHWA determine that an innovation will be incorporated into the project, the public will be informed of the decision (see Section 3.7).
- KYTC will coordinate with the Northern Kentucky cities along the corridor and Kentucky first responders to ensure the completed project accommodates emergency response access to the C-D and mainline roadways (see Section 4.1.4).
- KYTC, ODOT, and the design-build team will regularly engage with the BSB Corridor Diversity & Inclusion Outreach Committee during the Phase III progressive design-build contract (see Section 4.1.6).
- KYTC will continue to coordinate with the City of Covington during the implementation of measures to mitigate adverse effects to the Lewisburg Historic District (see Section 4.5.2).
- ODOT will continue to coordinate with the Cincinnati Preservation Association during the implementation of measures to mitigate adverse effects to Longworth Hall (see Section 4.5.2).
- KYTC will provide information about the demolition contractor to the Kenton County Historical Society and the City of Covington Historic Preservation Office to allow the interested parties to discuss the possibility of material recovery and salvage (see Section 4.5.4).
- ODOT will provide the Ohio Section 106 consulting parties an opportunity to review and comment on final design plans in Ohio (see Section 4.5.4).
- KYTC will conduct a noise abatement public meeting and surveys with benefited receptors at each location where noise barriers are proposed and will coordinate with the City of Covington to evaluate the use of transparent noise barriers to preserve views of Goebel Park from the highway and to preserve views of the skyline and across I-71/I-75 from surrounding neighborhoods (see Section 4.8.1).
- ODOT will conduct noise abatement public involvement with benefited receptors where noise abatement has been determined to be feasible and reasonable (see Section 4.8.2).



- KYTC and ODOT will engage the Aesthetics Committee and the Aesthetics Subcommittees to finalize and confirm aesthetic treatments in the corridor (see Section 4.9).
- Local cities and counties will be given the opportunity to review and comment on the traffic management plan, the MOT plan, and the incident management plan for all project phases. These plans will also be coordinated with the regional incident management task force. KYTC and ODOT will also continue to communicate and coordinate construction activities with local cities and counties (see Section 4.11.7).
- KYTC and ODOT will continue utility coordination throughout design and construction for each project phase (see Section 4.12.1).
- KYTC will continue to coordinate with the City of Covington regarding its new master planning efforts for the Goebel Park Complex, the schedule for construction activities affecting the complex, and the transfer of replacement land within the complex (see Sections 4.13.3 and 4.14.6).
- ODOT will continue to coordinate construction activities affecting the Firefighters Memorial and Ezzard Charles Park with the City of Cincinnati (see Sections 4.13.6 and 4.13.8).
- Prior to construction, ODOT will coordinate with the City of Cincinnati to develop cost sharing and maintenance agreements for the widened portions of the Ezzard Charles Drive bridge over I-75 (See Section 5.1.1).
- KYTC and ODOT will continue to coordinate with the Project Advisory Committee to provide project updates and gather feedback during the design and construction of the project (see Section 5.2).
- For all project phases, information about design decisions, construction sequencing, project highlights, and construction schedules will be shared with the public through project website updates, social media, e-newsletters, local media, presentations to local groups, and virtual project updates. Information about ongoing project activities will be shared on a regular basis, and information about milestones (such as the start of a construction phase) will be shared as appropriate. Specific to the Phase III progressive design-build contract, the public will be informed of major decisions, as appropriate.
- KYTC and ODOT will establish multiple methods for the public to make inquiries about the project during detailed design and construction (including via the project website, email, direct mailings, and phone) and will provide timely responses to inquiries that are received.

6. ENVIRONMENTAL COMMITMENTS DISCUSSION

The August 9, 2012 [FONSI](#) documented several environmental commitments that must be implemented in conjunction with the project. Many of those environmental commitments remain applicable. However, some require modification, and additional commitments have been incorporated based on the information presented in this supplemental EA. The updated environmental commitments are listed in ES-Table II and summarized below. Changes since the 2012 FONSI are summarized in blue text below each commitment.



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1. KYTC and ODOT will conduct the following coordination when innovations are proposed for the Phase III progressive design-build contract:
 - a. When innovations are proposed, KYTC and ODOT will share recommendations with key stakeholders such as the City of Cincinnati, the City of Covington, the City of Park Hills, the City of Fort Wright, the City of Fort Mitchell, Hamilton County, and Kenton County and will gather feedback from local agencies that may be affected by any changes. Each local entity will be responsible for soliciting public feedback on innovations as part of their review and comment process.
 - b. When KYTC, ODOT, and FHWA determine that an innovation will be incorporated into the project, the public will be informed of the decision. Information provided to the public will include a description of the innovation, an explanation of the expected benefits, and the rationale for the decision.
 - c. If an innovation requires additional coordination or reevaluation to meet National Environmental Policy Act (NEPA) requirements, KYTC, ODOT, and FHWA will conduct those activities in accordance with all federal requirements.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to reflect KYTC's and ODOT's commitment to public and stakeholder engagement and to define roles and responsibilities regarding proposed innovations.

2. In support of the Kentucky Transportation Cabinet (KYTC) *Complete Streets, Roads, and Highways Policy*, the Ohio Department of Transportation (ODOT) *Multimodal Design Guide*, and the Ohio-Kentucky-Indiana Regional Council of Governments (OKI) *Regional Complete Streets Policy*, the project will implement the following:
 - a. Measures will be implemented to improve safety for pedestrians and school-age children who cross the northbound entrance ramp from Dixie Highway to I-71/I-75. Measures will include reducing length of the crosswalk, installing warning signs, enhancing the pavement markings to better define the crosswalk for pedestrians and vehicles.
 - b. A new shared-use path will be built along the outside lanes on Simon Kenton Way. New/rebuilt sidewalks will be constructed along the outside lanes of Bullock Street.
 - c. Rebuilt sidewalks will be constructed along Pike Street west of I-71/I-75. A switchback accessible ramp will be constructed to replace steep stairs between Pike Street and Lewis Street. New and rebuilt sidewalks will be constructed under the West 12th Street/MLK Jr. Boulevard, Pike Street, West 9th Street, West 5th Street, and West 3rd Street bridges.
 - d. A new shared-use path, which will tie into the shared-use paths in the Goebel Park Complex, will be built under the West 5th Street bridge. The shared-use path will be extended along Crescent Avenue to connect to an existing shared-use path along the Ohio River.



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- e. Shared-use paths will be built across I-75 on 6th Street, 7th Street, 9th Street, Linn Street, and Ezzard Charles Drive.
 - f. A new shared-use path will be constructed along Winchell Avenue between 9th Street and Ezzard Charles Drive.
 - g. New and rebuilt sidewalks will be constructed across I-75 on Linn Street, Freeman Avenue, Ezzard Charles Drive, Liberty Street, Findlay Street, Bank Street, and Harrison Avenue.
 - h. New sidewalk will be installed along West Court Street, including a pedestrian bridge connection to Freeman Avenue.
 - i. New and rebuilt bike lanes will be constructed across I-75 on Liberty Street, Findlay Street, Bank Street, and Harrison Avenue.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to reflect KYTC's and ODOT's commitment to providing enhanced community benefits in support of KYTC, ODOT, and OKI complete streets and multimodal policies and manuals.

- 3. During final design, KYTC will coordinate with the Northern Kentucky cities along the corridor, including Fort Mitchell, Fort Wright, Park Hills, and Covington, and Kentucky first responders, including police, fire, and emergency services, to ensure the completed project accommodates emergency response access to the collector-distributor and mainline roadways.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to address comments provided by emergency responders during public involvement activities.

- 4. If project-related activities result in impacts beyond those identified in the supplemental EA to tenants in Longworth Hall, then ODOT will conduct additional coordination in order for FHWA to determine if reevaluation to meet NEPA requirements is necessary.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added due to ODOT's purchase of the full Longworth Hall property.

- 5. During Phase III of the Brent Spence Bridge (BSB) Corridor Project, KYTC and ODOT will conduct the following activities to support business and workforce development:
 - a. Establish separate goals for disadvantaged business enterprise (DBE) participation in both the design and construction portions of the Phase III contract.
 - b. Develop an on-the-job training program to offer equal opportunity for the training of minorities, women, and disadvantaged persons to advance their skills toward journeyman status in the highway construction trades. The project's contract documents will include a 15 percent on-the-



job training target that will be finalized during the preconstruction phase of the progressive design-build contract.

- c. Create a workforce development plan to assist candidates seeking employment in the transportation industry or on related infrastructure projects.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to reflect KYTC's and ODOT's commitment to incorporating enhanced community benefits into the project.

