

South Loop Project

Final Environmental Assessment



Kansas City, Missouri

March 31, 2025

KANSAS CITY I-670 SOUTH LOOP PROJECT

Structural Deck over Interstate 670

Kansas City, Jackson County, Missouri

Kansas City Port Authority Job Number: 611200

Environmental Assessment

Submitted Pursuant to 42 USC 4332(2)(c) and 49 USC 303 by the

U.S. Department of Transportation

Federal Highway Administration

And

Missouri Department of Transportation

2025-04-14 | 2:04 PM CDT

Date of Approval

2025-04-14 | 1:49 PM CDT

Date of Approval

2025-04-14 | 1:33 PM CDT

Date of Approval

Signed by:

Scott Stalleneyer

E5F28B3FAB3849C...

DocuSigned by:

Eric Schroeter

5F8CCFE9B29E499...

DocuSigned by:

Mario Vasquez

C97A8D50F4784D9...

For the Federal Highway Administration

For the Missouri Department of Transportation

For the City of Kansas City

The following persons may be contacted for additional information concerning this document:

Kevin Ward, P.E.
Missouri Division Administrator
Federal Highway Administration
3220 W Edgewood, Suite H
Jefferson City, MO 65109
Phone: (573) 418-2409

Mr. Eric Schroeter, P.E.
Chief Engineer
Missouri Department of Transportation
P.O. Box 270
Jefferson City, MO 65102
Phone: (573) 526-2903

Mario Vasquez
Assistant City Manager
City of Kansas City
414 E. 12th Street
Kansas City, MO 64106
(816) 513-1313

The Port Authority of Kansas City (Port KC), The Downtown Council of Kansas City (DTC), and the City of Kansas City, Missouri (KCMO), in coordination with the Missouri Department of Transportation (MoDOT) and the Federal Highway Administration (FHWA), is preparing a Location Study and National Environmental Policy Act (NEPA) investigation of the construction of a structural deck over Interstate 670 (I-670) in Kansas City, Missouri. The study will be referred to as the South Loop Project. The South Loop Project is an environmental study that will investigate and identify improvements to connection of city districts and transportation networks.

MoDOT and FHWA signatures grant approval to distribute this information for public and agency review and comment. Such approval does not commit to approve any future requests to fund the proposed alternative.

TABLE OF CONTENTS

1.0	Purpose and Need	1
1.1	Project Area Description and Study Overview	1
1.2	Purpose and Need Summary	5
1.3	Elements of the Purpose and Need	5
1.4	Logical Termini and Independent Utility	8
2.0	Alternatives	10
2.1	No-Build Alternative	10
2.2	Build Alternatives	10
2.3	Build Alternatives Screening Process and Criteria	17
2.4	Summary of Alternatives Screening and Evaluation	18
2.5	Selection of the Preferred Alternatives	21
2.6	Other Considerations for the Preferred Alternatives	22
3.0	Environmental Analysis	25
3.1	Land Use and Zoning	25
3.2	Demographics and Economics	26
3.3	Neighborhoods and Community Resources	31
3.4	Parks, Recreation, and Section 4(f) Resources	35
3.5	Bicycle and Pedestrian Facilities	36
3.6	Right-of-Way and Displacements	38
3.7	Transportation	38
3.8	Cultural Resources and Section 106	43
3.9	Construction	47
3.10	Emergency Routes	48
3.11	Water Resources	49
3.12	Surface Waters and Water Quality	49
3.13	Floodplains	51
3.14	Wildlife and Habitat	52
3.15	Threatened and/or Endangered Species	52
3.16	Geology and Soils	55
3.17	Air Quality	56
3.18	Noise	57
3.19	Hazardous Materials	59

3.20	Visual Resources.....	67
3.21	Utilities.....	68
3.22	Safety, Security, and I-670 Tunnel Considerations	70
3.23	Cumulative and Indirect Effects	74
3.24	Resource Impact Summary	76
4.0	Public Involvement and Agency Coordination	77
4.1	Public Meetings	77
4.2	Stakeholder Outreach	81
4.3	Public Surveys	81
4.4	Agency Coordination	82
5.0	Environmental Commitments and Mitigation.....	86
6.0	References	90

APPENDICES

A	Preliminary Preferred Alternative Construction Plans
B	Traffic and Safety Analysis Reports
C	Cultural Resource Materials
	- Attachment A – Section 106 Cultural Resource Assessment
	- Attachment B – Programmatic Agreement (Draft)
	- Attachment C – SHPO Response
D	Noise Technical Memorandum
E	Public Involvement Materials
F	Agency and Tribal Coordination Letters

LIST OF TABLES

2-1	Alternatives Screening Criteria Matrix	19
3-1a	Population Trends State of Missouri.....	27
3-1b	Population trends Jackson County	27
3-1c	Population Trends Kansas City	28
3-2	Racial Makeup of the Project Study Area	28
3-3	Household Characteristics.....	29
3-4a	Employment Growth Trends Jackson County	30
3-4b	Employment Growth trends Kansas City	30
3-5	Unemployment Trends.....	30
3-6	Trails Within a Half-Mile of the Project Study Area	37
3-7a	Existing, Future No-Build, and Preferred Alternative Local Intersection LOS AM Peak Hour ...	41
3-7b	Existing, Future No-Build, and Preferred Alternative Local Intersection LOS PM Peak Hour	41
3-8a	Predictive Safety Analysis Results Number of Crashes.....	42
3-8b	Predictive Safety Analysis Results Delta (No-Build to Build).....	42
3-8c	Predictive Safety Analysis Results Percent Change	43
3-9	Federal & State Listed Threatened or Endangered Species	53

3-10	Tunnel Effect (dBA) Added to Noise Levels Based on Distance from Roadways and Tunnel Openings	59
3-11	Hazardous Material Sites Within 500-Feet of the Project Study Area – EDR Databases.....	61
3-12	Hazardous Material Sites Near Project Study Area – MoDNR Database Only	67
3-13	Summary of Impacts	76
4-1	List of Lead and Participating Agencies	83

LIST OF FIGURES

1-1	Project Location Map.....	2
1-2	Project Study Area Map	3
1-3	Transportation Surrounding the South Loop	7
1-4	I-670 Corridor in the South Loop Project Area	8
2-1	Western Superblock Build Alternative	11
2-2	Typical Cross-Section for Eastbound Truman Road	12
2-3	Eastern Superblock Build Alternative.....	13
2-4	Individual Blocks Build Alternative	14
2-5	Double Superblock Build Alternative.....	16
3-1	Conditional and Mandatory Requirements for Tunnels	71

LIST OF EXHIBITS – Located at the end of corresponding chapter

3-1	Land Uses
3-2	Zoning Designations
3-3	Community Resources
3-4	Limited English Speaking Populations
3-5	Parks and Recreation Areas
3-6	Bicycle and Pedestrian Facilities
3-7	Transportation Routes
3-8	Water Resources
3-9	Noise Sensitive Receptors
3-10	Hazardous Material Sites
3-11	Utilities
4-1	Survey #1 Responses by Zip Code
4-2	Survey #2 Responses by Zip Code

ACRONYMS AND ABBREVIATIONS

ACS	American Community Survey
ADA	Americans with Disabilities Act
AHJ	Authority Having Jurisdiction
APE	Area of Potential Effect
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
BRT	Bus Rapid Transit
CAA	Clean Air Act
CBD	Central Business District
CCTV	Closed-Circuit Television
CFR	Code of Federal Regulations
CMR	Conditional Mandatory Requirements
CNG	Compressed Natural Gas
CO	Carbon Monoxide
CWA	Clean Water Act
DTC	Downtown Council of Kansas City
dBA	A-weighted decibels
EA	Environmental Assessment
EDR	Environmental Data Resources, Inc.
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
EV	Electric Vehicle
FAS	Fire Alarm System
FCL	Flammable Combustible Liquids
FEMA	Federal Emergency Management Agency
FFFS	Fixed Fire Fighting Systems
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FLC	Flammable Liquid Cargo
FONSI	Finding of No Significant Impact
HGV	Heavy Goods Vehicle
HOA	Homeowners Association
HUC	Hydrologic Unit Code
HVAC	Heating, Ventilation, and Air Condition
ITS	Intelligent Transportation System
ITM	Inspection, testing, and maintenance
JSP	Job Special Provision
KCATA	Kansas City Area Transportation Authority
KCFD	Kansas City Fire Department
KCPD	Kansas City Police Department
KCMO	City of Kansas City, Missouri

KC Streetcar	Kansas City Streetcar
Leq(h),	Hourly Equivalent Sound Level
LEP	Limited English Proficiency
LHD	Linear Heat Detection
LOS	Level of Service
L RTP	Long Range Transportation Plan
LWCF	Land and Water Conservation Act Fund
MARC	Mid-America Regional Council
MBTA	Migratory Bird Treaty Act
MDC	Missouri Department of Conservation
MHTC	Missouri Highways and Transportation Commission
MoDNR	Missouri Department of Natural Resources
MGS	Missouri Geological Survey
MoDOT	Missouri Department of Transportation
MR	Mandatory Requirements
MSAT	Mobile Source Air Toxics
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act
NESC	National Electrical Safety Code
NFPA	National Fire Prevention Association
NFHL	National Flood Hazard Layer
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NOI	Notice of Intent
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
OCC	Operations Control Center
OEQ	Office of Environmental Quality
PA	Programmatic Agreement
PCC	Precast Concrete Panels
PLC	Programmable Logic Controller
PORT KC	Port Authority of Kansas City
ROW	Right-of-Way
SCADA	Supervisory Control and Data Acquisition
SEMA	Missouri State Emergency Management Agency
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SLASS	Synchronized Longitudinal Announcement Speaker System
SMARS	Site Management Reporting System
SWPPP	Stormwater Pollution Prevention Plan
TIP	Transportation Improvement Program
TMC	Traffic Management Center

TMDL	Total Maximum Daily Load
TPRD	Temperature Pressure Relief Device
UPS	Uninterruptible Power Supply
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VCP	Missouri Volunteer Cleanup Program
VHT	Vehicle Hours Traveled
VMT	Vehicle Miles Traveled



1.0 Purpose and Need

The proposed project would erect a structural deck over a four-block section of Interstate 670 (I-670) in downtown Kansas City, Jackson County, Missouri. The project, known locally as the South Loop Project, would create approximately 5.5-acres of new, arterial street level property above I-670 between Wyandotte Street and Grand Boulevard. This new property will be used in a variety of capacities, including passive green space, community gathering, and public and private events.

This Purpose and Need section will discuss the community challenges, as well as the project history and project study area.

1.1 Project Area Description and Study Overview

Project Study Area Description

The South Loop Project is located in Kansas City, Missouri (KCMO), between the southern edge of the Central Business District (CBD) and the northern edge of the Crossroads Arts District. The project boundaries, shown in **Figure 1-1** and **Figure 1-2**, are the westbound and eastbound traffic lanes of Truman Road (15th Street) on the north and south, respectively, 50-feet west of Broadway Boulevard and 50-feet east of Grand Boulevard. The project study area is a rough rectangle approximately 2,300 feet in length (from east to west) and 260 feet wide (north to south), although the project study area width varies due to the configuration and location of Truman Road and its right-of-way (ROW). I-670 within the project study area is constructed approximately 20 feet below-grade under Truman Road, although this depth of I-670 varies throughout the corridor. I-670 connects with I-35 in the southwestern portion of the downtown loop and connects with I-70 and U.S. 71 in the southeast portion of the loop. Truman Road functions as an urban arterial allowing freeway and local traffic to access Downtown. Bridging the interstate in the project area are (in the order of west to east) Broadway Boulevard, Central Street, Wyandotte Street, Baltimore Avenue, Main Street, Walnut Street, and Grand Boulevard.

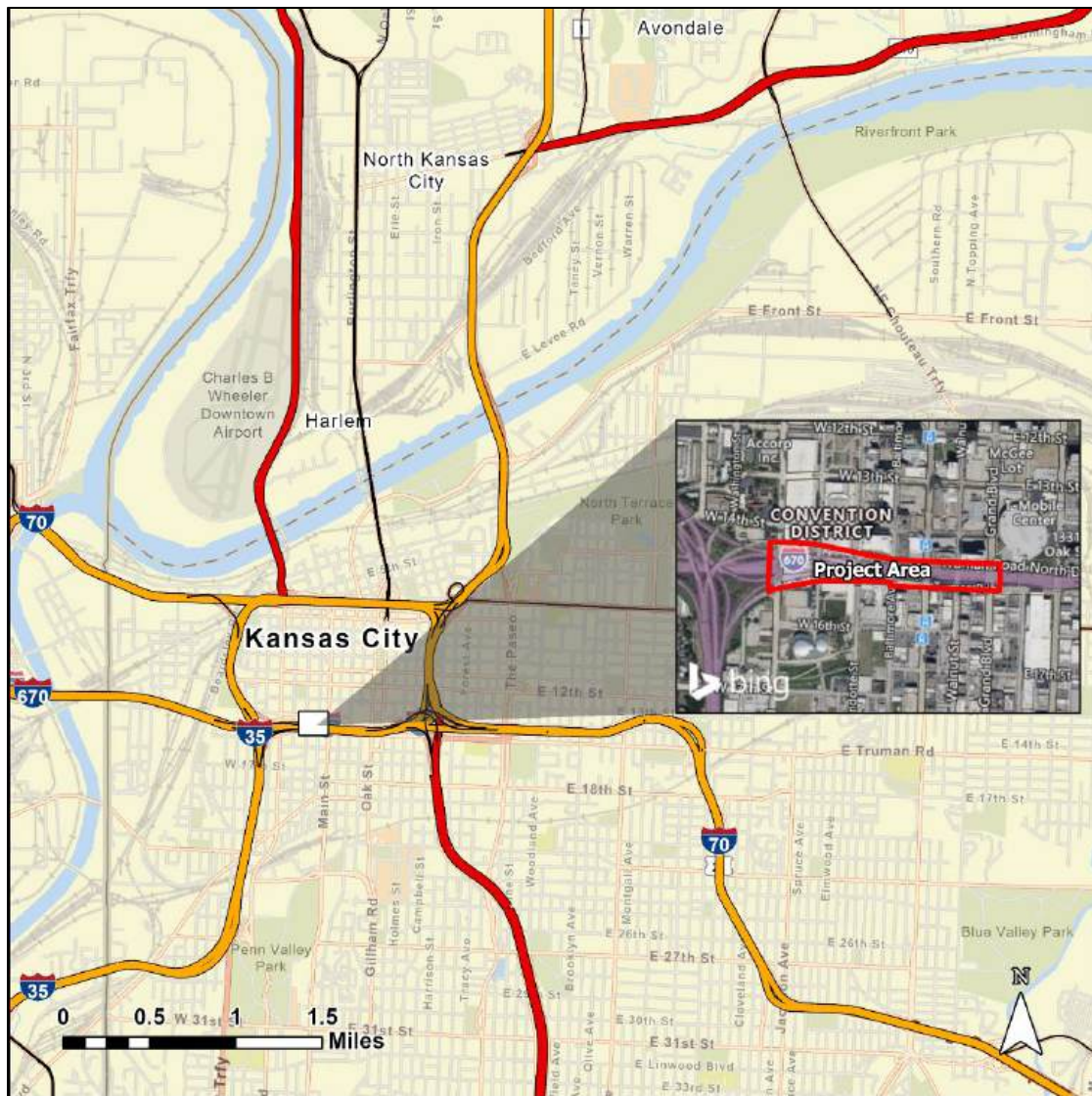


Figure 1-1: Project Location Map



Figure 1-2: Project Study Area Map

Study Overview

The Port Authority of Kansas City (Port KC), the Downtown Council of Kansas City (DTC), and KCMO proposes to build a structural deck over a four-block section of I-670 to construct a multimodal, green mobility hub with a resilient design, creating regional job access, green and healthy living space, and private development. Located on the south side of Kansas City's CBD on top of a below-grade portion of I-670, the project would establish a 5.5-acre multimodal connector and destination to spur adjacent investment, while also addressing community challenges created when I-670 was constructed over five decades ago.

I-670 operations under the proposed South Loop Project will remain without capacity reduction or reconfiguration of entrance or exit ramps. Lateral width of I-670 will be maintained as well as lane and shoulder configuration and, therefore, capacity will not be negatively affected within the project study area [Commitment 1]. Existing guardrail and barrier protection will be eliminated along the center median and replaced by the central tunnel wall. Existing raised pavement sections behind existing low-profile curb will be removed and replaced with shoulder pavement and barrier in some locations. As a result of these improvements, some locations may have slight improvements to the lateral offset. No other notable existing obstacles exist in the tunnel limits that could be feasibly modified. Additionally, vertical clearance issues will be addressed during final design. A minimum of 15'6" vertical clearance will be met and included in the final design documentation [Commitment 2]. Design exceptions for the project may include the following:

- Minimum vertical clearance of 15'6";
- Variance for overhead sign size within the tunnel; and,
- Locations where existing shoulder widths do not meet current criteria.

Design exceptions identified during final design will be designed and approved under coordination with the Missouri Department of Transportation (MoDOT) and Federal Highway Administration (FHWA). The project would also replace the Walnut Street bridge over I-670, which is nearing the end of its useful life, to prioritize open green space and alternative modes of transportation. The other three bridges over I-670, the Main Street, Baltimore Avenue, and Grand Boulevard bridges, were replaced in 2015, 2021, and 2016, respectively, and are in good condition.

The segment of I-670 within the project limits was built in 1968, while the remaining portions to the west were constructed over the next two decades and completed in 1991. In 2007, the KCMO, conducted a feasibility study to produce methods to mitigate the barrier that I-670 created, which separated city districts. The feasibility study first envisioned a structural deck or "link" and explored engineering considerations for future planning and design. In 2017, an economic impact study was completed and estimated the project would generate approximately \$490 million in economic benefits to Kansas City over its first 20 years.

Since the early 2000s, KCMO has seen significant investments near the project area, including the Power & Light District, T-Mobile Center, Loews Kansas City Hotel, Kauffman Center for the Performing Arts, and the KC Streetcar line on Main Street. However, the project area and its vicinity are characterized by car-oriented streets and bridges and a lack of multimodal hubs and connections, with amenities characteristic of a civic gathering space and regional destination.

Port KC, in coordination with KCMO and the DTC, are the project sponsors providing planning, conceptual design, and public engagement and outreach leadership for the South Loop Project. The National Environmental Policy Act (NEPA) process and conceptual design planning stages of the project are being coordinated with FHWA and MoDOT to meet all applicable NEPA and

state and federal technical design requirements related to Interstate highways. Prior to final design, any design exceptions will be obtained for any design elements not meeting technical requirements [Commitment 3]. FHWA has determined the NEPA class of action for this project is an Environmental Assessment (EA). This EA and NEPA process for the South Loop Project was initiated on September 27th, 2023.

1.2 Purpose and Need Summary

The purpose of the South Loop Project is to address community challenges that were created when I-670 was constructed in the late 1960's. Those community challenges are:

- A physical separation between economic and cultural districts in the vicinity of downtown Kansas City; and
- Transportation infrastructure that prioritizes vehicles over any other transportation mode.

The South Loop Project EA will identify and evaluate improvements intended to construct a structural deck over I-670 in downtown Kansas City. To address these transportation issues, proposed improvements are expected to:

- Repair the physical separation between the economic and cultural districts that occurred when I-670 was constructed. The construction of the below-grade I-670 physically separated the CBD and the adjacent Crossroads Arts District. Proposed improvements will reconnect those districts.
- Enhance multimodal connections for residents of adjacent neighborhoods and the broader community. The current design of I-670 and the surrounding transportation infrastructure in the project area prioritizes vehicles over any other mode of transportation. Proposed improvements will enhance existing, and create new, multimodal connections.

1.3 Elements of the Purpose and Need

The transportation-related challenges identified in **Section 1.2** are further discussed in detail in this section.

1.3.1 Physical Separation of Economic and Cultural Districts

The formerly connected CBD and adjacent Crossroads Arts District have been physically separated since the construction of I-670 in the late 1960s. The Interstate segment was built 20-feet below-grade, requiring significant excavation.

An early plan for Kansas City's Downtown Loop was written into Kansas City's City Plan Commission's 1943 report, "*Suggested Location of Inter-Regional Highways*." The report suggested passing the freeways through blighted areas that would be cheap to acquire. The highways, the plan said, could boost those areas economically. However, the construction of I-670 physically separated the CBD and adjacent districts and created new social and economic barriers while exacerbating the existing economic challenges of nearby properties, especially those reliant on pedestrian pass-by activity. The introduction of the Interstate decreased the walkability of the area. The only connection between the two districts was, and currently is,

bridges which limit cross access points for pedestrians. The creation of a park would allow for additional access over the interstate to pedestrians along the corridor. Additionally, the establishment of a continuous park establishes a continuity of space and brings the neighborhoods together without the interstate's physical barrier. All pedestrian access to the park and across I-670 will be ADA compliant. Additionally, the sidewalks and trail facilities will provide connections across the park facility that are compliant with the Americans with Disabilities Act (ADA) [Commitment 4].

While properties immediately adjacent to I-670 have seen substantial reinvestment in commercial, entertainment, and residential development over the past decade, the effects of the Interstate barrier to the economic, cultural, and residential neighborhoods limits the potential for additional investment. In addition to the separation of districts, the I-670 bridges above the highway suffer from a car-oriented landscape and design. Reconnecting the two sides of I-670 through common shared community spaces and multimodal connections will potentially accelerate redevelopment within those districts.

1.3.2 Enhance Multimodal Connections for Adjacent Neighborhoods and the Broader Community

The current design of the transportation infrastructure in the South Loop Project area primarily prioritizes vehicles over any other mode of transportation due to the design of the arterial street network. While the corridor does include a sidewalk network and transit facilities, these currently only exist on the arterial street network, limiting connectivity. The car-centric design creates a barrier to opportunities for those without an automobile who are looking for access to opportunities, such as well-paying jobs in the CBD. The introduction of green space between the two districts would create continuity of space, reconnect neighborhoods and, easier access for pedestrian and bike modes of transportation.

While the existing roadway network includes adjacent sidewalks, the lack of pedestrian-mode design and transit-supportive amenities limits the use of the area as a viable mobility hub. As shown in **Figure 1-3**, existing and planned multimodal facilities run throughout downtown. Existing services moving through or surrounding the South Loop Project area include the KC Streetcar, RideKC MAX bus rapid transit (BRT), numerous RideKC local bus routes, and rideshare services such as IRIS, Rideshare KC, Kansas City BCycle, and RideKC Bike. KC Streetcar and MAX BRT are recent major federal funding investments; both transit services, and the broader community, would benefit from enhanced connectivity.

Opportunities exist to capitalize on planned and active transportation networks extending from the proposed South Loop Project area into adjacent neighborhoods, such as the Crossroads Arts District, the CBD, Paseo West, Hospital Hill, Parkview, 18th and Vine, Westside, and Quality Hill neighborhoods. Grand Boulevard, along the east end of the project area, serves as a transit emphasis corridor - the primary north-south bus corridor serving downtown Kansas City. Grand Boulevard is also a primary bicycle corridor, with existing bike lanes and planned cycle track improvements.

The completion of the South Loop Project will add additional east-west connections from the South Loop Project area along Truman Road which will connect to facilities like the "Greenline," a planned bicycle and pedestrian trail loop facility serving neighborhoods, including the ones listed above, thus creating an extended network of transportation options.

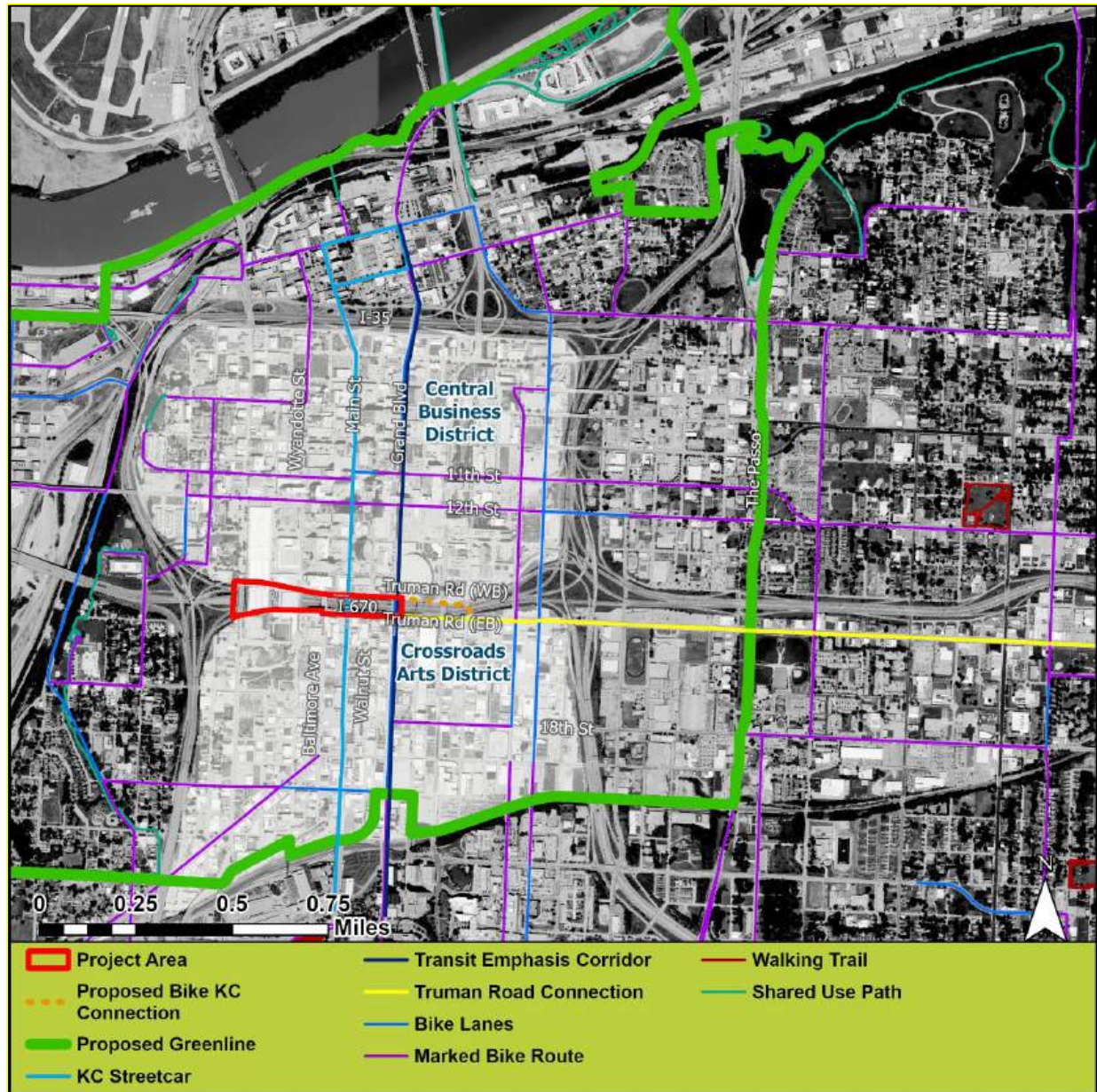


Figure 1-3: Transportation Surrounding the South Loop

Source: Bike KC, KCMO, ESRI

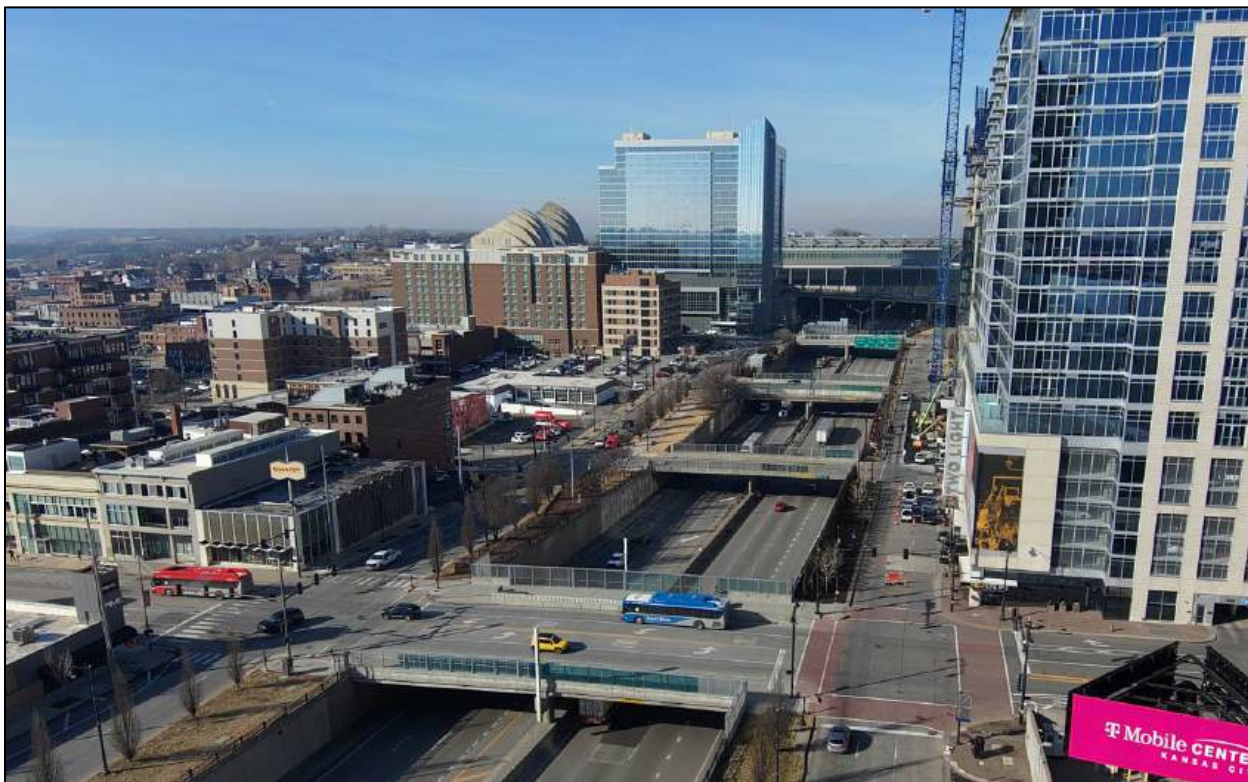


Figure 1-4: I-670 Corridor in the South Loop Project Area: Figure 1-4 shows an overhead view of the below-grade section of the I-670 corridor that runs through the South Loop project study area, dividing the CBD and the Crossroads Arts District. This view is from Grand Boulevard looking west.

1.4 Logical Termini and Independent Utility

Logical termini for transportation projects are the rational end points for a transportation improvement and serve as general geographical boundaries for a review of any environmental impacts triggered by the study. Based on these criteria, the logical termini for the South Loop Project EA are:

- East Terminus: 50-feet east of the Grand Boulevard intersections with Truman Road eastbound and westbound.
- West Terminus: 50-feet west of the Broadway Boulevard intersections with Truman Road eastbound and westbound.

The east terminus relates to the T-Mobile Center multi-use arena and adjacent Power and Light District, which is the current eastern-most activity center in the project study area. The local transportation system (Oak Street and further east) changes in character to serve the government building district to the north and light industrial uses to the south. The west terminus is directly west of Bartle Hall Convention Center and Ballroom, which limits further potential development above I-670 for the South Loop Project.

The South Loop Project has independent utility. It will function on its own, without further construction of adjoining segments. Traffic analyses will be completed to determine potential

traffic impacts to the surrounding system, including I-670 and adjacent arterials that connect to the project study area. Transportation improvements within the project study area, such as improvement or replacement of bridges, have recently been completed or identified for future improvements. This allows the construction of projects with independent utility that improve the overall system, but whose construction does not restrict, or otherwise alter, planning and construction of adjacent projects. However, certain proposed project elements may constrain future improvements on I-670. Those elements include:

- The proposed construction of a structural deck over I-670 may limit the ability to expand the number of lanes on I-670 as well as reconfigure existing ramps and lane configurations.
- The property created above I-670 will function as a park or recreational facility and will qualify for Section 4(f) protections as noted in Section 3.5 of this report; therefore, further improvements to I-670 below the property may be restricted or encounter complicating factors in order to avoid impacting the property. As a result, MoDOT and KCMO will enter into an air rights agreement that allows KCMO to occupy the space above I-670 for 99 years, with an option to renew for another 99-year term. This agreement shall satisfy the requirements of 23 CFR 774.11(i) by reserving the property for future transportation use and establishing the park as a temporary use.
- Project elements specifically associated with tunnels, which are critical to continued efficient operation of I-670 and the adjacent freeway system, may constrain future improvements to I-670. These elements may include lighting, signing/wayfinding, fire protection, ventilation, and other required safety elements.

The South Loop Project does not restrict consideration of other foreseeable transportation improvements beyond those previously identified on I-670 in this Purpose and Need section. This project, as well as other transportation solutions, are evaluated in coordination with existing statewide improvement and long-range transportation plans to minimize conflicts with goals and improvements detailed in those plans. The proposed project, in TIP #611200, is estimated to cost approximately \$217.2 million dollars, with a mix of local, state, federal, and private funding sources. Federal sources are expected to constitute approximately \$103.6 million dollars while non-federal are expected to constitute approximately \$113.6 million dollars. While long-term maintenance costs have not been developed, private sector Project Partners are working to establish a 501(3)(c) non-profit organization to manage the maintenance and programming for the proposed project. The project delivery method will be Construction Manager/General Contractor (CM/GC). This project delivery method allows a construction manager to be engaged during the design process to provide constructability input.

2.0 Alternatives

To respond to the project purpose and identified needs as described in **Section 1** of this EA, the Project Partners have proposed to construct a structural deck over a four-block section of I-670 in downtown Kansas City. The project proposes to create approximately 5.5-acres of new, at grade property above I-670 between Wyandotte Street and Grand Boulevard that will be used in a variety of capacities, including passive green space, a community gathering location, and hosting for public and private event programming.

After discussions with the Project Partners, MoDOT, and FHWA, four Build Alternatives were developed and evaluated for the proposed structural deck over I-670. All proposed Build Alternatives would meet the project Purpose and Need and maintain logical termini and independent utility.

This section of the EA discusses the evaluation and comparison of the four Build Alternative concepts in relation to Purpose and Need criteria, project goals, and potential engineering and environmental impacts. The No-Build Alternative includes existing planned projects but excludes future improvements in the project study area. The selection of a Preferred Alternative and additional engineering system factors that must be considered for project viability and regulatory approvals are also discussed.

2.1 No-Build Alternative

The No-Build Alternative for the South Loop Project would see no major improvements made within the project area, aside from routine and necessary maintenance and projects planned independently of this project. Roadways, bridges, and other structures within and around the project study area would remain in their current configuration. The No-Build Alternative will not enhance multimodal connections surrounding the project area or reconnect the CBD and adjacent Crossroads Arts District, previously separated by the construction of I-670. Therefore, it is only discussed as a baseline condition and means of comparison between no-build conditions and expected conditions with the Build Alternatives.

2.2 Build Alternatives

The Project Partners developed and evaluated four Build Alternatives for the proposed structural deck over I-670. All proposed Build Alternatives would meet the Purpose and Need for the project and maintain logical termini and independent utility.

Prior to the establishment of the Build Alternatives, the South Loop Link Feasibility Study identified potential alternatives in 2009. Several of these concepts called for improvements to the existing street network without the creation of a park. While these concepts meet the technical requirements established in the Feasibility Study, they do not meet the current Purpose and Need because they would not repair the physical separation between the economic and cultural districts severed by the construction of I-670. As a result, they were not carried forward as Reasonable Alternatives under this EA.

The Western Superblock Build Alternative erects a structural deck over I-670 between Wyandotte Street and Main Street while closing and incorporating the existing Baltimore Avenue bridge over I-670 into the structural deck. Incorporating the Baltimore Avenue bridge into the open space allows the construction of a continuous two-block (“superblock”) section between Wyandotte Street and Main Street. The existing Main Street and Grand Boulevard bridges would remain, and the Walnut Street bridge would be replaced and maintained for vehicular and pedestrian crossings over I-670. Individual structural decks between Main Street and Walnut Street and Walnut Street and Grand Boulevard would be constructed. The combination of the existing Bartle Hall Convention Center, the Convention Center Grand Ballroom, a new western superblock structural deck, new individual structural decks between Main Street and Grand Boulevard, and existing bridges would create a 2,200-foot-long tunnel in which I-670 would be confined. The Project Partners do not anticipate new ROW acquisition for this alternative. **Figure 2-1** shows the limits of the proposed Western Superblock Build Alternative.



Construction of this alternative would require multiple changes to existing infrastructure elements. Those elements include:

- Truman Road** – Both westbound and eastbound Truman Road would be modified to reduce turn lanes and general travel lanes, from three lanes to two, to improve safety and reduce vehicle speeds. A typical cross-section of eastbound Truman Road is displayed on **Figure 2-2**. This typical cross-section applies to all Build Alternatives. The typical section and the roadway design of the arterials will adhere to all KCMO design guidelines and will be approved by KCMO during final design to meet City requirements.

- **Existing utilities** – Utilities crossing I-670 would continue to do so, either through existing bridge structures or within the new bridge structures. Impacts to existing utilities under Truman Road will be temporary in nature to provide connections to improvements on the structural deck. Utilities would be relocated as necessary. Such utility connections include water, sewer, storm drainage, fiber, and electric power.
- **I-670 retaining walls** – The existing retaining walls, located north and south of the Interstate, within the project area would be either refurbished or reconstructed to meet the desired 100-year useful life of the project.
- **Streetcar infrastructure** – There are no planned impacts to the existing streetcar infrastructure, including trackwork, overhead catenary system, and the existing traction power substation within the project study area.
- **Open space amenities** – Above the structural deck, this alternative would include a variety of spaces for visitors, including a small informal amphitheater, two performance pavilions, children's play area, dog run, interactive art and water play areas, small food and beverage service buildings, and restrooms. The structural deck would also support landscape improvements such as native plantings, shade trees, and flexible lawn spaces.

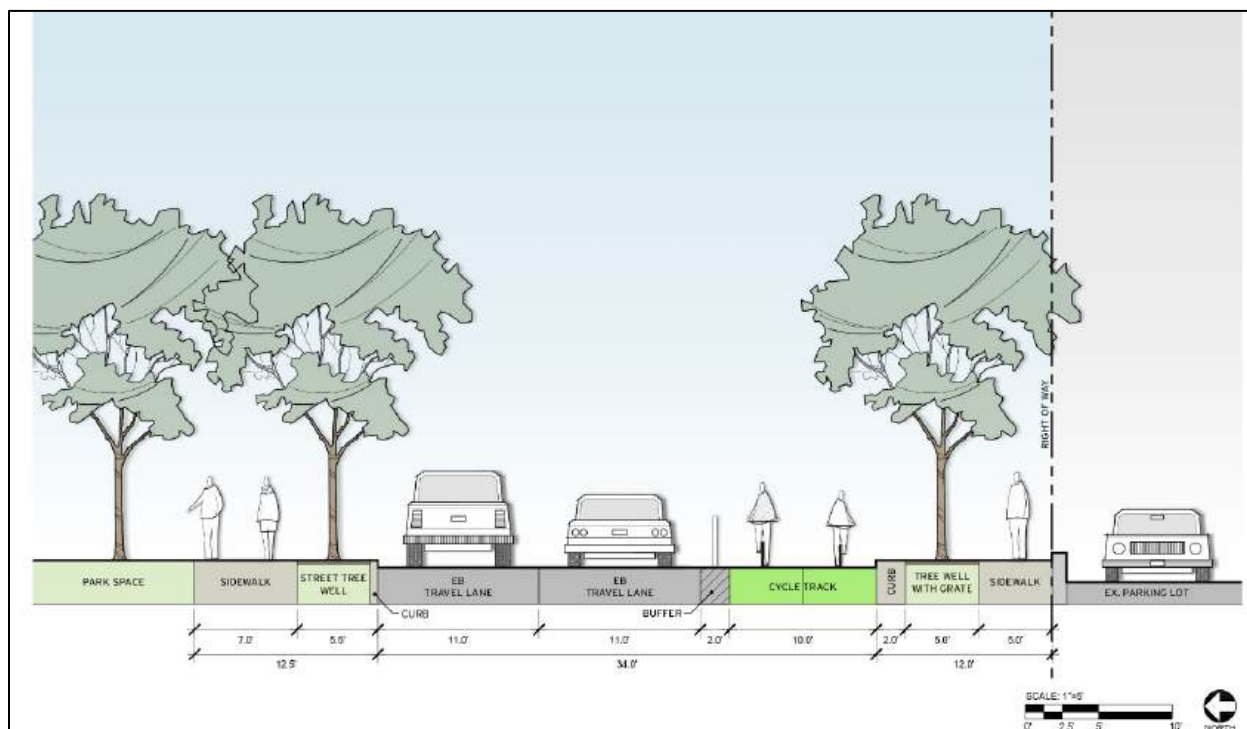


Figure 2-2: Typical Cross-Section for Eastbound Truman Road: Figure 2-2 shows a typical cross section; the final roadway design will adhere to all KCMO design standards.