- 6. For the Phase III contract, KYTC, ODOT, and the design-build team will regularly engage with the Brent Spence Bridge Corridor Diversity & Inclusion Outreach Committee to provide updates on the Diversity, Inclusion, and Outreach Plan, with a specific focus on contract requirements such as commercially useful function and wages; goal attainment for DBE participation and on-the-job training opportunities; and workforce diversity requirements.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to address the formation of the Diversity & Inclusion Outreach Committee for the detailed design and construction phases of the Phase III progressive design-build contract and ongoing coordination efforts as part of KYTC's and ODOT's commitment to providing enhanced community benefits.

- 7. Coordination with the Kentucky Department of Fish and Wildlife Resources (KDFWR) will occur in the spring prior to the rehabilitation of the existing Brent Spence Bridge or the demolition of the bridge approaches to address potential nesting of peregrine falcons.

Supplemental EA revisions: No change from the 2012 FONSI.

- 8. Measures will be implemented to minimize and mitigate effects to mussels, the federally listed Indiana bat, gray bat, and northern long-eared bat and Ohio state listed little brown bat and tricolored bat as outlined in the project's [Biological Assessment](#) (October 2022):
 - a. Mussel salvage (relocation) within areas of direct impact and appropriate salvage zone buffers will be conducted per the Ohio Mussel Survey Protocol no more than one year prior to the start of construction in the Ohio River.
 - b. Potential incidental take for the Indiana bat in Kentucky will be mitigated through a contribution to the Imperiled Bat Conservation Fund (IBCF) in accordance with the Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat.
 - c. No tree removal will occur in Kentucky from June 1 to July 31.
 - d. As required under Section 213 of the KYTC *Standard Specifications*, a site-specific erosion control plan, including best management practices (BMPs), will be developed by the resident engineer and contractor prior to onsite activities to ensure continuous erosion control throughout the construction and post-construction period. The plan will identify individual disturbed drainage



areas where stormwater from the construction area will be discharged off-site or into waters of the Commonwealth of Kentucky. The location of the individual erosion prevention/sediment control measures will be identified by the resident engineer and contractor.

- e. During grade and drain activities in Kentucky, mulch will be placed across all areas where no work will be conducted for a period of 14 consecutive days.
- f. Tree clearing within riparian areas will be minimized. Trees to be removed will be determined by the resident engineer and the contractor prior to disturbance.
- g. In Kentucky, silt fence, or other approved method, will be installed at the edge waters within the project corridors to eliminate the deposition of rock and debris in the stream during construction activities. In the unforeseen event that unintended debris does enter the stream, the resident engineer will halt the contributing activity until appropriate remedial actions have been implemented.
- h. To the maximum extent practicable, construction activities in streams will take place during low-flow periods.
- i. Equipment staging and cleaning areas will be located to eliminate direct inputs to the waters of the Commonwealth of Kentucky. These areas will be located such that effluent will be filtered through vegetated areas and appropriate sediment controls prior to discharge offsite.
- j. Concrete will be poured in a manner to avoid spills into streams. In the unforeseen event that a spill does occur, the U.S. Fish and Wildlife Service (USFWS) will be notified, and the resident engineer will immediately halt the activity until remedial measures have been implemented.
- k. Areas disturbed during construction activities in Kentucky will be stabilized through vegetation establishment and placement of riprap and geotextile fabric.
- l. Areas disturbed during construction in Kentucky and not stabilized with riprap and erosion blanket will be seeded using a standard seed mix. Depending on project slope and project location, application rates will vary and will utilize current and appropriate seed mixes as specified in the KYTC *Standard Specifications*.
- m. No tree removal will occur in Ohio from April 1 through September 30.
- n. All phases/aspects of the project (e.g., temporary work areas, alignments) in Ohio will be modified to avoid tree removal in excess of what is required to implement the project safely.
- o. Tree removal in Ohio will be limited to that specified in project plans by clearly marking clearing limits. Contractors will be made aware of clearing limits in Ohio and how they are marked in the field.
- p. ODOT's *Construction and Material Specifications* (CMS) and ODOT *Supplemental Specification* (SS) 813, SS 832, and SS 913 will be followed as applicable to address the following bat



avoidance and minimization measures in Ohio: lighting (SS 813); dust control (CMS 616); water quality, wetland and stream protection (CMS 601, CMS 659, CMS 671, SS 832, and ODOT's *Location and Design Manual, Volume 2*).

Supplemental EA revisions: The environmental commitments regarding threatened or endangered species were updated to reflect additional field studies, agency coordination, and effect determinations, that have occurred since the 2012 FONSI.

9. A Spill Prevention Control and Countermeasures Plan that is acceptable to KYTC, ODOT, and the Kentucky Department for Environmental Protection will be prepared for the project. This plan will define, at minimum, protocols for the managing, handling, and disposing of oil spills, including contact with emergency response personnel, safety data sheets, and copies of agreements with agencies that would be part of a spill-response effort. The plan will also outline communication protocols to ensure proper and timely notification of nearby public drinking water supplies in the event of a spill, including the source water protection zones for the Louisville Water Company (KY0560258) and the Northern Kentucky Water District (KY0590220).

Supplemental EA revisions: This environmental commitment was not included in the 2012 FONSI. It has been included to address the protection of drinking water supplies during construction activities.

10. A groundwater protection plan for the protection of groundwater will be developed in accordance with Title 401 of the Kentucky Administrative Regulations, Chapter 5, Regulation 37 (401 KAR 5:037). The plan will include the installation, construction, operation or abandonment of wells, bore holes or core holes, and other applicable project activities, as defined in 401 KAR 5:037. If groundwater monitoring wells are constructed, modified, or abandoned in Kentucky, the work will be conducted in accordance with 401 KAR 6:350.

Supplemental EA revisions: This environmental commitment was not included in the 2012 FONSI. It has been included to address groundwater protection.

11. The following Environmental Site Assessment (ESA) work will be completed:
- Phase II ESAs will be conducted at 666 West 3rd Street and 550 Pike Street in Covington, Kentucky as required by the Comprehensive, Environmental Response, Compensation and Liability Act (1980) as amended by the Superfund Amendments and Reauthorization Act (1986). Only areas of construction/utility disturbances of 3 feet or greater in depth will be assessed.
 - If dewatering is necessary for construction purposes, plan notes for petroleum contaminated soil (PCS) and contaminated groundwater will be developed for the following sites and placed into the plans: 351 John Street, 514 West 3rd Street, and 302-304 Central Avenue in Cincinnati, Ohio.



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- c. Plan notes for the removal of underground storage tanks (USTs) will be developed for the following sites and placed in the plans: 508 West 3rd Street (1 UST) and 605 West 3rd Street (4 USTs) in Cincinnati, Ohio.
 - d. Plan notes for solid waste will be developed for the following sites and placed in the plans: 205 Central Avenue and 612 Mehring Way in Cincinnati, Ohio.
 - e. The project's construction documents will include a plan note to abandon the existing monitoring wells on property to be acquired from the Duke Energy West End Substation (646/655 Mehring Way in Cincinnati, Ohio).

Supplemental EA revisions: The environmental commitments regarding regulated materials were updated to reflect the results of Phase I and Phase II ESAs (Ohio) and a reevaluation of the ESA Screening (Kentucky) completed since the 2012 FONSI.

12. Measures to mitigate the adverse effect to the Lewisburg Historic District will comply with the *Programmatic Agreement Among FHWA, ODOT, KYTC, the Ohio SHPO, the Kentucky SHPO, and the City of Covington Implementing Section 106 of the National Historic Preservation Act for the BSB Corridor Project* (Section 106 Programmatic Agreement):

A. Recordation

- 1. In order to preserve a record of its history and appearance, the structures within the Lewisburg Historic District to be demolished as a part of this project will be recorded. Recordation will take place as soon as the properties have been acquired and well in advance of construction in this area; documentation of these structures, barring unforeseen circumstance, will take less than four months to complete. State Level I Documentation is specified and will include the following per the Kentucky State Historic Preservation Officer's (SHPO's) February 12, 2020 Memorandum – Update to State Level Documentation:
 - a. A Kentucky Historic Resource Individual Survey form (KHC 2017-1 or current version of form), completed or updated as appropriate.
 - b. A historic context, a synthesis of both archival research and current information, presented both as part of the documentation package as well as included in the "Historical Information" section of the Kentucky SHPO survey form in order to facilitate the separate archiving of these documents. Archival research, thorough but less intensive than a stand-alone historic context, shall be conducted to gather specific historical information about the property and its context with sources cited. If historic archival images are located, a representative sample or link to that resource will be included.
 - c. Digital photographs showing all exterior elevations as well as close-ups of significant, character-defining features (i.e., brackets, hood moldings, decorative millwork, log notching/chinking, traditional timber frame joinery/truss systems, mantels, historic hardware/lighting, interior finishes, and/or stair details). Image resolution shall be no less



than 6 megapixels (2000 x 3000-pixel image). Images should be in Tag Image File format (TIFF) or raw image format (RAW).