2.2.2 Eastern Superblock Build Alternative

The Eastern Superblock Build Alternative erects a structural deck over I-670 between Main Street and Grand Boulevard while closing Walnut Street over I-670. The existing Main Street, Baltimore Avenue, and Grand Boulevard bridges would remain. Individual structural decks between Wyandotte Street and Baltimore Avenue and Baltimore Avenue and Main Street would

be constructed. Similar to the Western Superblock Build Alternative, the combination of the existing Bartle Hall Convention Center, the Convention Center Grand Ballroom, two new individual structural decks between Wyandotte Street and Main Street, a new eastern superblock structural deck, and existing bridges would create a 2,200-foot-long tunnel in which I-670 would be confined. The Project Partners do not anticipate any new ROW for this alternative. **Figure 2-3** shows the limits of the Eastern Superblock Build Alternative.



Figure 2-3: Eastern Superblock Build Alternative

Construction of this alternative would require multiple changes to existing infrastructure elements, similar to the Western Superblock Build Alternative. Those elements include:

- **Truman Road** – Both westbound and eastbound Truman Road would be modified to reduce turn lanes and general travel lanes, from three lanes to two, to improve safety and reduce vehicle speeds. A typical cross-section of eastbound Truman Road is displayed on **Figure 2-2**.
- **Existing utilities** – Utilities crossing I-670 would continue to do so, either through existing bridge structures or within the new bridge structures. Impacts to existing utilities under Truman Road will be temporary in nature to provide connections to improvements on the structural deck. Utilities would be relocated as necessary. Such utility connections include water, sewer, storm drainage, fiber, and electric power.
- **I-670 retaining walls** – The existing retaining walls, located north and south of the Interstate, within the project area would be either refurbished or reconstructed to meet the desired 100-year useful life of the project.
- **Streetcar infrastructure** – There are no planned impacts to the existing streetcar infrastructure, including trackwork, overhead catenary system, and the existing traction power substation within the project study area.

- **Open space amenities** – Above the structural deck, this alternative would include a variety of spaces for visitors, including a small informal amphitheater, two performance pavilions, children’s play area, dog run, interactive art and water play areas, small food and beverage service buildings, and restrooms. The structural deck would also support landscape improvements such as native plantings, shade trees, and flexible lawn spaces.

2.2.3 Individual Blocks Build Alternative

The Individual Blocks Build Alternative constructs a structural deck over I-670 between Wyandotte Street and Grand Boulevard while maintaining the existing bridges at Main Street, Baltimore Avenue, and Grand Boulevard. This alternative also removes and reconstructs the Walnut Street bridge for the purpose of maintaining vehicular and pedestrian networks. Individual structural decks between Wyandotte Street and Baltimore Avenue, Baltimore Avenue and Main Street, Main Street and Walnut Street, and Walnut Street and Grand Boulevard would be constructed. Similar to the previous Build Alternatives, the combination of the existing Bartle Hall Convention Center, the Convention Center Grand Ballroom, four new individual structural decks between Wyandotte Street and Grand Boulevard, and existing bridges would create a 2,200-foot-long tunnel in which I-670 would be confined. It is not anticipated that the Individual Blocks Build Alternative would require any new ROW. **Figure 2-4** shows the limits of the Individual Blocks Build Alternative.



Figure 2-4: Individual Blocks Build Alternative

Construction of this alternative would require multiple changes to existing infrastructure elements, similar to the previous Build Alternatives. Those elements include:

- **Truman Road** – Both westbound and eastbound Truman Road would be modified to reduce turn lanes and general travel lanes, from three lanes to two, to improve safety

and reduce vehicle speeds. A typical cross-section of eastbound Truman Road is displayed on **Figure 2-2**.

- **Existing utilities** – Utilities crossing I-670 would continue to do so, either through existing bridge structures or within the new bridge structures. Impacts to existing utilities under Truman Road will be temporary in nature to provide connections to improvements on the structural deck. Utilities would be relocated as necessary. Such utility connections include water, sewer, storm drainage, fiber, and electric power.
- **I-670 retaining walls** – The existing retaining walls, located north and south of the Interstate, within the project area would be either refurbished or reconstructed to meet the desired 100-year useful life of the project.
- **Streetcar infrastructure** – There are no planned impacts to the existing streetcar infrastructure, including trackwork, overhead catenary system, and the existing traction power substation within the project study area.
- **Open space amenities** – Above the structural deck, this alternative would include a variety of spaces for visitors, including a small informal amphitheater, two performance pavilions, children's play area, dog run, interactive art and water play areas, small food and beverage service buildings, and restrooms. The structural deck would also support landscape improvements such as native plantings, shade trees, and flexible lawn spaces.

2.2.4 Double Superblock Build Alternative

The Double Superblock Build Alternative is a combination of the Eastern and Western Superblock Build Alternatives. This alternative would construct a structural deck over I-670 between Wyandotte Street and Main Street and between Main Street and Grand Boulevard while closing both Baltimore Avenue and Walnut Street over I-670. The existing Main Street and Grand Boulevard bridges would remain. Similar to the Eastern and Western Superblock Build Alternatives, the combination of the existing Bartle Hall Convention Center, the Convention Center Grand Ballroom, a new eastern and western superblock structural deck, and existing bridges would create a 2,200-foot-long tunnel in which I-670 would be confined. It is not anticipated that the Double Superblock Build Alternative would require any new ROW. **Figure 2-5** shows the limits of the Double Superblock Build Alternative.



Figure 2-5: Double Superblock Build Alternative

Construction of this alternative would require multiple changes to existing infrastructure elements, similar to the Eastern and Western Superblock Build Alternatives. Those elements include:

- **Truman Road** – Both westbound and eastbound Truman Road would be modified to reduce turn lanes and general travel lanes, from three lanes to two, to improve safety and reduce vehicle speeds. A typical cross-section of eastbound Truman Road is displayed on **Figure 2-2**.
- **Existing utilities** – Utilities crossing I-670 would continue to do so, either through existing bridge structures or within the new bridge structures. Impacts to existing utilities under Truman Road will be temporary in nature to provide connections to improvements on the structural deck. Utilities would be relocated as necessary. Such utility connections include water, sewer, storm drainage, fiber, and electric power.
- **I-670 retaining walls** – The existing retaining walls, located north and south of the Interstate, within the project area would be either refurbished or reconstructed to meet the desired 100-year useful life of the project.
- **Streetcar infrastructure** – There are no planned impacts to the existing streetcar infrastructure, including trackwork, overhead catenary system, and the existing traction power substation within the project study area.
- **Open space amenities** – Above the structural deck, this alternative would include a variety of spaces for visitors, including a small informal amphitheater, two performance pavilions, children's play area, dog run, interactive art and water play areas, small food and beverage service buildings, and restrooms. The structural deck would also support landscape improvements such as native plantings, shade trees, and flexible lawn spaces.

2.3 Build Alternatives Screening Process and Criteria

The alternatives screening process consisted of four basic steps:

1. Establish Purpose and Need and screening criteria – The Purpose and Need described the project intent and needs, which any viable alternatives must resolve or satisfy. It then formed the basis for the criteria in which alternatives are compared. The Project Partners also established additional goals and objectives for the project to satisfy, if possible.
2. A range of Build Alternative improvement strategies were identified and developed and are previously described in **Section 2.2**. These Build Alternatives would involve substantial amounts of construction and may impact environmental resources.
3. Evaluation of alternatives – Screening criteria established via the Purpose and Need, additional goals established by the Project Partners, and other performance criteria were applied to each alternative. The alternatives were evaluated for their ability to satisfy the screening criteria. Alternatives that satisfied the Purpose and Need for the project were further considered, while alternatives that could not meet the Purpose and Need, and/or were deficient in other performance categories, were eliminated from further consideration.
4. Selection of the Preferred Alternative(s) – The results of the evaluation of alternatives were used to determine which alternative(s) best addressed the project needs. The alternative(s) that satisfied the Purpose and Need for the project and most favorably addressed the project goals was selected to move forward and developed in greater engineering detail.

As previously mentioned, screening criteria for the alternatives are based upon the Purpose and Need, additional goals established by the Project Partners, but not derived from the Purpose and Need, and other performance-related criteria. The following summary addresses whether the proposed Build Alternatives meet the Purpose and Need for the project:

Physical separation of economic and cultural districts – The I-670 freeway facility currently sits 20-feet below-grade and separates the CBD and the Crossroads Arts District. The separation of the two districts limits the potential for additional investment in the area. All four Build Alternatives meet this Purpose and Need element through the creation of a structural deck over I-670, which eliminates the physical separation between cultural districts and reconnects both the north and south sides of I-670. The No-Build Alternative did not meet this element.

Enhance multimodal connections for adjacent neighborhoods and the broader community – The current transportation infrastructure design in the South Loop Project study area prioritizes vehicles over any other mode of transportation. Because of this design, the environment creates limitations to pedestrians, cyclists, and transit users. The four Build Alternatives meet this Purpose and Need element by providing opportunities for additional east-west and north-south pedestrian, bicycle, and transit connections from the South Loop Project area along Truman Road to other facilities like the “Greenline,” a planned bike/pedestrian trail loop facility, thus creating an extended network of transportation options. The No-Build Alternative does not enhance pedestrian, bicycle, and/or transit connections and, therefore, cannot meet this Purpose and Need element.

The Build Alternatives successfully address the transportation problems associated with the below-grade section of I-670, which separates the CBD and the Crossroads Arts District in



Downtown Kansas City. **Table 2-1** in **Section 2.4** of this document shows that the Build Alternatives would address the transportation problems identified in the Purpose and Need and would provide positive outcomes to those in and around the project study area. The No-Build Alternative would not satisfy all of the screening criteria and performance measures.

2.4 Summary of Alternatives Screening and Evaluation

All four Build Alternatives successfully address the Purpose and Need elements. **Table 2-1** displays the Alternatives Screening Criteria Matrix which summarizes each Build Alternative's performance on the Purpose and Need criteria, other project goals as determined by the Project Partners, and engineering and environmental criteria. The No-Build Alternative is included in the screening matrix summary for comparison purposes only.

Table 2-1: Alternatives Screening Criteria Matrix

Screening Criteria Definitions	Symbol
Positive / Acceptable / Potentially Low Impact	▲
Generally Positive / Potentially Less Impact	◇
Neutral/No Change	■
Negative	●

Purpose and Need Elements

Criterion	Measure/Description	No Build Alternative	Western Superblock	Eastern Superblock	Individual Blocks Alternative	Double Superblock
Repair physical connection in the north and south sides of I 670	Does the structure improve connections?	■	▲	▲	▲	▲
Provide walking path, trail, sidewalk, or other pedestrian oriented facilities that connect to the existing pedestrian mobility system	Does it include additional pedestrian connections to existing systems?	■	▲	▲	▲	▲
Provide bicycle focused amenities (e.g., bike racks) and cycling oriented facilities on adjacent street network	–Does it include additional bicycle connections to existing systems?	■	◇	◇	◇	◇
Accommodate transit connections (stops/park and ride/hub) nearby (.25 mile)	Does it accommodate transit connections to existing systems?	■	■	■	■	■

Other Project Goals: Engineering Criteria

Criterion	Measure/Description	No Build Alternative	Western Superblock	Eastern Superblock	Individual Blocks Alternative	Double Superblock
Conceptual cost	How do the conceptual costs compare between alternatives?	\$	\$\$\$	\$\$\$	\$\$	\$\$\$\$
Project phasing	Can improvement be phased/constructed over time?	■	▲	▲	▲	▲
Constructability	Does construction require unique or unusual construction methods?	■	●	●	●	●
Impacts to MoDOT facilities	Do the improvements reduce or change existing travel lane geometry or change access on I-670?	■	■	■	■	■
Maintenance of traffic, temporary traffic control	Does construction require extensive lane closures of long duration or detours?	■	●	●	●	●
On going maintenance	Do the improvements require an increase in maintenance needs?	■	●	●	●	●
Safety impacts	Do the improvements maintain or improve existing safety conditions on existing infrastructure at the arterial level and interstate level?	■	■	■	■	■
Vehicular traffic impacts	Do the improvements maintain or improve existing levels of service?	■	●	●	◇	●

Criterion	Measure/Description	No Build Alternative	Western Superblock	Eastern Superblock	Individual Blocks Alternative	Double Superblock
Utilities impacts						◇
Right of Way (ROW) /Acquisitions	Do the improvements require permanent ROW or property acquisition or easements?	■	▲	▲	▲	▲

Other Project Goals: Urban Design Criteria

Criterion	Measure/Description	No Build Alternative	Western Superblock	Eastern Superblock	Individual Blocks Alternative	Double Superblock
Maximize open space						▲
Revenue generating opportunities	Ability to accommodate revenue-generating events and activities	●	▲	▲	◇	▲
Include resilient improvements	Does the alternative extend the life of infrastructure in the area?	■	◇	◇	◇	◇
Create opportunities for additional economic development	Does the alternative create opportunities for additional economic development?	■	▲	▲	▲	▲

Environmental Criteria

Criterion	Measure/Description	No Build Alternative	Western Superblock	Eastern Superblock	Individual Blocks Alternative	Double Superblock
Natural resource impacts						■
Park and recreation resource impacts	Section 4(f) property impacts	■	■	■	■	■
Hazardous Materials	Number of hazardous materials sites impacted	■	■	■	■	■
Stormwater	Effect of stormwater drainage	■	◇	◇	◇	◇
Displacements	Number of residential displacements	■	■	■	■	■
Sensitive noise receptors	Number of sensitive noise receptors in project area	■	▲	▲	▲	▲
Cultural resource impacts	Number of historic architectural or archeological properties impacted	■	TBD	TBD	TBD	TBD
Land use impacts	Potential for changes in land use	■	▲	▲	▲	▲

2.5 Selection of the Preferred Alternatives

Based upon the screening and evaluation of the four Build Alternatives, the Project Partners, in consultation with MoDOT and FHWA, selected both the Eastern Superblock and Western Superblock Build Alternatives as the Preferred Alternatives because they both meet the Purpose and Need by:

- Providing a physical connection between the CBD and Crossroads Arts District by constructing a structural deck over I-670; and
- Providing pedestrian, bicycle, and transit-oriented facilities and amenities that enhance connections to the broader community.

The four Build Alternatives performed similarly on most Engineering and Environmental Evaluation criteria. However, the Individual Blocks Build Alternative did not perform as well in the Urban Design Criteria categories, due to not maximizing open space and having less revenue generating capability resulting from non-contiguous blocks. Additionally, the Double Superblocks Build Alternative did not perform as well in the Cost and Vehicular Traffic Impacts categories due to the closing of two streets. For these reasons, the Individual Blocks Build Alternative and the Double Superblock Build Alternative were eliminated from consideration.

Both the Eastern Superblock and Western Superblock Build Alternatives were selected to be carried forward as Preferred Alternatives since they performed equally in all Engineering and Environmental Evaluation criteria and will provide the ability for KCMO and the CM/GC to choose the best alternative to move forward with during the final design phases of the project. Additionally, the Eastern Superblock and Western Superblock have the same limits of impact from construction.

The Eastern Superblock Build Alternative proposes to remove the Walnut Street bridge. The Walnut Street bridge, nearing the end of its useful structural life, will require replacement in the near future, and the Eastern Superblock Build Alternative would replace the bridge with a structural deck for the planned open space. The preliminary designs for each Preferred Alternative are included as **Appendix A**. Even when removing the Walnut Street bridge, traffic analysis demonstrated the existing vehicular street circulation levels of service (LOS) within and around the project study area were acceptable for both existing and future (2050) operations. Comparative intersection operational LOS between the future No-Build Alternative and this Preferred Alternative is further discussed in **Section 3.8**.

The Western Superblock Build Alternative proposes to remove the Baltimore Avenue bridge and incorporate it into the structural deck. The Walnut Street bridge would still be replaced as part of this Alternative, however it would remain a bridge for vehicular traffic and not be incorporated into the structural deck. The preliminary design for each Preferred Alternative are included as **Appendix A**. A traffic analysis was completed for the removal of the Baltimore Avenue bridge which demonstrated the existing street circulation levels of service (LOS) within and around the project study area were acceptable for both existing and future (2050) operations. Comparative intersection operational LOS between the future No-Build Alternative and this Preferred Alternative is further discussed in **Section 3.8**

The preliminary construction cost estimate for each of the Preferred Alternatives is approximately \$217.2 million in 2023 dollars. Final selection of a Preferred Alternative, including construction

phasing scenarios, will not occur until the Project Partners, MoDOT, and FHWA evaluate all comments received as a result of their review of this EA document and a public hearing. Following public and agency review of this EA, FHWA will determine if an Environmental Impact Statement (EIS) is warranted. If an EIS is not required, the Preferred Alternative(s) will be identified in the Finding of No Significant Impact (FONSI) document.

2.6 Other Considerations for the Preferred Alternatives

Prior to the construction of a new structural deck over I-670, several additional considerations must be addressed to satisfy local, state, and federal laws, requirements, standards, and guidelines. The creation of a new 2,200-foot I-670 tunnel and its potential hazards, airspace issues, property governance, maintenance, operations, and perpetual funding of the structural deck are summarized in the following sections.

2.6.1 I-670 Tunnel

Both Preferred Alternatives propose to deck over a four-block section of I-670. The new deck, either the Eastern Superblock or the Western Superblock, plus individual decks between the blocks would be adjacent to the existing I-670 overbuilt Bartle Hall Convention Center and Grand Ballroom structures, resulting in a continuous 2,200-foot-long underground tunnel structure. Creating a new tunnel would introduce new hazards and other potential impacts, including:

- In-tunnel vehicular collisions;
- Fires (e.g. cars, heavy goods vehicles (HGVs), flammable combustible liquids (FCL), battery electric vehicles (EVs), tunnel equipment, etc.);
- Explosions (e.g. hydrogen release);
- Natural disasters (e.g. flooding, earthquakes);
- Structural collapse;
- Noise;
- Ventilation and air management; and
- Combinations of the above.

Fire life safety design criteria are driven by National Fire Protection Association (NFPA) standards, namely *NFPA 502 Standard for Road Tunnels, Bridges, and Other Limited Access Highways*. Specific requirements depend on the tunnel category. The Preferred Alternative's 2,200-foot-long tunnel qualifies as a category C tunnel. For a category C tunnel, NFPA 502 provides minimum fire protection requirements and defines conditionally mandatory requirements that are based on the results of an engineering analyses. The potential hazards and mitigation are discussed within the appropriate sub-sections of **Section 3.0 Environmental Analysis**.

The introduction of a tunnel into the proposed Preferred Alternatives will require additional tunnel safety and operations systems. Those systems include:

- Structural fire protection;
- Incident detection;
- Emergency communications;
- Water supply and drainage systems for fire suppression;
- Fixed firefighting;

- Lighting;
- Stormwater;
- Ventilation and air management systems; and
- Power supply.

The design and level of detail of these required tunnel systems have not been finalized at this stage of the project. Tunnel systems designs will continue to advance as the project progresses into later design phases.

The existing overbuilt structure (Bartle Hall Convention Center and Ballroom) has a 3-hour fire rating comprising of insulated precast concrete panels (PCC). However, this is based on building code requirements, and is currently not considered adequate for HGV or FCL fires. By building an adjacent structural deck, the existing overbuilt structures will be an integral part of a 2,200-foot-long tunnel and will need to comply with current safety standards. The Study Team is considering the following conceptual measures:

- Closure of ceiling openings, particularly between Bartle Hall and Broadway Boulevard and on both sides of Central Street, to avoid distraction of drivers by changing lighting conditions, rain, snow, and to reduce local noise emissions.
- Addition of dividing walls between the existing eastbound and westbound I-670 lanes to provide bright surfaces, improving lighting conditions and driver guidance, and to separate airflow between the traffic directions, namely in case of a fire. The space between dividing walls can provide technical rooms and emergency exits.
- Adaptation and possible refurbishment of the existing tunnel lighting to provide a unified, safe lighting concept throughout the tunnel.

A tunnel safety concept would be developed for each construction phase of the project to maintain an adequate level of safety during the entire construction process, considering the potential for lane closures and limited traffic restrictions. Additional traffic management measures are required to minimize risks, including operating traffic unidirectionally, minimizing times with bi-directional traffic and temporary restriction of hazardous materials shipments through the tunnel, to be allowed only during defined hours. Tunnel systems would be successively installed, commissioned, and tested in segments [Commitment 5].

2.6.2 Property Governance

Construction of either Preferred Alternative would create a new property within MoDOT ROW. There are several important factors to consider in order to understand the governance of this newly created property including airspace agreements, property ownership, maintenance, operations, and funding. KCMO will obtain a ROW Permit from MoDOT ([Permits | Missouri Department of Transportation \(modot.org\)](https://permits.missouri.gov/)), which has been coordinated with FHWA, before construction begins [Commitment 6].

Airspace Agreements

After construction, the newly created property that sits above I-670 would remain within MoDOT ROW. In order to occupy the ROW, the new property owner would need to obtain an “Airspace Agreement” with the Missouri Highways and Transportation Commission (MHTC) prior to the beginning of construction [Commitment 7]. This Airspace Agreement would allow the property

owner to build and maintain the entire property over I-670 and would likely be a 99-year lease, with an option to renew for another 99-year term.

One example of such an agreement is the existing contract between KCMO and MHTC to occupy the space above I-670 for the Bartle Hall Convention Center and Grand Ballroom, located adjacent to the proposed deck. The Airspace Agreement has multiple conditions that must be met and maintained to comply with and keep the agreement in effect. Additionally, the Airspace Agreement is revocable and terminable based on certain conditions. Possible conditions could include, but are not limited to, change in use, failure to maintain insurance, or violation of applicable laws.

Ownership of Property

The property created above I-670 within the project study area would be leased by a public entity, KCMO through the Airspace Agreement with MoDOT. Formal ownership of the property itself would be maintained by MoDOT as outlined in the Airspace Agreement. The property would be formally reserved for future highway ROW uses and temporarily function as a park. The designation would require clear documentation that the non-transportation-related activities on the structural deck would cease once the land is required for any future transportation project. This documentation, along with the Airspace Agreement, should clearly convey that the use of the structural deck for park purposes is temporary in nature [Commitment 7].

Maintenance, Operations, and Funding

The property above I-670 within the project study area would be operated, maintained, programmed, and funded by a 501(c)(3) nonprofit entity that will be formed prior to the completion of construction. This entity would raise funds from private and public sources to support the park's annual budget, staffing, and day-to-day operations. Additionally, this budget would be used for public programming and community outreach. A special agreement would be created between the 501(c)(3) and KCMO that outlines the conditions of park management prior to the completion of construction [Commitment 8]. Maintenance of the newly formed tunnel will be outlined in the Airspace Agreement.

3.0 Environmental Analysis

An environmental analysis was conducted to evaluate the potential impacts of the No-Build Alternative and the Preferred Alternatives. This chapter describes the data sources and methodologies used, along with the regulatory framework, to determine how the environment would be impacted by the No-Build Alternative and the Preferred Alternatives. Additionally, proposed mitigation and minimization of effects and any environmental commitments were identified to reduce potential impacts.

Each resource of potential concern within the project study area will be discussed within this chapter. The specific categories described are consistent with FHWA's Guidance for Preparing and Processing Environmental and Section 4(f) Documents (TA 6660.8A, October 30, 1987). Federal authorization is required for project construction to proceed and will not be granted until all necessary regulatory commitments have been successfully completed and approved.

KCMO, in coordination with MoDOT, will implement all required project and regulatory commitments once the final project construction limits are determined, even if all commitments are not specified within this chapter. Revising any design or construction could potentially change impacts that had not been originally evaluated in the EA. If revisions were to occur and changes in impacts resulted, the Project Partners must verify that the document will be reevaluated so that all determinations and commitments are still valid [Commitment 9].

In addition to other topics addressed, direct effects, as well as indirect and cumulative effects will be covered in this chapter.

3.1 Land Use and Zoning

The South Loop Project is located entirely within KCMO whose zoning regulations control development. Multiple land use planning documents have been completed which include downtown Kansas City, therefore, each in some way include the project study area. Existing documents, zoning and land use maps, and planned changes were collected, inventoried, and used to determine the current land use and zoning within the project study area. Those documents include:

Connected KC 2050 (2020) is the current Long Range Transportation Plan (LRTP) for the nine-county Kansas City metropolitan region developed by the Mid-America Regional Council (MARC). *Connected KC 2050* serves as the Kansas City metro's regional transportation plan and is a blueprint for managing the region's transportation system. Adopted on June 23, 2020, according to MARC the plan is meant to "continue to facilitate integrated land use, transportation and environmental planning in areas with significant pedestrian activity and transit services". *Connected KC 2050*'s five main goals (access to opportunity, public health and safety, healthy environment, transportation choices, and economic vitality) support the change of land use within the project study area.

Jackson County Development Plan (2012) is the current plan for coordinating and managing the growth strategies and future development within Jackson County, Missouri. Under the Urban Development Tier of the *Jackson County Development Plan*, future land use maps indicate to designate the project study area as mixed use. Mixed use development aids in improving connectivity, improving air quality, and fosters environmentally sensitive travel alternatives.

Greater Downtown Area Plan (2019) is the current plan for creating a better downtown Kansas City to live, work, and play. The five primary goals of the *Greater Downtown Area Plan* are to create a walkable downtown, double the population downtown and focus on density, double employment, increase visitors downtown, retain and promote safe, authentic neighborhoods, and promote sustainability. This plan specifically lists investigating alternatives to the existing highway system, including capping over I-670 south of the downtown loop.

The project study area is located entirely within MoDOT and KCMO transportation ROW and, therefore, does not have any other land use designation. There are six land use designations adjacent to the project study area, these consist of commercial, education/convention, parking/automobile, residential/hotel, industry, and activity/open space. The predominant land use type is parking/automobile. Due to the nature and density of the downtown development, some parcels may have multiple land uses. Land use types in the vicinity of the project study area are shown on **Exhibit 3-1**.

A variety of land uses surround the project study area. North of the project study area is dominated by education/convention, commercial, and parking/automobile land uses. The Bartle Hall Convention Center and the Grand Ballroom is built over I-670 in the western portion of the study area. Retail, entertainment, food and drink establishments, and other mixed uses are found in the Power and Light District bordering the project study area to the north. Other developments adjacent to the project area include a movie theater, multifamily apartment buildings, various restaurants, retail shops, other offices, and parking. Adjacent buildings and land use immediately south of the project study area includes additional parking areas, apartment buildings, restaurants, retail shops, and convention center-focused hotels.

The transportation ROW within the project study area falls within KCMO's zoning boundaries. The project study area and the immediate vicinity around it are zoned with a mix of downtown core, downtown mixed-use, manufacturing, and urban redevelopment districts as displayed on **Exhibit 3-2**. Zoning is predominantly manufacturing along the western portion of the project study area within the MoDOT ROW, while downtown core, downtown mixed-use, and urban redevelopment zoning districts are found adjacent to the project study area.

3.1.1 Land Use Impacts

No-Build Alternative Impacts

The No-Build Alternative would not change existing land uses or zoning within the project study area. Land uses would only experience changes if KCMO made modifications to land use planning documents and zoning district boundaries or regulations.

Preferred Alternative Impacts

Construction of either Preferred Alternative would not, by itself, change any land uses in or in the vicinity of the project study area primarily due to the lack of property acquisitions necessary to construct the project.

3.2 Demographics and Economics

On January 20, 2025, President Trump signed Executive Order (E.O.) 14154 – Unleashing American Energy. The E.O. revoked E.O. 14096 – Revitalizing Our Nation's Commitment to

Environmental Justice for All (April 21, 2023). Subsequently on January 21, 2025, President Trump signed E.O. 14173 – Ending Illegal Discrimination and Restoring Merit-Based Opportunity. This E.O. revoked E.O. 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994). As a result of E.O. 14154 and 14173, all federal environmental justice requirements are revoked and no longer applicable to the environmental review process.

The project study area is located within the corporate limits of KCMO, Jackson County, Missouri. The population in Jackson County and KCMO has steadily increased from 2010 to 2020, as shown in **Tables 3-1a** through **3-1c**. The average growth rates in Jackson County and Kansas City are 0.6 percent and 1.0 percent, respectively, with the average growth rate exceeding the statewide average across the same years.

**Table 3-1a: Population Trends
State of Missouri**

Year	Population	Growth
2010		
2011	6,010,688	0.36%
2012	6,021,988	0.19%
2013	6,044,171	0.37%
2014	6,063,589	0.32%
2015	6,083,672	0.33%
2016	6,093,000	0.15%
2017	6,113,532	0.34%
2018	6,126,452	0.21%
2019	6,137,428	0.18%
2020	6,154,913	0.28%

Source: U.S. Census Bureau 2010-2020
(ACS 5-Year Estimates)

**Table 3-1b: Population Trends
Jackson County**

Year	Population	Growth
2010		-
2011	676,360	0.33%
2012	677,377	0.15%
2013	679,996	0.39%
2014	683,191	0.47%
2015	687,623	0.64%
2016	691,801	0.60%
2017	698,895	1.02%
2018	700,307	0.20%
2019	703,011	0.38%

Year	Population	Growth
2020	717,204	1.98%

Source: U.S. Census Bureau 2010-2020
(ACS 5-Year Estimates)

**Table 3-1c: Population Trends
Kansas City**

Year	Population	Growth
2010	459,787	-
2011	463,156	0.73%
2012	464,346	0.26%
2013	467,082	0.59%
2014	470,816	0.79%
2015	475,361	0.96%
2016	481,360	1.25%
2017	488,825	1.53%
2018	491,809	0.61%
2019	495,278	0.70%
2020	508,090	2.52%

Source: U.S. Census Bureau 2010-2020
(ACS 5-Year Estimates)

The racial makeup of the five block groups within the project study area consists mostly of white, non-Hispanic individuals. **Table 3-2** below identifies the percentage of each race for the project study area block groups in comparison to the percentage of each race for KCMO, Jackson County, and Missouri. Census Tract 153, Block Group 3 has the highest percentage of minority population with over 40 percent minorities. When comparing the block groups to KCMO, Jackson County, and Missouri, the percentages were similar.

Table 3-2: Racial Makeup of the Project Study Area

Race	Missouri	Jackson County	Kansas City	CT 11 BG 2	CT 153 BG 3	CT 157.01 BG 2	CT 157.02 BG 1	CT 158 BG 2
White alone								64.7%
Black or African American alone	11.3%	23.0%	27.3%	8.0%	0.7%	0.0%	12.0%	24.4%
Hispanic or Latino	4.3%	9.2%	10.6%	6.1%	46.8%	5.0%	3.4%	1.3%
American Indian and Alaska Native alone	0.3%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	9.6%
Asian alone	2.0%	1.8%	2.7%	2.9%	0.0%	2.3%	0.9%	0.0%
Native Hawaiian and Other Pacific Islander alone	0.1%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%

Race	Missouri	Jackson County	Kansas City	CT 11 BG 2	CT 153 BG 3	CT 157.01 BG 2	CT 157.02 BG 1	CT 158 BG 2
Some Other Race alone								0.0%
Two or More Races	2.9%	3.2%	3.5%	3.0%	0.0%	6.4%	0.0%	0.0%

Source: U.S. Census Bureau 2020 (ACS 5-Year Estimates) Table B03002

CT = Census Tract; BG = Block Group

Household characteristics for KCMO and Jackson County are shown in **Table 3-3**. Most characteristics are similar for both KCMO and Jackson County, but Jackson County has a noticeably higher median age, percent of married couples, and number of households in comparison to KCMO.

Table 3-3: Household Characteristics

Characteristic	Jackson County	Kansas City
Married Couple		37.9%
With children under 18	14.2%	14.3%
Cohabiting	8.4%	8.7%
With children under 18	2.0%	1.6%
Male householder, no spouse/partner	19.5%	20.9%
With children under 18	1.0%	1.2%
Female householder, no spouse/partner	31.4%	32.5%
With children under 18	6.4%	6.1%
Average Family Size	3.03	3.05
Median Age	37.0	35.1
Median Household Income	\$60,800	\$60,042
People in Poverty	12.9%	13.4%
Total Households	302,965	219,020

Source: U.S. Census Bureau 2021 (ACS 5-Year Estimates)

While economic statistics specifically for the project study area are not calculated, general economic data trends for KCMO and Jackson County can be used to paint a general picture of economic health. Employment trends for Jackson County and KCMO during the period of 2010 to 2020 are positive, as shown in **Tables 3-4a** and **3-4b**. The average annual employment growth during that period for KCMO was 13.3 percent and the county was 8.8 percent.

**Table 3-4a: Employment Growth Trends
Jackson County**

Year	Avg. Annual Employment	Growth	Avg. Annual Growth
2000	315,967	N/A	N/A
2010	323,116	2.2%	0.22%
2020	354,384	8.8%	0.88%

Source: U.S. Bureau of Labor Statistics Annual Average Data (2000-2020)

**Table 3-4b: Employment Growth Trends
Kansas City**

Year	Avg. Annual Employment	Growth	Avg. Annual Growth
2000	212,016	N/A	N/A
2010	222,863	4.9%	0.49%
2020	257,087	13.3%	1.33%

Source: U.S. Bureau of Labor Statistics Annual Average Data (2000-2020)

The unemployment rate in Jackson County and Kansas City remained low from 2000 to 2020, as shown in **Table 3-5**. The average unemployment rate for Kansas City and Jackson County between 2000 and 2020 was 4.7 percent and 4.4 percent, respectively. It is important to note that data for 2020 reflects the effects of the worldwide COVID-19 pandemic.

Table 3-5: Unemployment Trends

Year	Jackson County Average Unemployment Rate	Kansas City Average Unemployment Rate
2000		4.2
2010	6.0	6.4
2020	3.3	3.4

Source: U.S. Bureau of Labor Statistics Annual Average Data (2000-2020)

Since the early 2000's, the area surrounding the project study area, north and south of I-670, has seen significant private and public sector investments. Examples of these improvements include the Power & Light District, T-Mobile Center, Loews Kansas City Hotel, Kaufmann Center for the Performing Arts, and the KC Streetcar. In addition to those specific developments, areas adjacent to the project study area contain substantial numbers of commercial retail, office, food and drink establishments, and mixed-use properties including major brand-name hotels, restaurants and bars, retail clothing boutiques, offices, and other commercial enterprises. There is very little undeveloped or vacant property in the existing corridor as most non-structural portions of property are paved and used for parking, circulation, and ingress or egress.

According to existing land uses and the future comprehensive land use plan for KCMO, most of the undeveloped land within and adjacent to the project study area is anticipated to remain as primarily high density, CBD-oriented commercial, commercial retail, office, and multi-family residential development.

3.2.1 Economic Impacts

No-Build Alternative Impacts

The No-Build Alternative, which does not include any construction improvements, is unlikely to have negative or positive economic impacts. The vicinity of the project study area and greater region will not receive an economic benefit from short term or long-term construction dollars entering the economy. Similarly, the region and vicinity of the project study area will not see local economic growth due to the creation of a new multimodal hub and green open space where people congregate.

Preferred Alternative Impacts

The implementation of either Preferred Alternative will likely result in new development or redevelopment of additional commercial and retail opportunities adjacent to the project study area. They will create new green, open space where people could congregate for passive park use and special events and will create new multimodal connections to the existing bicycle and pedestrian networks and new connections to the streetcar and bus transit network. The new multimodal connections, active-use green, open space, and repaired connection between the CBD and Crossroads Arts districts will likely create future conditions that make adjacent property desirable for development and redevelopment and thereby positively impact future economic conditions. Regional accessibility for local businesses would be enhanced by the new multimodal transportation activity nodes within and adjacent to the project study area.

Short-term economic impacts will likely result from roadway and bridge construction of either Preferred Alternative. Business disruptions may occur due to temporary traffic control, temporary access revisions, utility outages, and temporary roadway closures. Access to some businesses could be temporarily restricted or rerouted; however, some traffic lanes would remain open and access to businesses would be modified through temporary detours and provision of adjacent access locations. The impact of roadway construction on local business patronage can vary, depending on customers' preferences regarding shopping near construction sites. These decisions are typically based on whether alternate locations and/or products are available. In the long-term, these businesses would benefit from new multimodal activity nodes, events at the new green, open space, and repaired connections between the CBD and Crossroad Districts.

Construction of either Preferred Alternative could derive short-term economic benefits through an increase in construction-related employment and could lead to increased economic activity from those construction employees patronizing local businesses in the project study area. In the long-term, a larger number of people using and visiting the area, safer pedestrian and bicycle access and facilities, and improved access to businesses could increase economic activity.

3.3 Neighborhoods and Community Resources

Community resources such as schools, universities, places of worship, community centers, libraries, hospitals, and emergency response services are located adjacent to the project study area. Residential areas (apartments and condominium buildings), which utilize those community resources, are also located adjacent to the project study area. **Exhibit 3-3** displays the residential neighborhoods and community resources within a half mile the project study area.

The project study area is located within the Kansas City Public School District. Four school and educational facilities are located within a half-mile of the project study area, including:

- Crossroads Charter Schools – 1011 Central Street
- Crossroads Preparatory Academy – 816 Broadway Boulevard
- Crossroads Academy – Quality Hill – 1080 Washington Street
- Primitivo Garcia Elementary School – 1000 W. 17th Street

There are fifteen places of worship and religious administration facilities found within a half-mile of the project study area. They include:

- The Fount Church – 918 Baltimore Avenue, Floor 3

- Peace Christian Church – 1801 McGee Street
- Soka Gakkai International – USA – 1804 Broadway Boulevard
- Beggars Table Church & Gallery – 2010 Baltimore Avenue
- Christ Community Church – Downtown Campus – 208 W. 19th Street
- Church of Scientology of Kansas City – 1805 Grand Boulevard
- New Life City Church – 1717 McGee Street
- Center Church KC – 601 E. Truman Road
- Abundant Life – 1840 Cherry Street
- St. Mary’s Episcopal Church – 1307 Holmes Street
- Catholic Diocese of Kansas City – St. Joseph – 20 W. 9th Street
- The Cathedral of the Immaculate Conception – 416 W. 12th Street
- Grace & Holy Trinity Cathedral – 415 W. 13th Street
- The Diocese of West Missouri – 420 W. 14th Street
- Resurrection Downtown – 1601 Grand Boulevard

There are three libraries located within a half-mile of the project study area. Libraries located within a half mile of the project study area include:

- The Kansas City Public Library: Central Library – 14 W. 10th Street
- Corps of Engineers District Library – 601 E. 12th Street #745
- Jackson County Law Library – 1301 Oak Street #706

There are three health care facilities located within a half-mile of the project study area. Health care facilities located within a half-mile of the project study area include:

- The University of Kansas Health System Urgent Care – 1403 Grand Boulevard
- Spira Care Crossroads – 1916 Grand Boulevard
- Concentra Urgent Care – 200 Southwest Boulevard

The Kansas City Police Department headquarters are located at 1125 Locust Street and Kansas City Fire Station No. 8 is located at 1517 Locust Street.

3.3.1 Neighborhood and Community Resource Impacts

No-Build Alternative Impacts

The No-Build Alternative would not directly impact any residential neighborhoods or community resource facilities adjacent to the project study area. The No-Build Alternative is not associated with construction activities, therefore no impacts to existing emergency services or routes would occur.

Preferred Alternative Impacts

The implementation of either Preferred Alternative on neighborhoods and community cohesion will likely have both a direct physical impact and an impact to social factors that could promote a bond between residents and their community. Community cohesion is a product of people sharing common neighborhood facilities and services that create a sense of place within their neighborhoods. The project study area is located completely within public ROW, therefore there are no community facilities within the direct impacts of the project study area.

After construction is complete, either Preferred Alternative could help create community cohesion between the previously separated CBD and Crossroads Arts District. Additionally, the Preferred Alternatives will likely enhance and create new multimodal connections for residents of the adjacent neighborhoods and the broader community. Reconnecting the two sides of I-670 through common shared community spaces and multimodal connections will potentially accelerate redevelopment within those districts.

Kansas City's City Council will develop a community benefits agreement with the Project Partners of the South Loop Project to explicitly document that this project will benefit areas beyond the project study area. This agreement outlines activities during construction and during park operations aimed at benefitting the broader community. During construction it will outline a focus on the inclusion of fair wage and hiring practices, anti-displacement programs, and traffic management and planning guidelines to minimize impacts. During park operation it will outline programs to support small businesses, economic opportunities, creation of a community Ombudsman, educational opportunities for elementary and secondary schools, and resident attraction and retention programs [Commitment 10].