The electronic files of the digital images should be included on an archival DVD-R disk and a flash drive submitted with the documentation package. Electronic files shall be labeled with the name and address of the building (if applicable), the Kentucky Heritage Council (KHC) survey number, view, and date of capture. In addition, all digital photographs will be included in the KHC survey form. A selection of images shall be printed on archival quality, acid-free paper (rather than as true photographic prints) at a minimum size of 5" x 7" (maximum size of 8" x 10"). These images shall be presented in the documentation package along with an index of photographs keyed to numbered photos. The photography index shall include the name and address of building (if applicable), view, and any explanatory notes necessary for review.

- d. Measured floor plans of each floor of the building will be prepared by a preservation professional. Existing professional scaled drawings/building plans will be utilized whenever possible and presented in a .pdf format along with a hard copy of the existing plans. If existing drawings/plans are not available, will not meet the format recommended below, or parties otherwise agree that drawings/plans need to be prepared, drawings shall be created at a scale of ¼" per 1'-0" and shall be analytical in nature, labeling construction details, alterations, and additions. If applicable, drawings of building details (windows, moldings, mantels, etc.) shall be created at a scale of ½" per 1'-0". Hand drawings shall be in pencil on archival-quality, acid-free vellum; however, if other formats are used (i.e., 3-dimensional laser scanning/photogrammetry or Computer-Aided Design/CAD) the scale shall be comparable to that of the hand drawings. The latter native digital plans shall be presented in .pdf format along with a hard copy set of plans. Each drawing/image file shall be labeled as described in 12.A.1.c above and shall be accompanied by a written description of the building(s) as well as an explanation of construction details.
 - e. One complete digital copy of the completed documentation will be submitted by KYTC to the Kentucky SHPO for review and acceptance. Upon notification of Kentucky SHPO acceptance, KYTC will provide one complete hard copy to the Kenton County Public Library. One complete digital copy will also be provided to the Kentucky Department for Libraries and Archives by KYTC.
2. Upon completion of the project, KYTC shall prepare and provide to Kentucky SHPO documentation of appropriate boundaries for the Lewisburg Historic District. Once agreement is reached on appropriate boundaries, KYTC shall prepare a revised nomination form reflecting the newly established boundaries and submit it to Kentucky SHPO for coordination with the Keeper of the National Register of Historic Places.
 3. Upon completion of construction of the project, KYTC shall prepare a Kentucky Historic Resource Individual Survey form (KHC 2017-1 or current version of form) for each of the properties located within the Lewisburg Historic District. A new survey form is required if more than 5 years have lapsed since the survey form was updated. These survey forms will be submitted to the Kentucky SHPO in .pdf format.



B. Façade Grant Program

1. A Façade Grant Program administered by the City of Covington will be developed and implemented to improve and rehabilitate the façade of residential and commercial properties within the Lewisburg Historic District. Specific details of the program, including additional funding sources, review authority, owner matching funds, program marketing, and timeframes for approval and completion of projects will be determined through consultation between KYTC, the City of Covington, the Kentucky SHPO, and FHWA. Consultation between these listed parties will take place after the Section 106 Programmatic Agreement has been signed and after project funds have been released by FHWA. Details for administering the program, including oversight, selection criteria, monitoring, and tracking and reporting of completions and expenditures will be delineated in a separate memorandum of agreement developed for this purpose and agreed upon between the parties listed above.
2. The Façade Grant Program will be provided with project funding in an amount not to exceed \$1,200,000.00 for property improvements. FHWA participation will terminate ten years from the date of program implementation.

C. Vibration Testing

1. To avoid damage to historic properties, KYTC shall ensure that construction blasting/vibration plans and bridge pier construction plans shall be developed by their contractor(s) prior to beginning any construction activities that would require blasting or result in vibration. These construction blasting/vibration plans shall be implemented during appropriate construction activities. Maximum threshold values for historic properties that the plan must meet are shown in the table below. The values are presented in terms of peak particle velocity (PPV), the accepted method of evaluating the potential for damage. The vibration criteria shall apply for pile driving, vibratory compaction, and blasting activities.

PPV Thresholds	
Type of Structure	Ground-borne Vibration Impact Level (PPV)
Fragile	0.20 inch/second
Extremely Fragile Historic	0.12 inch/second

2. KYTC shall discuss with the Kentucky SHPO the protective measures to be used by the contractor to protect historic resources from vibration damage. KYTC shall seek the recommendations of the Kentucky SHPO regarding any additional properties not identified by the contractor that should be considered extremely fragile.
 - a. These plans shall be developed, as directed by the contract documents, for all areas within 100 feet of the potential disturb limits that contain historic structures.



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- b. Existing conditions of historic structures and current levels of vibration within the selected areas will be obtained first as a baseline for later comparison. Structural engineers will focus on identifying fragile and extremely fragile historic structures. In areas where historic structures are identified but they are not considered either fragile or extremely fragile, vibration levels will be limited to 0.20 inch/second. An initial report of baseline conditions, including structures selected for monitoring and existing vibration levels, will be compiled and coordinated with Kentucky SHPO for review.
 - c. Construction methods adjacent to selected areas will be assessed to determine the potential to create vibration levels that may exceed the threshold limits. In areas where construction methods may exceed vibration threshold limits, alternate methods will be required.
 - d. A third-party contractor will be retained to monitor vibrations and report results on site to the contractor and the KYTC resident engineer. If continuous vibration levels exceed the 0.20 inch/second threshold, the vibration equipment monitor shall notify the resident engineer and the construction contractor so that methods can be adjusted to reduce the vibration. If continuous vibration levels exceed 0.20 inch/second after adjustments have been made, work will need to cease in the area until different methods can be put in place to lessen vibration impacts.
 - e. As construction activities will be continuously monitored to ensure that vibration limits remain below the threshold noted above, the need for daily inspection of adjacent buildings is not anticipated. However, if any transient event occurs that is in excess of 0.50 inch/second, a cursory examination of buildings in the area will be made to check for potential damages.
 - f. Monitoring will occur when active construction activities are adjacent to selected areas. As construction activities are expected to move from location to location or may occur adjacent to multiple areas at once, all selected areas will not be continuously monitored, especially if no construction activities are occurring adjacent.
 - g. At least one examination of structures in each area selected for vibration monitoring will be made during construction, and a post-construction final inspection will be made of each area to determine if there have been any changes to the condition of the buildings. A comparison of pre-, mid-, and post-construction building condition assessments will be compiled in a report and submitted to the Kentucky SHPO for review.
 - h. KYTC, in consultation with Kentucky SHPO, will make the determination whether damage has occurred to historic properties identified in the Section 106 process as a result of project activities.
 - i. KYTC shall be responsible for repair of any blast and vibration damage to historic properties. Any repairs shall be coordinated in advance with the Kentucky SHPO to ensure they are carried out in accordance with the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (Secretary's Standards).



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- j. Where access to privately owned property is necessary for monitoring or damage repair, consent shall be obtained prior to entry.

Supplemental EA revisions: The 2012 FONSI grouped this commitment with other resources. For the supplemental EA, separate commitments were developed to address each resource. This commitment was also revised to reflect the 2023 Section 106 Programmatic Agreement.

13. Measures to mitigate the adverse effect to the B&O Freight and Storage Building/Longworth Hall will comply with the *Programmatic Agreement Among FHWA, ODOT, KYTC, the Ohio SHPO, the Kentucky SHPO, and the City of Covington Implementing Section 106 of the National Historic Preservation Act for the BSB Corridor Project* (Section 106 Programmatic Agreement):
- a. Treatment Plans. The treatment plans shall be developed in accordance with Title 36 of the Code of Federal Regulations (CFR) part 68, the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. The plans will be developed during Phase 1: Preconstruction Phase of the Progressive Design Build Contract currently estimated for completion by April 2025. The Ohio State Historic Preservation Officer (SHPO), the building owner, and the Cincinnati Preservation Association shall be provided the treatment plans for a 30-day review and comment period.
 - i. Exterior Storm Windows. Storm windows will be installed on the exterior of the building. The storm windows will be installed on the entire exterior of the building, including areas not impacted by construction of the project.
 - ii. Restoration of the East Wall. Restoration of the east wall will be to an approximation of its original appearance and will include materials salvaged during demolition.
 - iii. Windows Removed to Accommodate the New Roadway Construction. Windows removed to accommodate the new roadway construction will be restored and used in the east wall reconstruction. Windows removed and not used in the east wall reconstruction will be restored and returned to the owner.
 - iv. Commemorative Cornerstone. A cornerstone commemorating the date of construction (1904) on one side and the date of the renovation on the other side will be included in the east wall reconstruction design.
 - v. Masonry Repairs. Masonry repairs will include repair or replacement of bricks as warranted; tuck-pointing; and brick cleaning of the west, north and south walls. The listed masonry repairs will be completed on the entire building, including portions not impacted by construction of the project.
 - vi. Original Lettering. The original lettering across the top of the building will be refurbished.
 - vii. All Materials Removed. All materials removed that retain historic integrity and nature will be returned to the building owner to be used in future repairs or expansion.



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- b. Interpretive Plaque or Signage. An interpretive plaque or signage will be constructed.
 - i. The original location of the east wall prior to construction of the Brent Spence Bridge will be outlined by bricks and stonework.
 - ii. An interpretive plaque describing changes to the property that have occurred over time will be placed near the original location of the east end wall. ODOT will work with the Ohio SHPO and the Ohio consulting parties on the plaque design and text. The Ohio SHPO and the Ohio consulting parties will have an opportunity to review the final version prior to production.
 - c. Contracting Methods. ODOT will hold and manage the contract(s) for all work conducted in 13.a-b. The demolition and reconstruction of Longworth Hall will be performed in accordance with Section 13.3 of Exhibit E: Technical Requirements of the Progressive Design-Build Contract, as described in Appendix C of the Section 106 Programmatic Agreement. The interpretive plaque or signage will be constructed in accordance with Section 7.1 of Exhibit E: Technical Requirements of the Progressive Design-Build Contract, as described in Appendix C of the Section 106 Programmatic Agreement.
 - d. Acquisition. ODOT is in the process of acquiring the full property at a mutually agreed upon price and from a willing seller. Because the full property is to be acquired by ODOT, the following additional stipulations apply.
 - i. The building will remain occupied. ODOT may use interior space or the exterior grounds surrounding the building during project construction. No additional adverse effects are anticipated as a result of ODOT's use of the building and exterior grounds; however, if any activities on the property are anticipated to have potential adverse effects, they shall be permitted only after consultation between ODOT, the Cincinnati Preservation Association, and the Ohio SHPO pursuant to Stipulation V of the Section 106 Programmatic Agreement;
 - ii. The existing Deed of Gift and Agreement for the Architectural Façade and Preservation Easement, dated December 30, 1986, granting Miami Purchase Association for Historic Preservation (now known as Cincinnati Preservation Association) an architectural façade and preservation easement of the B&O Freight and Storage Building/Longworth Hall, 700 Pete Rose Way (Second Street) (NRHP 86003521), will remain with the deed as part of the purchase by ODOT and for any future sale of the property by ODOT and thus transferred to future potential owners in perpetuity.

The following measures to minimize and mitigate impacts to Longworth Hall will be implemented pursuant to Section 4(f) of the U.S. Department of Transportation Act of 1966 to ensure the preservation of the property:

- a. While in ODOT's ownership, ODOT will be responsible for maintaining Longworth Hall and its historic integrity.



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- b. Since ODOT will own the building at the time of restoration, all materials removed that retain historic integrity, including the unused reconstructed windows, will be appropriately stored onsite and will remain with the building for later reuse.

Supplemental EA revisions: The 2012 FONSI grouped this commitment with other resources. For the supplemental EA, separate commitments were developed to address each resource. This commitment was also updated to reflect the 2023 Section 106 Programmatic Agreement.

14. If previously unidentified historic properties, or unanticipated effects on known historic properties, are discovered after completion of the Section 106 process, ODOT and KYTC shall follow the unanticipated discovery plans for their respective states, as described in Appendix A of the *Programmatic Agreement Among FHWA, ODOT, KYTC, the Ohio SHPO, the Kentucky SHPO, and the City of Covington Implementing Section 106 of the National Historic Preservation Act for the Brent Spence Bridge Corridor Project*.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was included to reflect the stipulations in the 2023 Section 106 Programmatic Agreement.

15. If project-related construction adjoining the Goebel Park Complex, including the transfer of replacement land, has not yet been completed by 2029, the Goebel Park Complex and associated elements (including the Carroll Chimes Clock Tower) will be reevaluated for NRHP eligibility.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was included to reflect recommendations in the [Cultural Historic Resources Survey Report](#).

16. A Phased Archaeological Survey will be conducted on one parcel (Exhibit 1 in the *Programmatic Agreement Among FHWA, ODOT, KYTC, the Ohio SHPO, the Kentucky SHPO, and the City of Covington Implementing Section 106 of the National Historic Preservation Act for the BSB Corridor Project*). This parcel is occupied by parking lots for the adjacent Kenton County Administration Building. Once this parcel is acquired, a Phase I archaeological survey shall be conducted prior to the initiation of any ground disturbing activities, such as utility relocation or construction, to determine if the parcel contains archaeological sites that are eligible for listing in the National Register of Historic Places (NRHP). All work must comply with the most recent version of the Kentucky SHPO's *Specifications for Archaeological Field Work and Assessment Reports* (Kentucky SHPO Specifications). Upon completion of the survey, a report shall be prepared in accordance with the Kentucky SHPO Specifications and shall be submitted by the FHWA, with KYTC as its agent, to the Kentucky SHPO and interested Federally Recognized Tribes for review and comment.

Supplemental EA revisions: The commitment in the 2012 FONSI was updated to reflect the following: Required Phase I archaeological survey was reduced from 26 to 4 parcels and completed in 2022. Required archaeological monitoring during construction was reduced from 19 to 1 parcel. Phase I archaeological survey will be conducted in lieu of archaeological monitoring during construction. Geo-archaeological deep testing was completed. The commitment also reflects the 2023 Section 106 Programmatic Agreement.



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17. If any sites are determined to be eligible for the NRHP through Phase II testing, and these sites cannot be avoided or will be impacted by the project, then FHWA will consult with the Kentucky SHPO and other parties whom the FHWA deems appropriate and develop a research design and recovery plan (Plan) in conformance with the Kentucky SHPO's *Specifications for Archaeological Field Work and Assessment Reports*. The Plan will be submitted to the Kentucky SHPO for review and comment. Unless the Kentucky SHPO comments or objects within thirty (30) days of receiving the Plan, the FHWA shall ensure that the Plan is implemented.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was included to reflect the 2023 Section 106 Programmatic Agreement.

18. A plan note to avoid the 1920s Cincinnati subway tunnels (below-ground) and the Western Hills Viaduct subway tunnel portals (above-ground) will be included in the construction plans for the project.

Supplemental EA revisions: Although these requirements were documented in agency coordination conducted during the preparation of the 2012 EA, an associated commitment was not included in the 2012 FONSI. This commitment was added to the supplemental EA to provide a mechanism for tracking actions that were agreed upon during agency coordination.

19. Soil and geotechnical borings conducted during the design phase in the Ohio portion of the Ohio River bottom area will be monitored and/or reviewed by an archaeologist or geoarchaeologist for evidence of buried archaeological deposits and/or undisturbed original landforms. If either are determined to be present, an archaeological testing strategy will be designed and implemented for the horizontal and vertical footprint of the bridge supports and construction work limits.

Supplemental EA revisions: Although these requirements were documented in agency coordination conducted during the preparation of the 2012 EA, an associated commitment was not included in the 2012 FONSI. This commitment was added to the supplemental EA to provide a mechanism for tracking actions that were agreed upon during agency coordination.

20. Once the structures to be demolished in the Lewisburg Historic District are acquired and a demolition contractor has been selected, KYTC will notify the Kenton County Historical Society and the City of Covington Historic Preservation Office of the name and contact information of the contractor to allow the interested parties to discuss the possibility of material recovery and salvage directly with the demolition contractor.

Supplemental EA revisions: The 2012 FONSI grouped this commitment with other resources. For the supplemental EA, separate commitments were developed to address each resource. This commitment was also revised to reflect the 2023 Section 106 Programmatic Agreement.



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21. The Ohio State Historic Preservation Officer (SHPO) and Ohio Section 106 consulting parties will be given an opportunity to review and comment on final design plans.

Supplemental EA revisions: Although these requirements were documented in agency coordination conducted during the preparation of the 2012 EA, an associated commitment was not included in the 2012 FONSI. This commitment was added to the supplemental EA to provide a mechanism for tracking actions that were agreed upon during agency coordination.