Construction of either Preferred Alternative may result in detours, intermittent lane closures, and other roadway closures that will be temporary and limited to the time required to complete the project construction. The detours and closures may temporarily impact community cohesion and create barriers to accessing community facilities. The exact location, timing, and duration of road closures will be developed during final design and pre-construction phases of the project. The Project Partners in coordination with MoDOT will ensure a Traffic Management Plan (TMP) is included in the construction contract to respond to temporary disruptions in travel patterns and travel time. Once developed, the Project Partners in coordination with MoDOT will assess the impacts of the TMP within the framework of NEPA. If the TMP could result in impacts that were not previously reviewed under NEPA—such as new or additional road closures, access changes, or other circumstances that could cause new or modified impacts to resources, the Project Partners in coordination with MoDOT's environmental section will review these impacts prior to implementing the TMP [Commitment 11].

3.3.2 Neighborhood and Community Outreach

Census data was utilized to assess the Limited English Proficiency (LEP) data for the project study area block groups. The LEP percentage is defined as the percentage of all individuals over 5 years of age who speak a language other than English and speak English less than "very well". As of 2016, Table B16001 no longer includes the places, census tract, or block group geographies. The smallest geographical area that was available for the project study area within the ACS data was the Jackson County-Kansas City (Central) Public Use Microdata Area which has an LEP percentage of 9 percent. In comparison, the LEP percentages for Jackson County and the state of Missouri are 4 percent and 2 percent, respectively. **Exhibit 3-4** displays the Jackson County-Kansas City (Central) Public Use Microdata Area boundary and its LEP percentage.

The project team has and will continue to provide information to non-English proficient populations in the following ways:

- The project website will be available in seven languages: English, Spanish, French, German, Chinese (Simplified), Korean, and Vietnamese;
- All public meetings will include an option to request an interpreter. No requests were received thus far; and,

- All content publicly provided will be noted as available in alternative languages upon request. No requests for this service were received thus far [Commitment 12].

The project study team developed and implemented an extensive stakeholder outreach program to provide the opportunity for the community to provide input on the project. Neighborhood and civic group meetings and events, which the project study team attended, met with residents and businesses, or gave presentations to the community included:

- Downtown KC 2023 Annual Luncheon, April 14, 2023
- Crossroads Community Association Infrastructure Committee, April 17, 2023
- Red Zone NFL Draft Event, April 28, 2023
- Guadalupe Center Cinco de Mayo Celebration, May 5, 2023
- Mid-America Regional Council Committee, May 11, 2023
- River Market Community Association, May 11, 2023
- 6th Council District Monthly Meeting, May 12, 2023
- Downtown Neighborhood Association, May 23, 2023
- First Fridays, June 2, 2023
- 5th Council District Monthly Meeting, June 5, 2023
- Blue Springs Chamber of Commerce Legislative Affairs Task Force, June 9, 2023
- Hispanic Chamber of Commerce Coffee with Carlos, June 15, 2023
- Westside Neighborhood Association, June 15, 2023
- Historic East Neighborhood Coalition, June 16, 2023
- Juneteenth Festival, June 17, 2023
- Columbus Park Neighborhood Meeting, June 21, 2023
- KC Connect with KC Chamber, June 21, 2023
- Mattie Rhodes Center Tamale Fest, June 24, 2023
- KCPL Central Library, July 19, 2023
- City Market Farmers Market, July 22, 2023
- Paseo West Neighborhood Association, July 26, 2023

As the project progresses through development phases, the study team will continue outreach to various neighborhood, civic, and other organizations as requested and as necessary [Commitment 13].

All federal agencies must comply with Title VI of the 1964 Civil Rights Act (Title VI). Under Title VI and related statutes, each federal agency is required to ensure that no person is excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, national origin, age, sex, disability, or religion.

FHWA administers its governing statutes to identify and avoid discrimination by:

- 1) Identifying and evaluating environmental, public health, and interrelated social and economic effects of FHWA programs, policies, and activities;
- 2) Providing public involvement opportunities and considering the results thereof, including providing meaningful access to public information concerning the human health or environmental impacts and soliciting input from affected populations in considering alternatives during the planning and development of alternatives and decisions.

3.4 Parks, Recreation, and Section 4(f) Resources

The U.S. Department of Transportation (USDOT) refers to publicly owned land from parks, recreation areas, and wildlife and waterfowl refuges, or land from historic sites that are listed or potentially eligible for listing on the National Register of Historic Places (NRHP), as “Section 4(f) properties” because they have special status under the provisions of Section 4(f) of the USDOT Act of 1966 (49 USC Part 303 and 23 CFR Part 774). Section 4(f) states that the administration may not approve the use of a Section 4(f) property unless a determination is made that 1) there is no prudent and feasible avoidance alternative to the use of the property and 2) the action includes all possible planning to minimize harm to the property; or if the use of the property, including any measures to minimize harm (avoidance, minimization, mitigation, or enhancement measures) will have a de minimis impact on the Section 4(f) property. In addition, any public park or recreation land that has used funds from the National Park Service’s (NPS) Land and Water Conservation Fund (LWCF) for acquisition or development is protected under Section 6(f) of the LWCF Act.

There are seven public parks, one private park, one dog park, and one trail (located within a park) within a half mile of the project study area, however there are no Section 4(f) eligible parks or trails within the project study area as shown on **Exhibit 3-5**. The park resources are:

City Hall Grounds

The City Hall Grounds Observation Deck is located in City Hall between East 11th and East 12th Streets and Oak Street and Locust Street. The City Hall Grounds Observation Deck is open to the public three days a week from 8 am – 4 pm by request.

Two Light Luxury Apartments Dog Park

This 0.14-acre dog park is located south of the westbound lanes of Truman Road, between Walnut Street and Grand Boulevard and immediately above and north of I-670 on Truman Road ROW. Truman Road ROW is owned by the City of Kansas City. The property is leased by the Two Light Luxury Apartments Homeowners Association (HOA) for use as a dog park from the City of Kansas City. While the property is located on public ROW, it is leased exclusively for the use of Two Light Luxury Apartments HOA members and is not open for use by the general public. Gates to the dog park are locked and opened using a code provided to HOA members. This dog park is not a Section 4(f) resource as it is not open to the general public for use.

West Terrace Park

West Terrace Park stretches along Beardsley Road, northwest of the project study area. The park is approximately 32.39 acres and contains walking trails, a dog park, and a playground. The park is a compilation of multiple smaller parks including Andrew Drips Park, Ermine Case Junior Park, Mulkey Square Park, and Jarboe Park, which are all within a half-mile of the project study area. This park property qualifies as a Section 4(f) resource but is not within the project study area.

Ilus Davis Park

Ilus Davis Park is located between Oak Street and Locust Street between East 9th Street and East 11th Street. The park is approximately 5.2 acres and contains walking paths and a fountain. The park is located to the northeast of the project study area. This park property qualifies as a Section 4(f) resource but is not within the project study area.

Barney Allis Plaza

Barney Allis Plaza is located between Wyandotte Street and Central Street between West 12th Street and West 13th Street. The property is built on top of an underground parking garage and is approximately 1.25 acres. The property is located to the north of the project study area and it is not considered a Section 4(f) resource by the City of Kansas City.

3.4.1 Parks, Recreation, and Section 4(f) Resource Impacts

No-Build Alternative Impacts:

The No-Build Alternative would not impact existing parks or recreational areas as there is no construction associated with this alternative.

Preferred Alternative Impacts:

Neither Preferred Alternative would impact any Section 4(f) or 6(f) park resources, as there are none located within the project study area. However, the Two Light Dog Luxury Apartments Park, a non-Section 4(f) dog park located on property leased from the City of Kansas City, will be impacted. The property the dog park currently sits on will be incorporated into the structural deck and green open space above I-670, thus removing the ability of the property to function as a dog park. The City of Kansas City and the Two Light Luxury Apartments HOA will review the lease agreement to determine future actions related to the dog park [Commitment 15].

The newly created publicly owned property above I-670 will have many amenities including recreational walking paths, gathering spaces, an amphitheater, native planting spaces, a dog park, and pavilions, all which qualifies the property as a Section 4(f) resource. A publicly owned park or recreational facility that qualifies for Section 4(f) protections may restrict or provide complicating factors when contemplating future maintenance and improvements to the I-670 tunnel, or to I-670 itself. In consideration of this issue, MoDOT and KCMO will enter into an air rights agreement that allows the City to occupy the space above I-670 for 99 years. This agreement shall satisfy the requirements of 23 CFR 774.11(i) by reserving the property for future transportation use [Commitment 7]. In doing so, impacts from the future transportation improvements are not considered a Section 4(f) impact. Additionally, the Project Partners, which includes KCMO, will establish a nonprofit 501(c)(3) organization to manage the implementation and long-term operations of the property and to help raise and manage funding for the project. The property governance for the created property is discussed in **Section 2.6.2** [Commitment 8].

3.5 Bicycle and Pedestrian Facilities

Bicycle and pedestrian facilities in or near the project study area include bicycle friendly roads, dedicated on-street bike lanes, sidewalks, and multi-use recreational trails. These facilities within a half-mile of the project study area are displayed on **Exhibit 3-6** and include:

Sidewalks

Sidewalks within the project study area are available and accommodating for bicycle or pedestrian use. Sidewalk widths in the project study area vary from 7 to 15 feet wide.

Bike Routes

Grand Boulevard is a bike route and has a dedicated northbound and southbound on-street bicycle lane to accommodate both bicycle and pedestrian activity. The Grand Boulevard bridge was constructed with the first barrier separated bike lane (southbound) in KCMO. This is the only

road in the project study area with dedicated bicycle lanes. Multiple other bike routes surround the project study area.

Trails

There are no trails within the project study area but three trails or trail systems exist within a half-mile of the project study area: Riverfront Heritage Trail, Ilus Davis Park Trail System, and the Oak Street Protected Trail. The trails are shown on **Exhibit 3-6**. **Table 3-6** summarizes the trails located within a half-mile of the project study area.

Table 3-6: Trails Within a Half-Mile of the Project Study Area

Facility	Type	Trail Description
Riverfront Heritage Trail	Regional	Eight-foot-wide shared use path
Ilus Davis Park Trails	Park Loop	15-foot-wide shared use path
Oak Street Protected Trail	Protected Lane	Protected bicycle and pedestrian lane

Note: Trails are listed from west to east

Riverfront Heritage Trail

The Riverfront Heritage Trail is a 15-mile paved shared use regional trail that connects downtown Kansas City, Kansas to downtown Kansas City, Missouri. The trail connects communities, parks, venues, and public artworks. Additionally, there are historical markers throughout the trail that explain the history of the Kansas City region. The trail enhances Kansas City's historic, cultural, and recreational facilities, gives users access to the Kansas and Missouri Rivers, and improves the region's quality of life and economy. The Riverfront Heritage Trail is located within and between Ermine Case Junior Park, Mulkey Square Park, Andrew Drips Park, Jarboe Park, and West Pennway Street.

Ilus Davis Park Trails

The Ilus Davis Park contains three approximate 0.2-mile-long trails. The 15-foot-wide trail runs along the east and west borders of Ilus Davis Park and is maintained by KCMO.

Oak Street Protected Trail

The Oak Street Protected Trail is an approximate 0.4-mile-long trail located along Oak Street between East 18th Street and East 22nd Street. The trail is a protected two-way lane along Oak Street intended for shared bicycle and pedestrian uses.

3.5.1 Bicycle and Pedestrian Facilities Impacts

No-Build Alternative Impacts:

The No-Build Alternative would not impact existing bicycle and pedestrian facilities other than routine maintenance for those currently in place.

Preferred Alternative Impacts:

The Preferred Alternatives would positively impact existing bicycle and pedestrian facilities by increasing connections. Existing bicycle and pedestrian facilities within the project study area would be integrated with the proposed bicycle and pedestrian facilities included with the structural deck over I-670. The introduction of the structural deck would increase the useable area for leisure pedestrian and bicycle activity rather than transportation-specific pedestrian and bicycle use. The park would be at street level throughout much of the project, with an exception between Wyandotte Street and Baltimore Avenue. With the park at street level between Baltimore Avenue and Grand Boulevard, pedestrians and bicyclists would be able to enter the park at any

location. Pedestrian accommodations at intersections along Truman Road in both directions will be maintained in their current state. Intersections at Baltimore Avenue and Walnut Street will be converted from signalized to stop controlled, maintaining pedestrian accommodations under both Preferred Alternatives. Truman Road will be narrowed in both directions through a lane reduction, this will improve pedestrian safety by shortening the crossing distance. Either Preferred Alternative would be designed to accommodate paved shared-use paths and sidewalks over I-670 that would connect the two cultural districts (CBD and Crossroads Arts). These paths would also connect with current bicycle and pedestrian networks in the vicinity of the project study area. All pedestrian access to the park and across I-670 will be ADA compliant.

3.6 Right-of-Way and Displacements

The Preferred Alternatives will not require ROW acquisition from MoDOT on I-670, or along the City of Kansas City's ROW for the Truman Road (north or south of I-670), Wyandotte Street, Baltimore Street, Walnut Street, or Grand Boulevard corridors or any public or private properties within or adjacent to the project study area.

No-Build Alternative Impacts

The No-Build Alternative does not involve construction or ROW acquisition and would not have any displacements.

Preferred Alternative Impacts

Neither Preferred Alternative will require the permanent acquisition of property for ROW. However, temporary easements for construction activities, staging, and phasing may be required. Areas disturbed or occupied for construction purposes will be returned to previous conditions or improved. Property owners that incur temporary construction impacts will receive compensation as determined by the City of Kansas City, MoDOT, and FHWA guidelines and processes for acquisitions in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended by the Surface Transportation Assistance Act of 1987 and 49 Code of Federal Regulations, Part 24 [Commitment 16].

3.7 Transportation

Within the project study area, I-670 is a six-lane barrier-divided interstate facility with a speed limit of 45 mph that sits below-grade between the westbound lanes of Truman Road (north of I-670) and eastbound lanes of Truman Road (south of I-670). The west side of the project study area includes westbound I-670 ramps to access I-35 north and I-35 south, to Broadway Boulevard, and to 12th Street. Ramps from I-35 north and I-35 south converge and join I-670 eastbound lanes in this area as well. The I-670 mainline facility serves approximately 105,000 vehicles per day (vpd) as of 2022, per MoDOT traffic volume maps.

At the city street network surface level, I-670 is crossed by (from west to east) Broadway Boulevard, Central Street, Wyandotte Road, Baltimore Avenue, Main Street, Walnut Street, and Grand Boulevard within the project study area boundary. Access to I-670 is provided by eastbound Truman Road to the east of the project study area. There are no other access points to I-670 provided within the project study area. As of 2022, westbound Truman Road serves an average of 4,600 vpd and eastbound Truman Road serves an average of 6,000 vpd within the project study area.

The transit network within the project study area includes a 300-foot segment of the Main Street route of the 2.2-mile Kansas City Streetcar (KC Streetcar) network. The KC Streetcar network connects the River Market, CBD, Crossroads Arts, and Crown Center districts into one corridor primarily using Main Street. Grand Boulevard, along the east boundary of the project study area, serves as a transit emphasis corridor as it is the primary north-south bus corridor serving downtown Kansas City. RideKC transit bus services in the project study area include:

- Main Street MAX BRT crosses through the project study area via Grand Boulevard.
- Routes 85, 201, 550, and 570 all cross through the project study area via Grand Boulevard.
- Route 47 crosses through the project study area via Grand Boulevard and runs adjacent to the north of the project study area via 12th and 13th Streets.
- Route 11 travels adjacent to the project study area via West 14th Street.
- Troost MAX crosses adjacent to the north and east of the project study area via 12th Street and Holmes Street.
- Routes 404, 519, 520, 563, 569, and 595 cross adjacent to the east of the project study area via Oak Street and run adjacent to the west of the project study area via I-35.

Exhibit 3-7 displays the transportation network in and adjacent to the project study area.

3.7.1 Transportation Impacts

No-Build Alternative Impacts:

The existing roadway and bridge structures will not be impacted by the No-Build Alternative as there is no planned construction associated with this alternative. Routine maintenance and repairs of the existing roadways and structures, both on the Interstate system and local street network, will occur as planned and necessary in the future. However, there will be no additional improvements to roadways, bridges, ramps, or the transit network within the project study area as part of the No-Build Alternative. Travel patterns in and through the project study area are expected to remain unchanged.

Preferred Alternative Impacts

The Preferred Alternatives do not propose any changes to ramps or lane reconfigurations of I-670 within the project study area. A portion of I-670 will be placed in a tunnel as part of the construction of the structural deck. Lighting, signage and wayfinding, fire suppression, safety, and related systems will be included and constructed consistent with MoDOT and FHWA design criteria and NFPA Section 502 standard criteria for Category C tunnels [Commitment 29]. More information regarding required tunnel systems is found in **Section 3.22**.

The Preferred Alternatives propose to create an ‘eastern or western superblock’ of structural deck, which requires the removal of either the existing Walnut Street bridge or Baltimore Avenue bridge over I-670. The Walnut Street and the Baltimore Avenue bridges are two of seven existing bridges over I-670 in the project study area. The Walnut Street bridge was constructed in the 1960’s and rehabilitated in 2007. The Baltimore Avenue bridge was constructed in 1963 and replaced in 2021. To construct a structural deck with an expected 100-year life span, either the Walnut Street bridge or the Baltimore Avenue bridge will be removed and incorporated into the structural deck as part of the project. Both streets are part of the City of Kansas City’s local street network, and while they lie within the MoDOT I-670 ROW, they are jointly maintained by MoDOT and the City of Kansas City. The City of Kansas City is a member of the Project Partner

team and has concurred with the removal of either bridge and the construction of the structural deck in its place, removing the one bridge as a link in the City's transportation network. The six remaining bridges within the project study area would remain as they are with the additions of open green space and pedestrian and bicycle transportation accommodations, including enhanced sidewalks and crosswalks, park trails, and other amenities.

In addition to the removal of either the Walnut Street bridge or the Baltimore Avenue bridge, the Preferred Alternatives propose to reduce both westbound and eastbound lanes of Truman Road (both north and south of I-670) from three through lanes to two through lanes in the project study area. The lane reduction is proposed to provide additional space adjacent to the structural deck for grade transitions to accommodate increased structural girder depth crossing I-670, and to provide additional open green space and room for multimodal improvements. The specific improvements proposed to the local street network include:

- Implementing two lanes along Truman Road (two westbound lanes on North Truman Road and two eastbound lanes on South Truman Road) plus closing the Baltimore Avenue or Walnut Street bridge to vehicular traffic; and
- Adding all-way stop signs at intersections along Baltimore Avenue and Walnut Street and adding an exclusive eastbound left turn lane at South Truman Road and Grand Boulevard.

The Study Team analyzed the potential traffic operational and safety impacts from removing either the Walnut Street bridge or the Baltimore Avenue bridge over I-670 and reducing eastbound and westbound Truman Road from three to two lanes. Additionally, adding stop sign controlled intersections at the Baltimore Avenue and Walnut Street intersections with Truman Road for traffic calming purposes. Existing No-Build, future No-Build, Preferred Alternative (Eastern Superblock), and Preferred Alternative (Western Superblock) level of service (LOS) operations are displayed in **Table 3-7a** and **3-7b**.

Table 3-7a: Existing, Future No-Build, Preferred Alternative (Eastern Superblock), and Preferred Alternative (Western Superblock) Local Intersection LOS AM Peak Hour

Intersection	Existing (2023)	No Build (2050)	Preferred Alternative (Eastern Superblock) (2050)	Preferred Alternative (Western Superblock) (2050)
N Truman Rd & Baltimore Ave				A
S Truman Rd & Baltimore Ave	B	C	C	C
N Truman Rd & Main St	C	D	C	D
S Truman Rd & Main St	C	D	C	D
N Truman Rd & Walnut St	C	C	A	C
S Truman Rd & Walnut St	A	B	B	B
N Truman Rd & Grand Blvd	C	C	B	C
S Truman Rd & Grand Blvd	B	B	B	B

Source: HNTB 2023 Traffic Analysis, HCM and Synchro

Table 3-7b: Existing, Future No-Build, Preferred Alternative (Eastern Superblock), and Preferred Alternative (Western Superblock) Local Intersection LOS PM Peak Hour

Intersection	Existing (2023)	No Build (2050)	Preferred Alternative (Eastern Superblock) (2050)	Preferred Alternative (Western Superblock) (2050)
N Truman Rd & Baltimore Ave	B	A	C	B
S Truman Rd & Baltimore Ave	A	B	B	B
N Truman Rd & Main St	C	C	C	C
S Truman Rd & Main St	B	C	C	C
N Truman Rd & Walnut St	B	B	B	B
S Truman Rd & Walnut St	A	B	C	C
N Truman Rd & Grand Blvd	B	B	B	B
S Truman Rd & Grand Blvd	B	C	C	C

Source: HNTB 2023 Traffic Analysis, HCM and Synchro

As shown in **Tables 3-7a and 3-7b**, traffic analyses demonstrated that the local street network intersection operations in and surrounding the project study area operate at an acceptable LOS during both AM and PM peak hours in the existing No-Build, future No-Build, and both Preferred Alternative scenarios. The Eastern Superblock Preferred Alternative scenario (two lanes only on Truman Road in each direction, plus adding an exclusive eastbound left turn lane at South Truman Road and Grand Boulevard, closing the Walnut Street bridge, and adding stop signs at the Baltimore Avenue and Walnut Street intersections) results in all the intersections operating with an acceptable LOS, LOS C or better during the AM and PM peak hours. The unsignalized intersections are projected to operate with an acceptable LOS, LOS C or better during the AM and PM peak hours. The Western Superblock Preferred Alternative scenario (two lanes only on Truman Road in each direction, plus adding an exclusive eastbound left turn lane at South Truman Road and Grand Boulevard, closing the Baltimore Street bridge, and adding stop signs at the Baltimore Avenue and Walnut Street intersections) results in all the intersections operating with an acceptable LOS, LOS D or better during the AM and PM peak hours. The unsignalized intersections are projected to operate with an acceptable LOS, LOS C or better during the AM and PM peak hours.