22. The existing berm between West Maple Avenue and I-71/I-75 shall be marked “not to be disturbed” during construction.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to reflect KYTC’s commitment to reducing noise for the communities in the BSB corridor.

23. In accordance with the KYTC *Noise Analysis and Abatement Policy*, a noise abatement public meeting and surveys will be conducted with benefited receptors at the following locations where noise and noise/visual screening barriers are proposed in Kentucky:

- a. Northbound (NB) I-71/I-75 from Beechwood Road to Dixie Highway.
- b. NB I-71/I-75 from Dixie Highway to Kyles Lane.
- c. NB I-71/I-75 from Kyles Lane to the Ivy Knoll Senior Living Community.
- d. NB I-71/I-75 from south of Edgecliff Road to Pike Street.
- e. NB I-71/I-75 from Pike Street to West 4th Street.
- f. Southbound (SB) I-71/I-75 from West 3rd Street to south of Hermes Avenue.
- g. SB I-71/I-75 from north of St. Joseph Lane to Kyles Lane.
- h. SB I-71/I-75 north of Dixie Highway.
- i. SB I-71/I-75 from Dixie Highway to south of West Maple Avenue.

Supplemental EA revisions: This commitment was updated to more specifically reference the noise public involvement that will occur during the project’s design-build phase and to reference the locations of proposed noise and noise/visual screening barriers based on updated noise analyses.

24. KYTC will coordinate with the City of Covington to evaluate the use of transparent noise barriers in some locations to preserve views of Goebel Park from the highway and to preserve views of the skyline and across I-71/I-75 from surrounding neighborhoods.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to reflect KYTC’s commitment to addressing public and stakeholder comments and providing enhanced benefits for the communities surrounding the BSB corridor.



25. In accordance with the ODOT *Analysis and Abatement of Highway Traffic Noise Policy Statement*, ODOT will conduct noise abatement public involvement with benefited receptors where noise abatement has been determined to be feasible and reasonable:

- a. Northbound (NB) I-75 in front of the Queensgate Playground and Ball Field.
- b. NB I-75 from West Court Street to Ezzard Charles Drive.
- c. NB I-75 from Ezzard Charles Drive to Liberty Street.
- d. NB I-75 from Liberty Street to Findlay Street.
- e. NB I-75 from York Street to Bank Street.

Supplemental EA revisions: This commitment was updated to more specifically reference the noise public involvement that will occur during the project's design phase and to reference the locations of proposed noise barriers based on updated noise analyses.

26. ODOT will construct 57-inch barriers on the Liberty Street, Findlay Street, and Bank Street bridge parapets to reduce tire pavement noise.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to provide additional noise reduction measures in Ohio.

27. KYTC will continue to coordinate with the Covington and Fort Wright/Fort Mitchell Aesthetics Subcommittees to finalize aesthetic treatments in those cities.

Supplemental EA revisions: The 2012 FONSI included a commitment for ongoing coordination with the Aesthetics Committee. It has been updated to address the formation of additional Aesthetics Subcommittees as part of KYTC's ongoing efforts to engage local communities to provide enhanced benefits.

28. In coordination with the City of Cincinnati and the Ohio Aesthetics Subcommittee, ODOT has established an Aesthetic Design Checklist for Phases I and II of the project. Potential changes to aesthetic features will be coordinated and confirmed with the City of Cincinnati and the Ohio Aesthetics Subcommittee at the completion of each design stage review in accordance with ODOT's *Aesthetic Design Guidelines*.

Supplemental EA revisions: The 2012 FONSI included a commitment for ongoing coordination with the Aesthetics Committee. It has been updated to address the formation of an Ohio Aesthetics Subcommittee as part of ODOT's ongoing efforts to engage local communities to provide enhanced benefits.



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29. KYTC and ODOT will continue to engage the project Aesthetics Committee as described in the *Brent Spence Bridge Project Aesthetic Committee Charter* for final confirmation of the aesthetic treatments included in Phase III of the project.

Supplemental EA revisions: The 2012 FONSI included a commitment for ongoing coordination with the Aesthetics Committee. It has been updated to reflect specific goals and timing for that coordination.

30. The approved bridge types for the new companion bridge include an arch bridge and a cable-stayed bridge. The approved top elevation is no less than 300 feet and no more than 420 feet above the normal pool elevation of the Ohio River. KYTC and ODOT will determine the final bridge type for the new companion bridge based on a technical evaluation performed by the design-build team. Once the bridge type is determined, the project Aesthetics Committee will be engaged to provide initial feedback on the aesthetic elements of the new companion bridge and the existing Brent Spence Bridge.

Supplemental EA revisions: The 2012 FONSI specified the approved bridge types for the new companion bridge as: arch bridge (simply supported arch with inclined arch ribs) and cable-stayed bridge (two towers, vertical legs/tower). The specific design opportunities within each approved bridge type have been expanded by removing the stipulations for “inclined arch ribs” and “two towers, vertical legs” to provide more flexibility and to allow the progressive design-build team to pursue innovative and cost effective designs to the greatest extent possible. The 2012 FONSI included a commitment for ongoing coordination with the Aesthetics Committee. It has been updated to reflect specific roles and responsibilities.

31. In recognition of the history of city-sponsored urban renewal and the original Mill Creek Expressway (I-75) construction and as an enhancement in the West End neighborhood, ODOT will work with the City of Cincinnati, which includes the West End Community Council, to develop content for an interpretive display describing the West End community in relation to historic city urban renewal and the Millcreek Expressway construction and to identify a location in proximity to the I-75 corridor to install the display.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to reflect ODOT’s commitment to addressing public and stakeholder comments and providing enhanced benefits for the communities surrounding the BSB corridor.

32. The following measures will be implemented to minimize and mitigate temporary construction impacts:
- During construction, vehicular, bicycle, and Americans with Disabilities Act-compliant pedestrian access to neighborhoods and community facilities will be maintained through provision of alternate routes of entry. Where sidewalks, walkways, or shoulders must be temporarily closed to facilitate construction, safe pedestrian passage will always be maintained on one side of the roadway, unless other temporary pedestrian accommodations are provided. Construction zone pedestrian access will be maintained in accordance with the *Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way as published in Federal Register Volume 88*



page 53604 (88 FR 53604). A maintenance of traffic (MOT) plan will be developed and implemented to maintain traffic operation through the corridor and minimize disruption to the surrounding communities. The MOT plan will be coordinated with the Regional Incident Management Task Force.

- b. Improvements to the intersections of West 4th Street and Main Street and West 5th Street and Main Street will be evaluated to ensure satisfactory levels of service during project construction and operation.
- c. An MOT plan will be created to meet the access requirements of communities in the City of Covington and the City of Cincinnati to minimize impacts to local businesses during project construction to the extent practicable. The contractor will be directed to maintain access to businesses for vehicles, pedestrians, and bicyclists. If access cannot be maintained, the contractor will notify the business and provide alternative access. If alternative access cannot be provided, the contractor must conduct work when the business is not operational and must restore access during business hours. In addition, temporary business signs to identify entrances will be provided by the contractor.
- d. Impacts of the MOT plan on public transportation will be evaluated. The design-build team will develop measures to maintain existing services to provide safe, reasonable, and efficient access to goods and services unless other temporary accommodations are provided.
- e. During design development, in addition to evaluating parameters such as cost, schedule, access, traffic impacts, safety, risk, etc., KYTC and ODOT will also consider construction noise abatement in areas where noise sensitive receptors are present, including:
 - i. Foundation type selection: Different foundation types have varying effects on the intensity and duration of construction noise (e.g., piling versus cast-in-place concrete shafts).
 - ii. Installation methodology: The same feature of work can be achieved in a variety of ways and planned for in the design phase. This could involve using mechanical or chemical splitting as means of demolition versus the use of explosives or drilling and setting a retaining wall versus driving soldier piles.
 - iii. Storage and staging areas: Identification or acquisition of locations/properties that provide separation from sensitive receptors. This could be by proximity or by the use of existing barriers.
 - iv. Phasing of work: Consideration of how work is phased can have a prominent impact on the duration for which a noise sensitive receptor is exposed to construction noise from a particular feature of work. This concept is especially evident when dealing with a receptor like a school that is out of session during the summer. Phasing the project to allow/facilitate all high decibel work to be completed at once and during this window not only reduces, but eliminates, this impact.



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- v. Permanent noise barriers: Consideration will be given to the feasibility of constructing permanent noise barriers that are needed for noise abatement of the project's final configuration earlier in the project to help mitigate temporary construction noise.
 - vi. Incentives: There are provisions to establish schedule-based incentives. These incentives could be used to help minimize the duration of overall construction noise.
 - vii. Temporary construction detours and haul routes will be evaluated in a way to limit the impact created by redirected traffic through community sensitive areas and near noise sensitive receptors to the extent practicable. In addition to official routes, alternate routes that may also be used will also be evaluated to minimize heavy truck traffic on residential streets.
 - viii. The availability of night-time and weekend work will be evaluated in conjunction with permitted lane closure maps during the development of the MOT plan.
- f. The MOT plan and the project communications plan will include provisions for communicating with trucking companies and mapping services to notify them of detours and delay information related to the project.
 - g. The MOT plan will evaluate available travel lanes on the mainline interstate during construction to reduce the potential that the project will induce traffic diversion similar to that experienced during recent closures and restrictions on the existing Brent Spence Bridge.
 - h. A project incident management plan will be developed to minimize diversion resulting from incidents occurring within the project limits during construction to the extent practicable. The City of Cincinnati and the Northern Kentucky cities along the corridor, including Fort Mitchell, Fort Wright, Park Hills, and Covington, will be given the opportunity to participate actively in the development of the incident management plan.
 - i. The Northern Kentucky cities along the corridor, including Fort Mitchell, Fort Wright, Park Hills, and Covington will be provided an opportunity to review and comment on the MOT plan as it is developed. KYTC will work directly with the appropriate point person for each city to ensure that all relevant agencies and first responders, including police, fire, and emergency services, have an opportunity to review and provide input into all aspects of MOT planning, MOT and incident management plan development, and construction period operations affecting their respective cities.
 - j. ODOT will provide the City of Cincinnati an opportunity to review and comment on the project MOT plan and incident management plan as they are developed. ODOT will work directly with the City of Cincinnati Department of Transportation and Engineering (DOTE) to ensure that all relevant agencies within the City have an opportunity to review and provide input into all aspects of MOT planning, MOT and incident management plan development, and construction period operations affecting the City.
 - k. The construction documents, in concert with the MOT plan, will include appropriate provisions for the design-build team/contractor to install and utilize variable electronic message boards at



key locations within the City of Covington (e.g., Pike and Russell, Eighth and Russell, Seventeenth and Scott) and the City of Cincinnati, as needed, during construction.

- l. KYTC will work to ensure that the construction documents require the contractor, working through KYTC's project manager and the Covington project director, to coordinate with the City's traffic control officers regarding the location and placement of variable electronic message boards.
- m. ODOT will work to ensure that the construction documents require the contractor, working through ODOT's project manager and the Cincinnati DOTE, to coordinate the location and placement of variable electronic message boards. The construction documents also may contain other means of informing and notifying the public of traffic changes, as appropriate.
- n. During construction, a project website will provide regular project updates regarding maintenance of traffic plans, current traffic patterns, upcoming changes, etc. The website will provide an email address and phone number for the public to contact the contractor's designated representative with questions, concerns, or complaints regarding ongoing or planned construction activities. Information about construction sequencing, project highlights, and construction schedules will also be shared with the public through social media, e-newsletters, local media, presentations to local groups, and virtual project updates. All complaints will be investigated by project personnel. KYTC and ODOT will develop reporting protocols to ensure that the contractor responds to the inquiries in a timely manner and keeps KYTC and ODOT informed of community questions and concerns.
- o. The project communications team, working through the KYTC project manager, will make best efforts to provide timely notice to the Covington project director prior to the public release of any information related to any portion of the project located in or likely to have a substantial effect on the City of Covington.
- p. The project plans shall contain requirements to ensure compliance with all applicable state noise standards and local noise ordinances. The contractor, working through the KYTC and ODOT project managers, shall be required to communicate and coordinate with the Covington project director regarding noise abatement measures within the City of Covington and the Cincinnati DOTE regarding noise abatement measures within the City of Cincinnati. Such measures may include limiting construction activities and crews and construction noise during specific times of day, days of the week, number of consecutive hours or days, and special events and limiting activities that create high levels of construction noise, such as pile driving and blasting, to certain times of day to the extent practicable.
- q. The project plans shall contain requirements that the contractor shall comply with all state and local requirements for maintaining air quality during construction.
- r. ODOT will work with the City of Cincinnati to conduct before/after surveys of other roadways impacted by increased traffic during construction. ODOT will restore those roadways to pre-construction conditions once the project is complete.



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- s. BMPs from ODOT's *Construction and Material Specifications*, including *Supplemental Specification 832 Temporary Sediment and Erosion Control* will be used during and after construction to control erosion and sediment and protect water quality.
 - t. Contractors shall comply with all applicable U.S. Environmental Protection Agency (USEPA) diesel emission requirements. Contractors will utilize construction equipment that meets USEPA Tier 4 diesel engine standards to the greatest extent practicable.
 - u. All diesel-powered construction equipment will use ultra-low sulfur diesel fuel.
 - v. Contractors will schedule and conduct activities and employ appropriate protection techniques to minimize impacts to air quality and prevent hazardous or objectionable air quality conditions, particularly for drilling, cutting, grinding, abrasive blasting, or similar activities to the extent practicable.
 - w. The burning of any materials will not be permitted on the construction site.
 - x. Contractors will develop and implement a dust control plan that includes proactive measures to prevent discharge of dust into the atmosphere. The plan will be approved by KYTC and ODOT and will define roles and responsibilities for implementation and monitoring for compliance. Expectations and timelines established in the dust control plan will be in accordance with KYTC's *Standard Specifications* and ODOT's *Construction and Material Specifications, Item 616 Dust Control*.
 - y. The following measures will be employed to protect sensitive receptors such as parks, hospitals, schools, day care facilities, building fresh air or ventilation intakes, older adult housing, and convalescent facilities from impacts of diesel exhaust fumes:
 - i. Diesel-powered engines will be located away from building air conditioners and windows to the greatest extent practicable.
 - ii. Exposure to diesel exhaust within 50 feet of sensitive receptors will be minimized in terms of concentration and time to the greatest extent practicable.
 - iii. Idling time for diesel-powered equipment will be minimized to the greatest extent practicable.
 - z. Digital signs such as arrow panels and variable electronic message boards will use solar power to the greatest extent practicable.
 - aa. Contractors will develop and implement an outdoor ambient air quality monitoring program during construction for the following sensitive areas:
 - i. In the vicinity of Beechwood Elementary and High School in Fort Mitchell, Kentucky.
 - ii. In the vicinity of Notre Dame Academy in Fort Wright and Park Hills, Kentucky.
 - iii. East and west of I-71/I-75 between Edgecliff Road and West 5th Street in Covington, Kentucky.
 - iv. East and west of I-75 between 9th Street and Findlay Street in Cincinnati, Ohio.



The program will be overseen by KYTC and ODOT. Contractors will develop and implement a plan to be approved by KYTC and ODOT that identifies locations, times, and durations of air quality monitoring and protocols to address any exceedances of the National Ambient Air Quality Standards (NAAQS) should they be observed, including procedures for determining whether any exceedances are caused by project-created emissions or other emission sources. Locations, times, and durations for air quality monitoring will be determined during final design; in consideration of land uses, non-project sources of emissions, and construction phasing; and in consultation with the city in which the monitoring will occur. The plan will define a program for background particulate monitoring to establish and routinely verify baseline levels prior to the commencement of active construction in the vicinity of any monitoring location. During active construction in the vicinity of any monitoring location, real-time particulate matter data will be collected at an interval to be established in the ambient air quality monitoring plan (for example, measures every 10 seconds and logged in 15-minute periods). Particulate matter data will be time-weighted over 24 hours for comparison to the NAAQS. If the data show that air quality levels are approaching a concern level (to be established in the monitoring plan) that may result in an exceedance of the 24-hour NAAQS for PM_{2.5}, the 1-hour NAAQS for nitrogen dioxide, or the 8-hour NAAQS for carbon monoxide, then project-related operational and/or mechanical deficiencies will be identified and corrected, as required, if they are determined to be contributing factors. If the data result in any air quality levels that exceed the above-stated NAAQS for PM_{2.5}, nitrogen dioxide, or carbon monoxide that are caused by project-related emissions, then the applicable construction activities will be suspended until the deficiencies are identified and corrected.