A predictive safety analysis comparing the future No-Build condition with the Eastern Superblock and Western Superblock alternatives was performed. The predictive analysis demonstrated a net 36 percent reduction in predicted crashes for the Eastern Superblock and a net 32 percent reduction for the Western Superblock on the surface arterial network, including the Truman Road intersections. **Tables 3-8a through 3-8c** shows the predictive safety analysis results. The number of fatal and injury crashes are also predicted to decrease substantially. Both Preferred Alternatives include the reduction of North and South Truman Road cross-sections and the removal of turn lanes, resulting in a decrease in the number of conflict points at the intersections and, consequently, a reduction in the likelihood of crashes occurring at those intersections.

**Table 3-8a: Predictive Safety Analysis Results
Number of Crashes**

Alternative	Total Crashes	F+I Crashes	PDO Crashes
No Build			
Eastern Superblock (closing Walnut)	34.1	8.1	26
Western Superblock (closing Baltimore)	36.1	8.8	27.4

**Table 3-8b: Predictive Safety Analysis Results
Delta (No-Build to Build)**

Alternative	Total Crashes	F+I Crashes	PDO Crashes
No Build			-
Eastern Superblock (closing Walnut)	-19	-5	-15
Western Superblock (closing Baltimore)	-17	-4	-13

**Table 3-8c: Predictive Safety Analysis Results
Percent Change**

Alternative	Total Crashes	F+I Crashes	PDO Crashes
No Build			-
Eastern Superblock (closing Walnut)	-35.8%	-36.1%	-35.9%
Western Superblock (closing Baltimore)	-31.9%	-30.6%	-32.5%

An additional high-level safety evaluation was conducted to compare the currently enclosed portion of I-670 under the Bartle Hall Convention Center and Ballroom versus the uncovered portions of the I-670 corridor in the project study area to determine if there were potential safety concerns with placing the remainder of the corridor within a tunnel. Under the Bartle Hall Convention Center (the enclosed portion) there were 224 crashes over the 5-year period from 2017 to 2021. These crashes occurred over an 870-foot segment from Broadway Boulevard to Wyandotte Street, averaging approximately 1,360 crashes per mile. To the east on I-670, the 1,985-foot uncovered portion from Wyandotte Street to Oak Street saw 340 crashes over the same period, an average of 904 crashes per mile. The results of this high-level analysis demonstrated that the enclosed section of I-670 averaged more crashes per mile. However, crashes within the enclosed section were primarily rear end and passing crashes with no conclusive evidence from the crash data pointing to a specific cause besides congestion and multiple weaving movements.

Due to limitations in predictive safety modeling in relation to tunnels, a predictive analysis was not completed. In some aspects tunnels are safer than open roadways due to changes in driver behavior, in other aspects they have additional challenges due to restricted clear zones and barriers. I-670 currently has many of the same constraints and challenges that are inherent in tunnels, such as the lack of clear zones due to the walls and a center median barrier. Additionally, the impacts from safety features such as fire suppression and incident management will likely reduce the severity level of crashes. Safety will be considered during final design to determine the potential impact due to lane configuration changes. Additional detail regarding traffic and safety evaluations is in **Appendix B**, Traffic and Safety Analysis Reports.

3.8 Cultural Resources and Section 106

NEPA requires that agencies consider the effects of projects on all aspects of the human environment, in this case understood to include bridges, buildings, archaeological sites and landscapes.

Section 106 of the National Historic Preservation Act (NHPA) requires that the federal agency responsible for an undertaking (for this project, FHWA) consider the effects of its actions on historic properties. Historic properties are defined as districts, sites, buildings, structures, and objects listed on or eligible for listing on the NRHP. Steps include:

- Initiating the Section 106 process with SHPO and/or the appropriate Tribal Historic Preservation Offices.
- Identification of historic properties that may be affected.
- Assessment of effects to historic properties.
- Resolution of adverse effects to historic properties.

The Project Partners with the assistance of MoDOT, on behalf of FHWA initiated consultation under Section 106 of the NHPA for the project on July 18, 2023 with SHPO. The area of potential effect (APE) was identified 200 feet wider than the project study area for the EA as shown in **Figure 1-2**.

Architectural Resources

In total, twenty-seven (27) resources were surveyed within the APE, including eleven (11) historical resources, eight (8) contemporary resources, and eight (8) bridges.

There were eleven (11) historical resources (more than 40 years of age) with construction dates ranging from 1902 to 1966. Of these eleven (11) historical resources, two (2) were historic resources individually listed on the NRHP, three (3) historic resources were listed as contributing to a historic district, and one (1) resource was listed as non-contributing to a historic district. There were three (3) historic resources eligible for listing. A portion of one (1) historic district, that of the Walnut Street Warehouse and Commercial Historic District (as well as its boundary increase) overlapped with a portion of the APE. No additional potential historic districts, historic designed landscapes, or cultural landscapes were identified.

There were eight (8) contemporary resources (less than 40 years of age), excluding bridges, within the APE. The contemporary resources identified within the APE are currently not eligible for listing as they do not meet the requirements for exceptional significance (Criterion G) and are not at least fifty (50) years of age.

Eight (8) bridges were identified within the APE. There are six (6) bridges within the APE that are covered under the 2012 Program Comment for Streamlining Section 106 Review for Action Affecting Post-1945 Concrete and Steel Bridges (77 Federal Register 222: 68790-68795) due to their type and location. The Program Comment was put in place to streamline the Section 106 Process for common Post-1945 concrete and steel bridge types, relieving federal agencies from Section 106 requirements of considering an undertaking's effects on these bridges and eliminating repetitive and redundant documentation and review. Two (2) of the bridges identified within the APE, bridges A0819 and A8527, although included in Section 106 activities due to their proximity to a Historic District, are not eligible for listing due to their common type.

A detailed breakdown of all resources can be found in the Section 106 Report in **Appendix C**.

The Missouri SHPO concurred with these NHRP eligibility determinations on February 15, 2024.

Archaeological Resources

Archaeological background research within the project study area determined that fifteen decades of urban settlement suggest a high potential for buried cultural deposits in the project study area. Sanborn Fire Insurance maps published from 1897 to 1907 indicate potential buried deposits in the APE might be present along South Truman Road between Grand Boulevard and Wyandotte Street. Sanborn maps published from 1909 to 1958 indicate potential deposits might be present in the APE along North Truman Road between Grand Boulevard and Wyandotte Street. However successive cycles of property development, redevelopment, and infrastructure improvements have possibly affected the potential for recovering significant data throughout the APE. The Sanborn maps show relatively consistent street and structure locations during the first half of the twentieth century. However, historic aerial photographs document major changes to the built environment between 1948-1995 (EarthExplorer 2023).

Aerial photographs indicate the number of affected parcels and structures were consistent between 1948 and 1963 when the first sections of the I-670 corridor was constructed. Within the APE, there were 13 city blocks with a total of 42 structures which were directly affected by the construction of the I-670 corridor. Between Grand Boulevard and Wyandotte Street, the limits of affects were portions of the seven city blocks north of 15th Street (now South Truman Road). Within the APE west of Wyandotte Street, the affected blocks are north and south of 15th Street and do not extend beyond 14th and 16th Streets. Subsequently, there were two structures fronting 14th Street which were removed before the construction of the Ballroom which spans the I-670 corridor between Wyandotte and Central Streets.

While the historic street layout and the structures visible on Sanborn maps and historic aerial photographs point to the areas where buried deposits should have the greatest potential, the extent of the known disturbances allows for some interpretation of the likelihood that materials remain in situ. The greatest potential for undisturbed layouts of building elements and open space should be the former midblock locations north of I-670 corresponding to what is now North Truman Road and the areas where the natural grade may still exist between Main Street, Baltimore Avenue, and Wyandotte Street. However, these and the other grass covered areas within the APE, north of I-670, have been reconstructed in the past and in recent years (ca. 1991-2023) large, new buildings have been constructed between North Truman Road and 14th Street. The areas south of I-670 were also subject to ground disturbance during the highway construction and most of those grassy areas visible today were once the ROW for 15th Street, as can be seen where its current alignment matches its historic alignment east of Locust Street. It should be noted that all of the former structures seen in historic maps and aerial photographs would have been razed prior to the

new building constructions and any potential buried archaeological deposits would have been subjected to at least some ground disturbance in the modern period.

Most greenway segments within the APE along North Truman Road are approximately eight feet wide and accommodate one or more buried utilities, each of which enjoys a two-foot-wide buffer zone on both sides to avoid service interruptions and legal liability for excavators, which significantly limits subsurface investigation. Greenways along South Truman Road are somewhat wider but share similar limitations. The surfaces of these greenways consist of severe hardpan that refused conventional Phase I techniques, such as shovel-tests and soil probes. Based on the documented construction episodes and changes to the original street grid within the APE, the likelihood that intact buried deposits exist within the APE is low. Any archaeological resources which may be present within the APE were probably redeposited during the development of the I-670 corridor and the redevelopment of historic blocks which now contain modern constructions. The current built environment typically has large structures and pavement extending over the entire property so testable areas are few. The grass covered areas that do exist were also typically reconstituted at least once in the historic period.

Tribal/Cultural Resources

No traditional cultural properties or properties with tribal significance has been identified within or adjacent to the project study area. With the assistance of MoDOT and FHWA consultation was initiated with federally- recognized tribal nations with ancestral, historical, or ceded land connections to the project study area in Missouri in April 2023. The following Tribes were consulted:

- Iowa Tribe of Kansas and Nebraska;
- Iowa Tribe of Oklahoma;
- Kaw Nation of Oklahoma;
- Miami Tribe of Oklahoma;
- The Osage Nation;
- Ponca Tribe of Nebraska;
- Ponca Tribe of Indians of Oklahoma;
- Sac and Fox Nation of Missouri in Kansas and Nebraska;
- Sac and Fox Tribe of the Mississippi in Iowa;
- Sac and Fox Nation of Oklahoma;
- Shawnee Tribe; and
- Wyandotte Nation.

3.8.1 Cultural Resources and Section 106 Impacts

No-Build Alternative Impacts

The No-Build Alternative would not impact any cultural resources within the project study area due to the lack of construction or changes to the project study area.

Preferred Alternative Impacts

Architectural Resources

The results of the cultural resources survey (**Appendix C**) found that no potential historic districts, historic landscapes, or cultural landscapes were identified to be impacted as a result of either Preferred Alternative. The cultural resource survey considered effects (both direct and

indirect) to resources, including visual and atmospheric effects and effects from construction activities (e.g. ground disturbance, vibration).

Six (6) of the bridges within the APE are covered under the 2012 Program Comment for Streamlining Section 106 Review for Action Affecting Post-1945 Concrete and Steel Bridges (77 Federal Register 222: 68790-68795) due to their type. Two (2) of the bridges identified within the APE, bridges A0819 (Walnut Street) and A8527 (Grand Boulevard), although part of Section 106 activities due to their proximity to a historic district, are also not eligible for the NRHP.

Archaeological Resources

Further work to identify and evaluate the significance of potential buried deposits in the APE is recommended before the present project proceeds to construction. Due to the limitations with current Phase I testing (probe and shovel refusal and presence of underground utilities) within the project corridor, additional testing and investigation will occur prior to project construction based on a Programmatic Agreement (PA) developed by FHWA, the Missouri SHPO, the Missouri Highway and Transportation Commission, and the Project Partners. This PA focuses on testing and/or monitoring buried utility relocations for identifying potential buried deposits indicated by Sanborn maps in the APE. Additional archaeological research will be conducted focusing on the identification and recovery of any potential artifacts and information that may exist in the greenway spaces adjacent to South and North Truman Road where previous archaeological testing was inconclusive due to the built environment's negation of standard Phase I survey methods. Archival research will seek to identify historic properties, their layout, and the potential for preservation within the APE [Commitment 17]. The PA can be found in **Appendix C**.

Tribal/Cultural Resources

No properties of tribal interest were identified within the project study area.

The Project Partners, MoDOT, and FHWA will continue consultation and coordination with the federally recognized Tribes [Commitment 18]. In the event that a previously unevaluated historic property is discovered during construction, all construction and excavation activities will cease immediately within the area. The area will be secured, the material left in place with no further disturbance, and MoDOT, the Missouri SHPO, FHWA, and any Tribal Nations, as appropriate should be contacted immediately per the PA [Commitment 19].

3.8.2 Mitigation for Adverse Effects Under Section 106

The Project Partners with the assistance of MoDOT will continue the Section 106 consultation process for the Preferred Alternatives. Due to the challenges regarding Phase I testing for archeological resources and the potential for resources to exist, a PA has been developed to address potential unforeseen or post-review discoveries. It also includes an Archaeological Testing Plan, intended to develop additional information regarding potential resources due to Phase I testing procedures being ineffective. Appropriate stipulations are being developed and will be memorialized in a Section 106 PA. The agreement is included in **Appendix C**.

Development and execution of the PA is appropriate for this project because a determination of effects to archaeological resources cannot be completed until final design and construction. Phase I archaeological testing was inconclusive due to the built environment's negation of standard Phase I survey methods (shovel and probe) and the presence of underground utilities. Access to these areas is possible during initial construction activities.

The PA commits to the following in regard to archaeological resources [Commitment 17]:

- Ensuring that archaeological investigations are conducted in a manner consistent with Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation and SHPO's Guidelines for Phase I Archaeological Surveys and Reports.
- Properties, including greenspaces along utility corridors that could not be accessed during the Phase I investigation shall be surveyed.
- Continued consultation between the Project Partners, MoDOT, SHPO, FHWA and appropriate Tribal Nations [Commitment 18].

Though no adverse effects on archaeological resources are anticipated, the PA outlines the development of a mitigation plan if adverse effects are identified during construction or future investigations and cannot be avoided.

3.9 Construction

Construction activities typically include temporary roadway closures, detour routes, prohibited turns, and possible lane width restrictions. These modifications can all impact emergency response times and access to incidents requiring first responder presence. Additionally, throughout the duration of a project, construction activities can result in negative impacts on the air quality within and adjacent to the project study area. Most impacts are temporary and would primarily result from construction trucks and equipment. The amount and type of equipment used for the project will determine the adverse effects that result. Regardless, contractors on the project will be required to comply with all applicable local, state, and federal air pollution regulations.

3.9.1 Construction Impacts

No-Build Alternative Impacts

There is no new construction associated with the No-Build Alternative, therefore there are no direct impacts to construction. Scheduled routine maintenance and construction of facilities in the project study area will occur as planned with the No-Build Alternative. The Walnut Street bridge that crosses I-670 will be replaced before the end of its useful life, which may have temporary construction impacts. The No-Build Alternative will not result in any major unanticipated changes or impacts.

Preferred Alternative Impacts

Construction of either Preferred Alternative will result in temporary construction, maintenance, and operations of building the structural deck over I-670, and with improvements to both westbound and eastbound Truman Road.

To construct the structural deck over I-670, girders would be laid over the top of I-670. Temporary closures of I-670, likely at night when traffic volumes are lowest, would be necessary to place the girders. The exact location, timing, and duration of road or lane closures will be coordinated with MoDOT and finalized during later design phases.

Construction methods and operations will be conducted in accordance with the City of Kansas City, MoDOT and Missouri Department of Natural Resources (MoDNR) regulations, particularly concerning clearing, grubbing, dust control, and air emissions functions. In addition, local and

regional access to existing rural and urban areas and facilities will be maintained during construction [Commitment 21].

Measures will be taken to reduce fugitive dust and other emissions generated during construction. Emissions from construction equipment would be controlled in accordance with emission standards prescribed under state and federal regulations. Materials resulting from clearing and grubbing, demolition, or other operations, with the exception of materials to be retained, would be removed from the project and disposed of by the contractor [Commitment 22].

Normal construction procedures may cause temporary reductions in air quality. Construction permit and contract conditions will require adherence to standard dust control measures for cleared areas during construction. Additionally, burning of construction debris will be prohibited and requirements to properly dispose of all such material off site will be included. No adverse long-term effect on air quality will occur since unique construction procedures are not expected and construction activities will be temporary in nature.

The major construction elements of this project are expected to be clearing, earth moving, hauling, grading, paving, and structural deck construction. General construction noise impacts for passersby and those individuals living or working near the project study area can be expected particularly from clearing, earth moving, and paving operations. Considering the short-term nature of construction noise, the impacts are not expected to be substantial.

3.10 Emergency Routes

It is essential for the health, safety, and general welfare of a community that emergency response vehicles and services have adequate roadway access to all residential, commercial, and industrial properties. The I-670 corridor is a vital route within the Kansas City region, facilitating access to downtown Kansas City, and serving as a connecting route between I-35 and I-70. Both I-35 and I-70 are Interstate facilities of national importance connecting major freight hubs and for regional commuting and commerce. I-670's role in connecting these routes is of vital importance and long-term closures could have substantial impacts on regional commerce, mobility, and safety.

3.10.1 Emergency Route Impacts

No-Build Alternative Impacts

There is no new construction associated with the No-Build Alternative, therefore there are no direct impacts to existing emergency routes. Scheduled routine maintenance in the project study area will occur as planned with the No-Build Alternative. The Walnut Street bridge that crosses I-670 will be replaced before the end of its useful life, which may have temporary emergency route impacts. The No-Build Alternative will not result in any major unanticipated changes or impacts.

Preferred Alternative Impacts

Construction of either Preferred Alternative will not result in permanent impacts to emergency routes due to the building of the structural deck over I-670, and improvements to both westbound and eastbound Truman Road. Impacts to emergency response times, if any, would be temporary in nature to the period of time required during construction. KCFD Station #8 is the nearest first responder location for the project study area and is located at 1517 Locust Street, approximately 1,000 feet from the project study area. The nearest police station is the KCPD Headquarters at 1125 Locust Street, approximately 1,700 feet from the project study area. Due to the proximity of first responder services to the project study area, the availability of alternate routes around Truman Road and I-670, and the localized nature of construction activities for the project, first responder times are not expected to be largely impacted during construction of the Preferred Alternative.

3.11 Water Resources

There are no existing water resources, including wetlands, streams, or ponds in, or within a half mile, of the project study area. The National Wetlands Inventory (NWI) and current and historical aerial mapping of the project study area do not show any surface waters or markers that would indicate water resources are currently, or were previously, located in or within a half mile of the project study area. Aerial photography of downtown Kansas City from the 1930s through the 1980s show the project study area was a heavily developed urban industrial and commercial area, and any previously extant surface waters were likely drained, realigned, or relocated into the city's storm water conveyance system.

3.11.1 Water Resource Impacts

No-Build Alternative Impacts

There is no new construction associated with the No-Build Alternative, therefore there are no impacts to any water resources within the project study area.

Preferred Alternative Impacts

There are no identified water resources in the project study area. Therefore, neither Preferred Alternative will likely impact any water resources.

3.12 Surface Waters and Water Quality

Section 303(d) of the Clean Water Act (CWA) requires states to identify all water bodies where state water quality standards are not being met. Water quality in Missouri is governed by the Code of State Regulations 10 CSR 20-7.031 and is administered by the MoDNR. MoDNR maintains an impaired waters list, which was reviewed to determine if any surface waters within or near the project study area contained impairments that require a Total Maximum Daily Load (TMDL).