- bb. The project staff will be educated on the noise sensitive receptors. This will include not only their location, but also the type (resident, school, business, etc.), hours of operation, and any prior concerns communicated.
- cc. Motorized construction equipment will be equipped with an appropriate, well-maintained muffler and will include silencers on both air intakes and air exhaust when reasonable. Contractors will have an established maintenance program for their equipment fleet and will ensure that necessary maintenance/repairs are performed before putting equipment into service. Equipment will also be pulled out of service to address deficiencies identified during operation. When noise sensitive receptors are present, specific attention will be given to the muffler systems on all combustion engines, as that is often a primary source of construction noise.
- dd. To the greatest extent practicable, construction equipment and vehicles carrying rock, concrete, or other materials will utilize designated routes that will cause the least disturbance to noise sensitive receptors.
- ee. Where practicable, existing features will be utilized to minimize the impacts of construction noise on noise sensitive receptors. Such features will include bridges, berms, retaining walls, and buildings. Temporary features already necessary for performing the work, such as stockpiles and tool trailers, may also be strategically utilized to assist in this effort. Where necessary, temporary features, such as hay bales, will be constructed specifically to minimize construction noise where noise sensitive receptors are present.



- ff. Where noise sensitive receptors are present, specific consideration will be given to the selection of equipment to be utilized. This may include the age of the equipment as newer equipment typically employs new technology with respect to emissions and noise, if shielding or engine enclosures are standard, size appropriateness, and power source (gas/diesel, electric/solar, pneumatic, hydraulic).

Supplemental EA revisions: Item (a) was included in the 2012 FONSI. Item (t) was included in the 2012 FONSI but was modified to reference current requirements. Items (b) through (s) and (u) through (ff) were added to reflect KYTC's and ODOT's commitment to minimizing and mitigating temporary construction impacts.

33. Coordination with utilities will continue through the design and construction phases to minimize project-related impacts to their infrastructure.

Supplemental EA revisions: This commitment was updated to reflect KYTC's and ODOT's commitment to minimizing utility impacts.

34. KYTC, the City of Covington, and Kentucky Sanitation District 1 (SD1) will act cooperatively on water quality issues within the Ohio River and Willow Run watersheds. KYTC will participate with City and SD1 efforts to bring applicable agencies together to discuss, investigate, and evaluate mutually beneficial arrangements. KYTC will separate all interstate runoff from the Brent Spence Bridge corridor from the existing combined sewer system. In addition, KYTC will work with the City of Covington and SD1 to address surcharging in the Peaselburg neighborhood based on the local design criteria for a 25-year storm.

Supplemental EA revisions: This commitment was updated to reflect KYTC's commitment to separating all highway drainage from the combined sewer system. It was also updated to include the City of Covington, which reassumed stormwater responsibility from SD1. The City is responsible for stormwater runoff until it reaches the combined sewer system, at which point it becomes the responsibility of SD1. The commitment was also updated to include a reference to the Willow Run watershed and efforts to address surcharging in the Peaselburg neighborhood.

35. The project will separate highway drainage from the existing combined sewer system in Ohio, and ODOT will partner with the Metropolitan Sewer District of Greater Cincinnati to build infrastructure to drain directly to Mill Creek and/or the Ohio River. Vegetated options for stormwater best management practices (BMPs) will be utilized to the maximum extent practicable. Given the dense urban land use in the project area, the majority of the stormwater BMP treatment requirements will be addressed via off-site mitigation. ODOT will continue to coordinate off-site mitigation measures with the Ohio Environmental Protection Agency (OEPA) as each project phase progresses through detailed design.

Supplemental EA revisions: This commitment was updated to reflect ODOT's commitment to working cooperatively with MSD to separate highway drainage from the combined sewer system.



36. The following mitigation measures for the Section 4(f) use of the Goebel Park Complex will be implemented:

- a. Development of a new Goebel Park Complex Master Plan. Approximately \$100,000 of project funds will be utilized for the development of a new Goebel Park Complex Master Plan. The City of Covington will engage community members and key stakeholders in the new master planning process, which will assess existing conditions and community priorities for the Goebel Park Complex, establish a broad vision for how the complex can meet identified goals and needs, develop a list of recommended actions, and outline an implementation plan for a minimum 10-year planning period. The final Master Plan will document the future plans, uses, and locations of facilities in the Goebel Park Complex. The new Goebel Park Complex Master Plan process will begin within six months after NEPA approval and must be completed within one year of initiation of the planning process.
- b. The use of an estimated 2.84 acres of flood-prone park property from the southwest corner of the Goebel Park Complex (2.34 acres in Goebel Park and 0.50 acre in Kenney Shields Park) will be mitigated and replaced with an estimated 2.23 acres of currently state-owned property that is at a higher elevation, not prone to flooding, and adjacent to the northwest corner of the Goebel Park Complex.
- c. The taking of approximately 360 feet of walking trail will be mitigated by reconstructing the walking trail within the complex at a location to be determined in coordination with the City of Covington during the project's final design phase.
- d. The taking of the basketball courts and associated resources (in Kenney Shields Park) will be mitigated by allocating approximately \$94,500 of project funds for the replacement and enhancement of the basketball courts or for other outdoor recreation facilities within the park to be established during the new master planning process facilitated by the City of Covington.
- e. Building a new outdoor pool and associated facilities within the Goebel Park Complex. This will be mitigated by funding approximately \$1,337,400 of project funds for the construction of a new outdoor pool and associated facilities or other comparable aquatic facility serving the same recreational purpose within the Goebel Park Complex to be established during the new master planning process facilitated by the City of Covington.
- f. In the event that project phasing requires the basketball courts to be impacted prior to replacement facilities being constructed, up to \$75,000 of additional project funds will be allocated to construction of a temporary facility within a portion of the Goebel Park Complex not impacted by the project.

Supplemental EA revisions: The 2012 FONSI grouped this commitment with other resources. For the supplemental EA, separate commitments were developed to address each resource. This commitment was also updated to reflect current mitigation and enhancement measures for the Goebel Park Complex.



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37. The following measures will be implemented to minimize harm during construction activities affecting the Firefighters Memorial:
- a. Access to the resource shall be maintained at all times, except for the time needed to temporarily occupy the property, which shall be less than the time needed for construction of the project.
 - b. Temporary construction fencing shall be installed along proposed construction limits prior to the start of construction activities to protect the resource and the public.
 - c. Appropriate signage shall be installed to alert users of the resource of construction activities, access restrictions or closures, and to direct users to secondary access points.
 - d. The contractor will be required to closely coordinate the construction schedule with ODOT and the City of Cincinnati prior to the start of construction activities affecting the resource.
 - e. The area will be returned to the same use as exists today.

Supplemental EA revisions: This resource was not addressed in the 2012 EA; therefore, an associated commitment was not included in the 2012 FONSI. It was added to document measures to minimize harm to the Firefighters Memorial that were developed in coordination with the Cincinnati Park Board.

38. In accordance with 23 CFR part 774 (Section 4(f)), measures to mitigate *de minimis* Section 4(f) impacts to the Queensgate Playground and Ball Field will comply with the [Memorandum of Agreement \(ODOT Agreement Number 16588\)](#), executed May 5, 2011:
- a. ODOT will acquire property from the City of Cincinnati Recreation Commission (CRC) in accordance with all applicable federal and state regulations. Compensation for land and property, excluding ball field lighting, will be via the normal ODOT property acquisition procedures.
 - b. ODOT, upon receipt of an acceptable plan detailing how the CRC will utilize funds for recreational purposes, will pay \$198,050 to the CRC to be applied toward the submitted plan (including ball field lighting).
 - c. Limited access right-of-way fencing along the park and highway boundary will be installed along the CRC property as part of ODOT's construction project. The fence will consist of 10-foot-high chain link fencing.

Based on updated noise analyses, a 10-foot noise barrier is proposed along the park and highway boundary in lieu of the limited access right-of-way fencing. If the noise public involvement concludes that a noise barrier will not be built, then the limited access right-of-way fencing will be installed as noted above.

Supplemental EA revisions: The 2012 FONSI grouped this commitment with other resources. For the supplemental EA, separate commitments were developed to address each resource. The CRC submitted a site plan detailing how the CRC would utilize the mitigation funds on November 2, 2012. ODOT paid \$198,050 to the City of Cincinnati in fulfillment of its financial commitments in the MOA for the Queensgate Playground and Ball Field on December 12, 2012. The City of Cincinnati reconfigured the ball fields, and ODOT acquired the property in 2014.