The project study area lies within, and is drained by, the Lower Missouri-Crooked (10300101) eight-digit hydrologic unit code (HUC 8) subbasin of the Missouri River Basin. While there are no surface waters present within the project study area, the confluence of the Missouri River and Kansas River is located approximately 1.8 miles northwest. Stormwater flows from the project study area and eventually drains to the Missouri River. The Missouri River, for the entirety of its length in Missouri, is listed on the 303(d) list of impaired waters with a primary pollutant of *E. coli*.

coli; and, municipal point source and nonpoint source discharges are the primary sources of pollution.

Major considerations for potential water quality impacts are sedimentation, contamination from street surface runoffs, agents for weed, insect, and rodent control, contamination from chemical or other toxic material spills, and groundwater pollution. Sediment loads in rivers, streams, and wetlands can have an impact on drinking water quality and aquatic animals by limiting oxygen absorption. Sedimentation may result from bridge and drainage facility construction and erosion resulting from project construction. Standard engineering best management practices (BMPs) of mitigation, i.e., temporary erosion, sediment, and water pollution control, should prove to be adequate to minimize sedimentation and water quality impacts.

Groundwater well data indicated one groundwater well within the project study area, which did not provide groundwater level data. The majority of the project study area is paved with concrete or asphalt, and construction is unlikely to affect groundwater as it would be above grade. Drinking water supplied to the project study area is from the Missouri River which accounts for approximately 80 percent of the City of Kansas City's water supply.

MoDNR is responsible for administering the National Pollutant Discharge Elimination System (NPDES) to protect waters of the state from sediment and other contaminants. Any project that disturbs greater than one acre from construction activities requires a stormwater permit from the MoDNR. The primary requirement of the stormwater permit is the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must specify the "BMPs" to be employed and what controls will be implemented to minimize the contamination of stormwater runoff associated with construction activity. The contractor is responsible for developing the SWPPP and obtaining the stormwater permit for MoDNR [Commitment 23].

The contractor will also obtain a Site Disturbance Permit from the City of Kansas City per City Code Section 63-25 and prepare an Erosion Control and Sediment Control Plan per Section 63-30 [Commitment 23].

3.12.1 Surface Waters and Water Quality Impacts

No-Build Alternative Impacts

There is no new construction associated with the No-Build Alternative, therefore the No-Build Alternative will not impact the water quality within the project study area.

Preferred Alternative Impacts

Both Preferred Alternatives are anticipated to decrease the volume and rate of stormwater runoff during heavy rain events due to the addition of soil, plants, green space, and other pervious surfaces on top of I-670, which would limit the direct storm water runoff into sewer systems. Plants and trees planted on the structural deck over I-670 would absorb and use water from rain events, and soil would absorb additional, but not all, excess rainfall. Future design phases may consider implementing additional stormwater BMPs, such as rain gardens and bioswales, to manage and treat stormwater runoff in the project study area [Commitment 24].

No streams exist within the construction limits of either Preferred Alternative. The Preferred Alternatives may temporarily increase construction-related stormwater runoff. Potential construction, operations and maintenance impacts to water quality could include pollutants such

as sediment, petroleum products, coolants, rubber debris, metals, and de-icing minerals/chemicals. Pollutants from the construction, operation, and maintenance of the Preferred Alternative could contribute to loadings of surface waters, which are a recharge component of local alluvial groundwater. Most of the surface loading is flushed during initial high flows associated with precipitation events, with very little left to infiltrate groundwater. As a result, the Preferred Alternatives would not greatly affect surface or groundwater within the project study area.

To minimize or avoid impacts to surface water quality, the construction contractor will submit an NOI to obtain the NPDES stormwater construction permit. The contractor will develop a SWPPP and secure the NPDES permit. In an urban setting, a BMP plan may use elements such as: seeding disturbed areas as soon as possible, installing ditch checks and silt fences at the outset of construction, and taking all necessary precautions to prevent petroleum products from entering the stormwater system. The contractor will be responsible for the monitoring of the BMPs and updating the SWPPP as necessary during project construction [Commitment 23]. In addition, coordination with the City and MoDOT will occur to control temporary runoff during construction [Commitment 24].

The contractor will follow BMPs to reduce impact to groundwater during construction and will also follow recommendations set forth in the TMDLs for the Missouri River. Structural BMPs such as detention basins, filters, infiltration basins, and constructed wetlands are unlikely to be used to capture, retain, and treat stormwater in a limited construction area such as the project study area. Other non-structural BMPs such as street sweeping, debris and litter removal, and control of fertilizer, herbicide, and pesticide use can control pollutant sources. Best practice uses and control of de-icing materials and methods can also reduce pollutant load [Commitment 23].

3.13 Floodplains

EO 11988 on Floodplain Management directs federal agencies “to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.”

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) and the National Flood Hazard Layer (NFHL) showing mapped 500-year floodplains, 100-year floodplains, and regulatory floodways were available for Jackson County. Floodplains and floodways located within a half mile of the project study area are shown on **Exhibit 3-8**. According to the FIRM and NFHL data, the project will not occur within a 100-year floodplain or regulated floodway.

3.13.1 Floodplain Impacts

No-Build Alternative Impacts

There is no new construction associated with the No-Build Alternative, therefore the No-Build Alternative would not impact the 500-year floodplain, 100-year floodplain, or regulatory floodway.

Preferred Alternative Impacts

Construction of either Preferred Alternative will not occur within a FEMA floodplain or regulatory floodway. Therefore, the Preferred Alternatives would not impact the 500-year floodplain, 100-year floodplain, or regulatory floodway.

3.14 Wildlife and Habitat

The project study area is in the Osage Plains physiographic region of Missouri, which extends into Kansas, Oklahoma, and northern Texas. The eastern portion of the Osage Plains is characterized as a transitional area between prairie and woodland and primarily consists of savannah and woodland along the eastern and southern areas.

The project study area is located within downtown KCMO, and, therefore, has little vegetation or natural wildlife habitat present. The Missouri River is about 0.9 miles away from its closest point. Other greenspaces in the general area of the project study area are all parks within the city or located within the interchange of I-670 and I-35. Within the project study area there are small patches of vegetation that consist of mowed grass and shrubs or small trees along the roadside between I-670 and Truman Road, both north and south of I-670. Surrounding these small patches are concrete or asphalt sidewalks and roads, which cover approximately 90% of the surface area in the project study area. Based on the limited vegetation present and general urban environment, there is likely no major wildlife presence or critical habitat present within the project study area.

3.14.1 Wildlife and Habitat Impacts

No-Build Alternative Impacts

There is no new construction associated with the No-Build Alternative, therefore the No-Build Alternative would not impact any wildlife or natural resources within the project study area.

Preferred Alternative Impacts

Neither Preferred Alternative will negatively impact any wildlife or natural resources within the project study area. However, with the addition of greenspace, benefits to urban wildlife will likely occur through the creation of additional urban habitat.

3.15 Threatened and/or Endangered Species

Federally listed threatened and endangered species are subject to the protection afforded under Section 7 of the Endangered Species Act of 1973, as amended (ESA) (16USC 1531 et seq.). The ESA provides protection of animal and plant species that are in population decline and in jeopardy of becoming extinct. The Migratory Bird Treaty Act (MBTA) makes it unlawful to pursue, hunt, take, capture, or kill; attempt to take, capture, or kill; possess, offer to sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried, or received any migratory bird, part, nest, egg, or product, manufactured or not. Provisions are in place for the protection of migratory birds, parts, nests, eggs, or products. Under the MBTA, “migratory birds” includes all birds native to the U.S. and the regulations pertain to any time of the year, not just during migration.

Coordination with the U.S. Fish and Wildlife Service (USFWS) and the Missouri Department of Conservation (MDC) was conducted using the USFWS IpaC tool on June 27, 2023 (Project

Code: 2023-0098059), updated on October 9, 2024, and through early agency coordination contacts. USFWS lists six threatened and/or endangered species that could potentially be located within the Action Area. There are no species with designated critical habitat within the Action Area. There are no species listed at the state level as endangered. The federal (USFWS) listed threatened and endangered species are listed in **Table 3-9**.

Table 3-9: Federal & State Listed Threatened or Endangered Species

Common Name	Scientific Name	Federal Status	State Status	Critical Habitat in Action Area	Effects Determination
Monarch Butterfly	<i>Danaus plexippus</i>	Candidate	Not Listed	None	-
Pallid Sturgeon	<i>Scaphirhynchus albus</i>	Endangered	Endangered	None	No Effect
Tricolored bat	<i>Perimyotis subflavus</i>	Proposed	Not Listed	None	No Effect
Gray Bat	<i>Myotis grisescens</i>	Endangered	Endangered	None	No Effect
Indiana Bat	<i>Myotis sodalis</i>	Endangered	Endangered	None	No Effect

3.15.1 Threatened and/or Endangered Species Impacts

No-Build Alternative Impacts:

There is no new construction associated with the No-Build Alternative, therefore the No-Build Alternative would not impact any threatened or endangered species.

Preferred Alternative Impacts:

Neither Preferred Alternative would impact any threatened or endangered species as there is no habitat present within the Action Area to support the listed species as shown in the species descriptions below.

Monarch Butterfly

Two Monarch butterfly populations exist in North America—east and west of the Rocky Mountains. The western population migrates to overwintering sites in California, and the eastern population migrates to the country of Mexico. Both populations are in serious decline, but the western population has been nearly extinct in recent years. Under the ESA, if the USFWS determines that the western population should be protected and listed, the eastern population must receive the same protections and listing status. Milkweed is an obligate host plant for eggs and larvae, and adult butterflies need a variety of blooming nectar sources during breeding and migration. Candidate status under ESA Section 7 does not provide species protection and neither consultation or conference, whether formal or informal is required for Federal-aid highway projects. Based on guidance from USFWS to MoDOT’s Environmental Compliance Manager on January 5, 2022, conferencing for Monarch butterfly is not required unless MoDOT receives funding from USFWS. No USFWS-funding is in this project; therefore, an effects determination for this species was not made.

Pallid Sturgeon

Pallid sturgeon are found in the Missouri and Mississippi Rivers and some of their major tributaries in Missouri. Their preferred habitat has a diversity of depths and velocities formed by braided channels, sand bars, sand flats, and gravel bars. There will be no impact to the Mississippi or Missouri Rivers or their major tributaries and no effect on pallid sturgeon.

Gray and Indiana

Gray bats are cave obligate species which congregate in maternity or bachelor colonies in the summer using dome cave and mine habitat, and during winter hibernation congregate in mixed colonies in vertical or pit-type caves and mines. They use mainly stream corridors for foraging spring through fall. Gray bats have been recorded statewide except for northwest Missouri. It is possible for gray bats to roost in small clusters temporarily on a bridge or inside large culverts.

Indiana bats hibernate in caves during winter and spend the breeding season in forested areas of the state where they may use suitable summer roost trees. Roosting and maternity habitat consist primarily of live or dead hardwood trees with shingle-like bark providing space for bats to roost underneath the bark. Summer habitat for these species includes minimum diameter five-inch trees with suitable characteristics of exfoliating bark, splits, crevices, hollow sections, and other damage. This bat species could occur anywhere in Missouri where suitable habitat exists. Removal of suitable summer roost trees at any time of the year may affect the species.

A search of the MoDNR Geosciences Technical Resource Assessment Tool (GeoSTRAT) did not show any mines or karst features (sinkholes, caves, losing streams, or springs) within the project study area; therefore, the project will not impact karst areas and will have No Effect on the Gray bat or its habitat. Habitat and roosting requirements for the remaining bat species include mature trees with exfoliating bark or snags present for roosting. The project study area is completely within ROW and does not include any forested habitat or riparian areas. There would be no suitable forested habitat removed during project construction. Based on the lack of suitable forested habitat within 1,000 feet of the project study area, lack of natural karst areas and streams within the project study area, and the bridges crossing a busy interstate with no riparian areas, a No Effect determination has been made for each of the listed bat species.

Tricolored Bats

In September 2022, Tricolored bats were federally proposed as endangered. They mainly roost in foliage of live and dead trees in the spring, summer, and fall, and hibernate in caves and other subterranean habitats during the winter. These bats can occasionally be found roosting on bridges and in culverts. The primary threat to this species is white nose syndrome (WNS), which typically afflicts bats during hibernation. Given the extreme losses from WNS and impact of wind industry related mortality- loss of roosting, foraging, and commuting habitat (forested habitat) between summer and winter can have a large impact, depending on timing, location, and extent of removal. As this project would not clear any suitable forested habitat, it would not jeopardize the continued existence of the Tricolored bat or adversely modify critical habitat and a No Effect determination has been made for the Tricolored bat.

Bald Eagle

The bald eagle is not a listed threatened or endangered species; however, it is still afforded protection by the federal government under the Bald and Golden Eagle Protection Act (BGEPA) and the MBTA. The BGEPA provides for the protection of bald and golden eagles by prohibiting the taking, possession, and commerce of such birds, except under certain specified conditions. There is no nesting habitat for bald or golden eagles within the project study area. The closest area with the potential for nesting trees is the Missouri River, which is approximately 0.9 mile away from the project study area at its closest point. Due to the lack of nesting trees within or adjacent to the project study area, the project would not result in the taking of bald or golden eagles.

Migratory Birds

Various bird species could be using existing structures or shrubs within the project study area for nesting. In addition, it should be noted that a Peregrine Falcon nest box is located within a half mile of the project study area on a high-rise building. Although no direct impacts will occur at the location of the nest box, temporary construction elements could cause some indirect impacts. Prior to construction and demolition of either the Walnut Street bridge (#A0819) or the Baltimore Avenue bridge (#A0817), these areas will be checked for potential nests. If migratory birds are found to be nesting on the Walnut Street bridge (#A0819) or the Baltimore Avenue bridge (#A0817), if the Western Superblock Alternative is selected, or if Peregrine Falcons are occupying the nest box, then a protective Job Special Provision (JSP) will be put in place to avoid conflict with the MBTA and follow up with the MDC will be initiated [Commitment 25]. Based on the above conservation measures, impacts to migratory birds would be minimal.

3.16 Geology and Soils

Geotechnical data from the MoDNR and the Natural Resources Conservation Service (NRCS) was assessed for the project study area. Within the project study area, the topography is generally flat but increases to the west towards Wyandotte Street. I-670 sits approximately 20 feet below-grade of the surface. The geology of the area consists of limestone and shale, with minor sandstone and coal bedrock. The Missouri Geological Survey (MGS) online interactive map indicated that bedrock in the study area was mostly comprised of the Lower Zarah Subgroup (Pzl), Upper Linn Subgroup (Pkclu), and the Middle Zarah Subgroup (Pzm) of the Pennsylvanian geologic group.

The Zarah subgroup is comprised of three formations – Lane, Wyandotte, and Bonner Springs, which are mostly shale with the exception of the Wyandotte formation, which is mainly limestone. The Linn subgroup is comprised of four formations – Cherryvale, Drum, Chanute, and Iola. These formations make up the middle of the Kansas City Group and are comprised of shale associated with thin limestones.

The NRCS Soil Survey classifies the entire study area as urban land, upland with 5 to 9 percent slopes. According to the MoDNR, earthquakes occur frequently throughout the state at small scales. According to the Geologic Hazards Map of region A, obtained from the Missouri State Emergency Management Agency (SEMA), no historically recorded earthquakes exist near or within the project study area. According to the MoDNR GeoSTRAT online database, there are no known or recorded mines or sink holes within the project study area.

3.16.1 Geology and Soil Impacts

No-Build Alternative Impacts

There is no new construction associated with the No-Build Alternative, therefore the No-Build Alternative would have no impacts to the geology or soils within the project study area.

Preferred Alternative Impacts

Both Preferred Alternatives can be reasonably constructed without additional rock intrusions, blasting, or other modification of underlying soils or bedrock or design modifications due to poor foundational bedrock. Construction of the structural deck over I-670 will require abutments supported by bedrock. It is assumed that underlying bedrock is stable and can support the required loads. Geotechnical investigations will be performed in later design phases to determine more precise bedrock and structural loading requirements [Commitment 26].

3.17 Air Quality

Air quality is typically reviewed in two areas – compliance with the National Ambient Air Quality Standards (NAAQS) established under the Clean Air Act (CAA), and consideration of increases or decreases in the emissions of mobile source air toxics (MSAT) based on the type and magnitude of the improvements proposed. The CAA regulates federal projects and requires FHWA to evaluate every project or program that is regionally significant in a non-attainment area to identify if any negative impacts on air quality will result.

Conformity with NAAQS ensures that federally funded or approved transportation plans, programs, and projects comply with the established air quality objectives. In Missouri, MoDOT and MoDNR are responsible for implementing the conformity regulation in nonattainment and maintenance areas; however, in the Kansas City area, MARC is responsible. Conformity requirements apply in areas that either do not meet or previously have not met the NAAQS for ozone, carbon monoxide (CO), particulate matter, or nitrogen dioxide. According to MARC data from 2022, the Kansas City region is listed as an attainment/unclassifiable area for all transportation-related criteria pollutants. The EPA's Green Book data from May 2023 identified Jackson County, Missouri as a maintenance area for sulfur dioxide and an attainment area for 8-hour ozone under new standards that were established by the EPA in 2015. As a result, Jackson County does not violate the NAAQS for ozone, CO, particulate matter, or nitrogen dioxide. Therefore, the conformity requirements of 40 CFR Part 93 do not apply to this project. No transportation conformity analysis is required.

The metropolitan and statewide planning regulations, which govern development of LRTPs and the resulting transportation improvement program (TIP), require enough detail be provided for regionally significant roadway projects to support air quality analyses. MARC analyzed this project grouped with the rest of the LRTP projects and determined the projected air quality impacts are lower than the budgeted amount, ensuring the region's air quality is not adversely affected by mobile source pollution. This analysis indicated regional mobile source emissions of volatile organic compounds and nitrogen oxides remain below the budgeted levels, while accounting for the roadway capacity projects listed in the LRTP planned to be operational by 2050.

In addition to the criteria pollutants, the EPA also regulates air toxics. Most air toxics originate from human-made sources, including vehicular mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g. factories or refineries). The MSAT analysis performed for this project was qualitative and is within the requirements of the Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents from January 2023. This project proposes placing I-670 in a tunnel with the construction of a structural deck over the top of the freeway. The project is not adding capacity to I-670 or the surface level transportation network.

3.17.1 Air Quality Impacts

No-Build Alternative Impacts

The No-Build Alternative would maintain the existing depressed section of I-670 through the project study area, with regular routine maintenance and repairs. Assuming variables stay consistent, the amount of MSATs emitted in the future would be highly dependent on both the vehicle miles traveled (VMT) and vehicle hours traveled (VHT) through the project study area. If future congestion worsens on I-670, MSAT levels may rise due to increased VHT, resulting from more vehicles in congested traffic, even though the total number of miles traveled may stay the same or even reduce slightly.

Preferred Alternative Impacts

As of Fall 2023, the project study area is an air quality attainment area for all NAAQS, and therefore neither a conformity analysis nor a quantitative air quality modeling analysis were required. All further discussions regarding either Preferred Alternative impacts on air quality are qualitative in nature. Data and information are incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with either Preferred Alternative. The outcome of such an assessment, adverse or not, is influenced more by the uncertainty introduced into the process through assumptions and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure.

Neither Preferred Alternative proposes to add or reduce capacity or reconfigure I-670 within the project study area and will likely have no effect upon VMT or VHT on the regional freeway network. Additionally, both Preferred Alternatives propose to cover the existing below-grade section of I-670 with a structural deck, creating an approximate 2,200-foot-long tunnel through the project study area. The decking over the interstate and creation of a park space will not allow for emissions from I-670 to disperse along the covered length, which will likely reduce vehicle emissions and improve air quality in the vicinity of the residential, commercial, office, hotel and motel, and other retail land uses in the immediate vicinity.

The construction of the I-670 tunnel would not increase or decrease overall vehicle emissions. The immediate vicinity of the west portal is dominated by the I-670 mainline roadway, I-35 ramps, flyovers, and undeveloped MoDOT ROW. At the east portal, the T-Mobile Center indoor arena is located north of Truman Road; surface parking lots and restaurants are located south of Truman Road. The closest building on the south side of Truman Road is approximately 75 feet from I-670. The tunnel will be equipped with air quality sensors and natural ventilation will be adequate for the size of the tunnel.

3.18 Noise

The South Loop Project is a Type III project as defined in 23 CFR 772. Although noise analysis is not required for Type III projects under the regulation, a noise screening analysis was completed to examine any potential impacts.