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39. The following measures will be implemented to minimize harm during construction activities affecting Ezzard Charles Park (formerly Laurel Park):
- a. Access to the resource shall be maintained at all times, except for the time needed to temporarily occupy the property, which shall be less than the time needed for construction of the project.
 - b. Temporary construction fencing shall be installed along proposed construction limits prior to the start of construction activities to protect the resource and the public.
 - c. Appropriate signage shall be installed to alert users of the resource of construction activities, access restrictions or closures, and to direct users to secondary access points.
 - d. Where pavement is removed, the roadway and roadbed material will be removed to clean subgrade, and areas no longer occupied by roadway pavement will be restored.
 - e. The area will be returned to the same use as exists today.
 - f. The contractor will be required to closely coordinate the construction schedule with ODOT and the City of Cincinnati prior to the start of construction activities affecting the resource.
 - g. Trees within the existing tree lawn along Ezzard Charles Drive will not be removed. If tree removal becomes necessary during construction, the removal will be coordinated with and approved by the Cincinnati Park Board.

Supplemental EA revisions: This resource was not addressed in the 2012 EA; therefore, an associated commitment was not included in the 2012 FONSI. It was added to document measures to minimize harm to Ezzard Charles Park that were developed in coordination with the Cincinnati Park Board.

40. During design and construction, KYTC and ODOT will notify the National Park Service of any access restrictions affecting the Lewis and Clark National Historic Trail prior to any project-related activities affecting the trail, which is the Ohio River. In addition, KYTC and ODOT will install appropriate signage to alert users of the trail of project-related activities or access restrictions in the Ohio River.

Supplemental EA revisions: This resource was not addressed in the 2012 EA; therefore, an associated commitment was not included in the 2012 FONSI. It was added to document measures to minimize any harm to the Lewis and Clark National Historic Trail.

41. During detailed design, KYTC will coordinate the project's right-of-way acquisition and construction schedules with the City of Covington's new master planning efforts for the Goebel Park Complex to determine when impacts will occur and when property will be available. The project plans will require the contractor to remove the interstate infrastructure and grade the replacement land in coordination with the City of Covington. KYTC will transfer the ownership of the replacement land to the City of Covington after construction of the West 5th Street ramp is complete. Once the land transfer is



complete, the City of Covington will continue all future maintenance responsibility for the Goebel Park Complex, including the replacement land. FHWA and KYTC will ensure the Kentucky Department for Local Government (DLG) will complete the Section 6(f) conversion in accordance with National Park Service (NPS) requirements within two years after KYTC acceptance of the completed work in the vicinity of the Goebel Park Complex.

Supplemental EA revisions: This commitment was updated to provide additional details about roles, responsibilities, and timing for the Section 6(f) conversion for the Goebel Park Complex.

42. Project-related activities affecting jurisdictional wetlands or streams or United States Army Corps of Engineers (USACE) Civil Works facilities will not commence until the applicable permits and/or permissions have been issued – Section 401 Water Quality Certification through the Ohio Environmental Protection Agency (OEPA) and the Kentucky Division of Water (KDOW), USACE Section 404 (and any applicable Section 10), United States Coast Guard (USCG) Section 9, and/or USACE Section 408 permission – for any project-related activities or construction subsections impacting these resources to ensure compliance with the Clean Water Act of 1972, the Rivers and Harbors Act of 1899, and 33 United States Code (USC) Section 408.

Supplemental EA revisions: This commitment was updated to provide a more comprehensive list of permit requirements in accordance with current state and federal regulations.

43. All project-related activities planned to occur in waterways or that may affect United States Army Corps of Engineers (USACE) Civil Works facilities (i.e., geotechnical investigations, temporary dewatering, construction access, etc.) will be coordinated with KYTC and ODOT to determine permitting and/or permission requirements prior to conducting such activities.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to better define activities requiring coordination for permitting requirements.

44. All applicable permit conditions will be included in the project's construction documents, and all permit conditions will be followed during construction.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to provide a mechanism for tracking conditions that are agreed upon during permitting activities.

45. Jurisdictional wetland and stream mitigation will be provided in accordance with the approved Section 404 permit and Section 401 Water Quality Certification.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to provide a mechanism for tracking mitigation that is agreed upon during permitting activities.



46. Floodplain/floodway permits will be obtained before construction activities impacting floodplains/floodways occur – floodplain permits from the City of Cincinnati and the City of Covington and a Conditional Letter of Map Revision (CLOMR)/Letter of Map Revision (LOMR) from the Federal Emergency Management Agency (FEMA) for regulated floodways.

Supplemental EA revisions: Although floodplain/floodway requirements have not changed since the 2012 EA, a commitment for permits and coordination was not included in the 2012 FONSI. This commitment was added to provide a comprehensive list of permitting requirements.

47. A National Pollutant Discharge Elimination System (NPDES) Permit will be obtained from the Ohio Environmental Protection Agency (OEPA) before construction activities begin.

Supplemental EA revisions: Although an NPDES permit would have been required in 2012, a commitment to obtain the permit was not included in the 2012 FONSI. This commitment was added to provide a comprehensive list of permitting requirements.

48. A Kentucky Pollutant Discharge Elimination System (KPDES) Permit will be obtained from the Kentucky Division of Water (KDOW) before construction activities begin.

Supplemental EA revisions: Although a KPDES permit would have been required in 2012, a commitment to obtain the permit was not included in the 2012 FONSI. The commitment was added to provide a comprehensive list of permitting requirements.

49. ODOT will build a wider bridge on Ezzard Charles Drive over I-75. The widened bridge will provide an additional 50 feet of green space on each side that could support potential future civic space or retail development by the City of Cincinnati. ODOT will fund the cost of the bridge design and will share the construction cost with the City. ODOT and the City will develop cost sharing and maintenance agreements prior to construction.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added in response to public and stakeholder comments and to reflect ODOT's commitment to providing enhanced community benefits.

50. In accordance with current policies, ODOT will transfer approximately 10 acres of excess land opened up by refinements to the 3rd Street, 4th Street, 5th Street, and 6th Street ramps to the City of Cincinnati for potential redevelopment and/or public use.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added in response to public and stakeholder comments and to reflect ODOT's commitment to providing enhanced community benefits.



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51. The following refinements suggested during public involvement activities will be further evaluated during the innovation process for the Phase III progressive design-build contract:
- a. Eliminate the 3rd Street ramp to the northbound collector-distributor system in Cincinnati and redirect traffic to the proposed connection at the end of the Clay Wade Bailey Bridge;
 - b. Reconfigure the lanes on the Clay Wade Bailey Bridge to add bicycle lanes;
 - c. Reconfigure 6th Street in Cincinnati to accommodate two-way traffic; and
 - d. Design concepts submitted by the Bridge Forward Coalition.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to address public comments received during the project development process.

52. KYTC will implement the commitments and good faith cooperation measures outlined in the *Memorandum of Understanding between the City of Covington, Kentucky and the Kentucky Transportation Cabinet Regarding Brent Spence Bridge Project and NEPA Reevaluation Process* executed June 15, 2022 and the *Memorandum of Agreement Between the Kentucky Transportation Cabinet and the City of Covington, Kentucky* executed June 15, 2022.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to reflect KYTC's commitment to working cooperatively with the City of Covington throughout the planning, design, construction, and operation of the project.

53. KYTC and ODOT will continue to coordinate with the Project Advisory Committee to provide project updates and gather feedback during the design and construction of the project. At a minimum, the Project Advisory Committee will be engaged at the following critical milestones: during the consideration of innovation concepts in the “proof-of-concept” phase of the Phase III progressive design-build contract, at the end of the “project development” phase of the Phase III progressive design-build contract, and prior to the construction of each project phase.

Supplemental EA revisions: The 2012 FONSI included a commitment for ongoing coordination with the Project Advisory Committee. It has been updated to reflect specific goals and timing for that coordination.

54. The project *Public Engagement Plan* will be updated to guide public and stakeholder engagement (including environmental justice populations, identified socioeconomic populations and groups, and disadvantaged communities) during detailed design and construction.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to reflect KYTC's and ODOT's commitment to public and stakeholder engagement during the design and construction of the project.



55. Information about design decisions, construction sequencing, project highlights, and construction schedules will be shared with the public through project website updates, social media, e-newsletters, local media, presentations to local groups, and virtual project updates. Information about ongoing project activities will be shared on a regular basis, and information about milestones (such as the start of a construction phase) will be shared as appropriate. Specific to the Phase III progressive design-build contract, the public will be informed of major decisions, as appropriate.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to reflect KYTC's and ODOT's commitment to ongoing public and stakeholder engagement.

56. KYTC and ODOT will establish multiple methods for the public to make inquiries about the project during detailed design and construction (including via the project website, email, direct mailings, and phone) and will provide timely responses to inquiries that are received.

Supplemental EA revisions: This commitment was not included in the 2012 FONSI. It was added to reflect KYTC's and ODOT's commitment to ongoing public and stakeholder engagement.