Noise is essentially defined as unwanted sound. It is emitted from many natural and man-made sources. Highway traffic noise is usually a composite of noises from engine exhaust, drive train, and tire-roadway interaction. Traffic noise is commonly measured in “A-weighted” decibels (dBA). A dBA corresponds to the manner in which the human ear perceives noise at different frequencies. Since traffic noise is generated by passing vehicles and traffic volumes generally

fluctuate, an hourly equivalent sound level, or $L_{eq(h)}$, is used to measure traffic noise. The $L_{eq(h)}$ is the constant, average sound level that contains the same amount of sound energy over time as the varying levels of actual traffic noise.

FHWA has developed a Noise Abatement Criteria (NAC) to identify noise sensitive land use and a corresponding $L_{eq(h)}$ where noise levels that approach or exceed certain thresholds are defined as a traffic noise impact. A summary of noise sensitive receptors within approximately 500 feet of the project study area are listed below and shown in **Exhibit 3-9**.

- NAC Activity Category B: Four multi-family, multi-story residential structures with balconies.
- NAC Activity Category C: A dog park, a convention center outdoor area, and a church.
- NAC Activity Category D (Interior): An auditorium and a nonprofit institution.
- NAC Activity Category E: Numerous restaurants with outdoor seating and several hotels with balconies.

To understand the existing noise environment, six 10-minute field noise measurements were taken. The locations of each field measurement ID are identified in **Exhibit 3-9**. Measurements were taken between 6:00 am and 7:00 am to represent the loudest hour of the day, when traffic volumes are high, but congestion has not yet led to significantly reduced speeds.

An existing noise measurement was taken directly adjacent to I-670 at the Two Light Luxury Apartment Dog Park. Traffic noise from I-670 is significant and constant. The $L_{eq(h)}$ during this measurement was greater than 78 dBA. MoDOT defines 66 dBA as a traffic noise impact. An $L_{eq(h)}$ of 78 dBA sounds more than twice as loud and requires a 900 percent increase in acoustic energy compared to an $L_{eq(h)}$ of 66 dBA.

Further away from I-670, the common sounds of a downtown urban environment become distinguishable and add to the noise levels, but the ambient noise levels from I-670 traffic noise remain noticeable. A measurement 180 feet south of I-670 on Walnut Street had an $L_{eq(h)}$ of over 67 dBA, with I-670 being the dominant noise source. Noise levels rarely dropped below 66 dBA over the duration of the measurement. A measurement 500 feet south of I-670 on Walnut Street had an $L_{eq(h)}$ of over 64 dBA, though with the absence of other noise, noise levels from I-670 traffic alone averaged around 61 dBA.

West of Broadway Boulevard, where I-670 emerges from underneath the Kansas City Convention Center, traffic noise is still dominant. However, it is difficult to discern noise coming from I-670 versus other roadways, particularly I-35. A measurement approximately 350 feet south of I-670 had an $L_{eq(h)}$ of over 62 dBA, and a measurement approximately 400 feet north of I-670 had an $L_{eq(h)}$ of over 59 dBA. Additional details regarding the noise analysis is located in the Noise Technical Memorandum in **Appendix D**.

3.18.1 Noise Impacts

No-Build Alternative Impacts

There are no improvements associated with the No-Build Alternative and, therefore, there would not be any changes to the current noise decibel levels in the project study area.

Preferred Alternative Impacts

Either Preferred Alternative would significantly reduce traffic noise levels from I-670 in areas between Wyandotte Street and Grand Boulevard. Today, traffic noise levels significantly exceed impact thresholds adjacent to the highway and remain audible for several blocks. Placing a structural deck over these areas would completely shield I-670 traffic noise from adjacent land uses. The noise reduction associated with the Preferred Alternatives may reduce the cost of adjacent construction and improve the marketability of adjacent buildings as new buildings would not need to provide for the same level of sound attenuation.

However, tunnel portal openings can produce localized increases in traffic noise levels in relatively close proximity to the openings. As seen in **Exhibit 3-9**, no noise sensitive locations are in proximity of the proposed east tunnel opening. Only two noise sensitive locations are in proximity of the proposed west tunnel opening: a church with an outdoor common area and a non-profit institution, which would be considered for interior noise impacts. The increases in noise levels can depend on a variety of factors, but **Table 3-10** shows an estimate for increases in noise levels outside a tunnel opening due to the “tunnel effect” at various distances.

Table 3-10: Tunnel Effect (dBA) Added to Noise Levels based on Distance from Roadways and Tunnel Openings

Distance from Road Centerline (feet ¹)	Distance from Tunnel Opening (feet ¹)	dBA Added to Noise Levels (2+ Lane Long Tunnel)
330	30	0
330	165	1
330	330	1
330	985	0

Source: National Academies of Sciences, Engineering, and Medicine 2014. Supplemental Guidance on the Application of FHWA's Traffic Noise Model. Washington, DC: The National Academies Press.
<https://doi.org/10.17226/22284>.

¹Distances in NCHRP report adjusted from meters to feet.

As shown in **Table 3-10**, a maximum increase of 1 dBA would be expected for noise sensitive receptors 330 feet beyond the roadway centerline. Both noise sensitive receptors outside the project study area are beyond 330 feet from the I-670 centerline and are also subject to traffic noise from I-35. A 3 dBA change in noise levels is considered barely perceptible by the human ear. One of these two receptors is Activity Category D, meaning it is only considered noise sensitive for interior levels, and a building reduction factor would need to be applied. Therefore, the project and the “tunnel effect” would not cause a noticeable increase in traffic noise levels for any noise sensitive receptors, and noise sensitive receptors directly adjacent to the project study area should experience a significant reduction in traffic noise levels.

3.19 Hazardous Materials

A review of federal and state agency environmental hazard and hazardous material databases was completed. The database review was performed to evaluate the likelihood of soil and/or groundwater contamination within the project study area or if anywhere within the project study area may require remediation that would result in additional costs and time for the completion of either Preferred Alternative. This evaluation did not include a complete site assessment per ASTM Standard E 1527, nor did it constitute a hazardous waste remedial investigation. A Federal

and State government database search was conducted by Environmental Data Resources, Inc. (EDR) on January 27, 2023, which included over 100 different environmental databases.

The results of the database searches were prioritized by the likelihood of soil and/or groundwater contamination present in or near the project study area. The contamination probability was assigned as either “*none-to-low*,” “*low-to-moderate*,” or “*moderate-to-high*” rating. A total of 108 sites were identified within 500 feet of the project study area, including two historic dry cleaner sites within the project study area. Sites within 500 feet of the project study area are displayed in **Exhibit 3-10** and **Tables 3-11** and **3-12**.

In general, sites identified within 500-feet of the project study area fall into one of four categories – historic dry cleaners, historic automotive and petroleum storage tank facilities, hazardous waste generators, and Missouri Volunteer Cleanup Program (VCP) and Site Management Reporting System (SMARS) sites.

There are two historic hazardous material sites within the project study area. The first is marked as “*low-to-moderate*” priority and operated as Dunlap Laundry and Linen from 1920 to 1940. This site is identified in **Table 3-11** and **Exhibit 3-9** as “E9.” The second site is also marked as “*low-to-moderate*” priority and operated as Grossman Benj Cleaner from 1930 to 1940, Fashion Cleaners until 1951, and Band Box Cleaners until 1956. This site is identified in **Table 3-11** and **Exhibit 3-10** as “E17.” Both sites no longer exist and were defunct or acquired as part of the construction of I-670.

While there are no operational hazardous material sites within the project study area, there are operational hazardous material sites within 500-feet. One site is marked as “*moderate-to-high*” priority. This site, identified as the Walnut Street Tank, is located at 15th Street and Walnut Street. The site, identified in **Table 3-12** and **Exhibit 3-10** as “11,” is a former underground storage tank (UST) facility where there is an ongoing or incomplete investigation and/or corrective action taking place. Any direct impact to this site should be avoided.

Table 3-11: Hazardous Material Sites Within 500-Feet of the Project Study Area – EDR Databases

EDR Report Site Number	Exhibit Site Number	Name and Dates of Operation if Available	Address	Status/Federal or State Program List	Priority
C 4		James Service Station - 1940 / Byers Harry Fill Station - 1945 / P & C Truck Stop - 1951 / S & J Service Station - 1956 /			2
A 1	E2	Goodyear #4322 / Circle Service Fill / Goodyear Asc / Circle Service Auto	1501 Main St.	RCRA NonGen/NLR; EDR Hist Auto; MO UST	3
B 2	E3	Donnan Gaston L Fill Station - 1930	1500 Walnut St.	EDR Historical Auto	2
B 3	E4	NO NAME	Truman Rd. & Walnut St.	SPILLS	3
A 5	E5	Wood Hall Filling Station and Auto Park - 1930	1506 Main St.	EDR Historical Auto	2

EDR Report Site Number	Exhibit Site Number	Name and Dates of Operation if Available	Address	Status/Federal or State Program List	Priority
D 6					2
D 7	E7	Star Cleaners & Tailors - 1951-1961	204 Truman Rd.	EDR Historical Cleaner	2
D 8	E8	Two Light Luxury Apartments	150 E. Truman Rd.	MO VCP, MO SMARS	3
E 9	E9	Dunlap Laundry & Linen 1920-1940	1501 Broadway Blvd.	EDR Historical Cleaner	2
E 10	E10	United States Army Reserve Center #1	1528 Central St.	FUDS, SMARS	3
F 11	E11	Dynamic Computer Solutions	1500 Grand Blvd.	RCRA NonGen/NLR	3
C 12	E12	1414 16 Broadway Service - 1950-1951	1416 Broadway Blvd.	EDR Historical Auto	2
C 13	E13	Arrow oil Corp. Fill Station - 1930 / 1414 16 Broadview Service Station - 1945 / 1414 16 Broadway Service - 1951	1414 Broadway Blvd.	EDR Historical Auto	2
C 15	E14	Joseph Hawkins Cleaner - 1920 / Jacob Hammer Cleaner - 1925 / B & J Cleaners - 1935 / Jacks Auto Service 1951-1956	1408 Broadway Blvd.	EDR Historical Cleaner/EDR Historical Auto	2
C 16	E15	Friedman Isadore DN 1951-1961	1406 Broadway Blvd.	EDR Historical Cleaner	2
G 17	E16	1514 20 Moore Harold R Fill Station - 1940	1520 Baltimore Ave.	EDR Historical Auto	2
E 18	E17	Grossman Benj Cleaner 1930-1940 / Fashion Cleaners NO - 1951 / Band Box Cleaners - 1956	1504 Broadway Blvd.	EDR Historical Cleaner	2
F 19	E18	Royal Master Cleaners - 1966-2000 / Sir Knight 1969-1971 / Andersons Formal Wear 1982-1987 / Kim Young 2000-2014	1501 Grand Blvd.	ICIS, RCRA NonGen/NLR, ECHO, FINDS, US AIRS, EDR Historical Cleaner	2
D 21	E19	Paris Hat Works 1935-1945	1431 Grand Blvd.	EDR Historical Cleaner	2
F 23	E20	Royal Master Cleaners 1969-1990	1505 Grand Blvd.	MO Drycleaners, RCRO-VSQQ, EDR Historical Cleaner	2
G 25	E21	Thomas Theysen Service - 1940	1525 Baltimore Ave.	EDR Historical Auto	2
B 28	E22	Circle Service Auto PK and - 1935 / Goodyear #4322 / Goodyear Asc - 1995-2008 / Express Auto Service 2009-2014	1501 Main St.	EDR Historical Auto, RCRA NonGen/NLR, UST	3
G 29	E23	ACO Motor Service - 1925 /	1532 Baltimore Ave.	EDR Historical Auto	2

EDR Report Site Number	Exhibit Site Number	Name and Dates of Operation if Available	Address	Status/Federal or State Program List	Priority
		Leahy Auto Electric Service 1935-1940 / Hogland David Auto Repair - 1945 / Weber Auto Service - 1945 /			
G 30	E24	A C O Motor Service - 1925	1534 Baltimore Ave.	EDR Historical Auto	2
G 31	E25	Automotive Steam Cleaning Company - 1945	1533 Baltimore Ave.	EDR Historical Auto	2
H 32	E26	1430 32 City Motor Service - 1935	1432 Baltimore Ave.	EDR Historical Auto	2
H 33	E27	Seven in One Brake Company - 1930 / 1430 32 City Motor Service - 1935 / Greenlease Oneill Oldsmobile US - 1956	1430 Baltimore Ave.	EDR Historical Auto	2
D 34	E28	Corkill Robt O Cash - 1951	1421 Grand Blvd.	EDR Historical Auto	2
I 35	E29	Grieser Frank P Cleaner - 1935	1528 Main St.	EDR Historical Cleaner	2
C 37	E30	Keck Arthur L - 1969-1976 / Broadway Standard Service - 1974 / 1982 / Dunn DK Enterprises Inc. - 1977 / Robinettes Enterprises Inc. 1985-1990 / AMOCO 2 Robinettes - 1989-1990 /	1400 Broadway Blvd.	MO LUST, MO UST, EDR Historical Auto	3
H 38	E31	1414 38 Greenlease Oneill 1940-1951	1414 Baltimore Ave.	EDR Historical Auto	2
I 39	E32	Hanna Rubber Company	1512 Main St.	SEMS-ARCHIVE, RCRA NonGen/NLR	3
H 40	E33	Fourteenth & Baltimore Garage - 1930 / 1401 17 14th & Baltimore - 1940	1417 Baltimore Ave.	EDR Historical Auto	2
A 41	E34	Block 139 Kansas City Live Re-Development	1441 Main St.	UST	3
J 42	E35	Commercial Garage 1935-1945	1423 Walnut St.	EDR Historical Auto	2
H 44	E36	Fourteenth & Baltimore Garage - 1945 / Bob Armacost Motors, Inc. / Avis Car Rental	1415 Baltimore Ave.	EDR Historical Auto, LUST, UST, RCRA NonGen/NLR	3

EDR Report Site Number	Exhibit Site Number	Name and Dates of Operation if Available	Address	Status/Federal or State Program List	Priority
J 46					2
I 47	E38	1533 35 Williams Willard E - 1935	1535 Main St.	EDR Historical Auto	2
H 48	E39	Armacost Parking Garage	1411 Baltimore Ave.	RCRA NonGen/NLR	3
J 49	E40	Diamond Garage - 1945	1419 Walnut St.	EDR Historical Auto	2
C 51	E41	Sinclair Super Service Gas Station - 1961 / Hutton & Hicks Sinclair - 1966-1971 / Sinclair Service Station 1985-1990	325 W 14th St.	SMARS, LUST, UST, EDR Historical Auto	3
I 52	E42	Crescent Cleaners & Laundry	1515 Main St.	EDR Historical Cleaner	2
C 53	E43	Sinclair Marketing Inc. - 1989-1992 / Robinettes Enterprises Inc.	1401 Broadway Blvd.	EDR Historical Auto	3
J 56	E44	Diamond Garage - 1945	1417 Walnut St.	EDR Historical Auto	2
C 57	E45	City Center Services - 1977 / Convention Center of Texaco - 1978	14th St. & Broadway Blvd.	EDR Historical Auto	2
B 58	E46	Keystone Laboratories Inc.	1515 Walnut St.	RCRA NonGen/NLR, ECHO, FINDS	3
K 59	E47	American Laundry Machinery Company - 1920	1407 Central St.	EDR Historical Cleaner	2
H 63	E48	Studna Service Station - 1951 / 1400 Baltimore New Tower - Currently in use	1400 Baltimore Ave.	MO UST, EDUR Historical Auto	2
D 64	E49	City of Kansas City MO Block #142	1415 Grand Blvd.	RCRA NonGen/NLR	3
K 65	E50	Reynolds Geo E Filling Station - 1945 / 1951 / Brads DX - 1956 / Tiges D X Service - 1961 /	321 W. 14th St.	EDR Historical Auto	2
K 67	E51	Central Auto Repair - 1961 / ED Hamilton Cleaning - 1925	314 E. 14th St.	EDR Historical Auto, EDR Historical Cleaner	2
K 68	E52	City of Kansas City Bartle Hall Dock A	1310 W. 14th St.	RCRA-VSQG, ECHO, FINDS	3
C 69	E53	Izzie Friedman Cleaner - 1925	412 E. 14th St.	EDR Historical Cleaner	2
K 70	E54	Jack Fisher Cleaner - 1925	304 W. 14th St.	EDR Historical Cleaner	2

EDR Report Site Number	Exhibit Site Number	Name and Dates of Operation if Available	Address	Status/Federal or State Program List	Priority
L 71	55				2
A 73	E56	Main St. One Stop Auto - 1935-1940	1417 Main St.	EDR Historical Auto	2
G 74	E57	1514 20 Moore Harold R Fill Station - 1940	1514 Baltimore Ave.	EDR Historical Auto	2
L 75	E58	West Side Auto Repair Shop - 1920	1409 Wyandotte St.	EDR Historical Auto	2
L 76	E59	R B Landers Cleaners - 1920	227 W. 14th St.	EDR Historical Cleaner	2
M 78	E60	Peskin Jos Cleaner - 1930-1945 / Main Cleaners 1956-1961	1418 Main St.	EDR Historical Cleaner	2
F 79	E61	Electronic Businesses	1520 Grand Blvd.	RCRA NonGen/NLR, ECHO, FINDS	3
L 80	E62	McCarthy P Garage - 1930	210 W 14th St.	EDR Historical Auto	2
L 81	E63	Bartle Hall Expansion Building 284	W. 14th St. & Wyandotte St.	MO LUST, MO UST	2
J 82	E64	1405 07 Diamond Garage - 1935-1940	1407 Walnut St.	EDR Historical Auto	2
G 83	E65	ISB Service Corporation	1535 Baltimore Ave.	RCRA NonGen/NLR, ECHO, FINDS	3
M 84	E66	Midland Cleaners - 1956	1412 Main St.	EDR Historical Cleaner	2
D 85	E67	University of Kansas Hospital Authority	1403 Grand Blvd.	RCRA-VSQQ	3
H 86	E68	Fourteenth and Baltimore Garage - 1930-1945 / Armacost Pontiac Inc. 1969-1976	1401 Baltimore Ave.	EDR Historical Auto	2
M 87	E69	MO State Building Block #139 Former	1411 Main St.	RCRA NonGen/NLR	3
J 88	E70	1408 10 J W Parking Garage - 1961	1408 Walnut St.	EDR Historical Auto	2
N 89	E71	Miller Sam Coach CO Auto Repairs	1522 McGee St. TRFY	EDR Historical Auto	2
J 90	E72	1405 07 Diamond Garage - 1935-1940	1405 Walnut St.	EDR Historical Auto	2
N 91	E73	National Refining CO Filling Station - 1925	1528 McGee St.	EDR Historical Auto	2
N 92	E74	Miller Sam Coach CO Auto Repairs - 1945 / Storys Auto Repair 1985-1990	1520 McGee St. TRFY	EDR Historical Auto	2
H 93	E75	Acme Auto & Machine Works - 1930	119 W. 14th St.	EDR Historical Auto	2
O 94	E76	Shermans Phillips -1956	306 Truman Rd.	EDR Historical Auto	2
H 95	E77	KC Motor Service Company - 1920	114 W. 14th St.	EDR Historical Auto	2

EDR Report Site Number	Exhibit Site Number	Name and Dates of Operation if Available	Address	Status/Federal or State Program List	Priority
N 98					2
N 99	E79	Fessler Auto Body & Fender Works - 1945	1517 McGee St. TRFY	EDR Historical Auto	2
M 100	E80	KC Live Entertainment District - Block 138	1400 Main St., 1401 Baltimore Ave., 1415 Baltimore Ave.	BROWNFIELDS, VCP, AUL, SMARS	3
M 101	E81	Midland Cleaners & Tailors - 1945	4 W. 14th St.	EDU Historical Cleaner	2
M 102	E82	Grand Tailors & Cleaners - 1930-1935 / Midland Cleaners & Tailors - 1940-1951	2 W. 14th St.	EDU Historical Cleaner	2
M 103	E83	Clarence Levitt Cleaners - 1920 / Travis S Kane Cleaner - 1925 / Central Cleaners - 1930-1935	5 E. 14th St.	EDU Historical Cleaner	2
M 105	E84	Upsher Laboratories Inc.	20 E. 14th St.	RCRA NonGen/NLR, ECHO, FINDS	3
J 107	E85	Grand Cleaners - 1961-1966	106 E. 14th St.	MO DRYCLEANERS , EDU Historical Cleaner	2
P 108	E86	Parmalee Industries Inc.	1535 Walnut St.	RCRA NonGen/NLR, ECHO, FINDS	3
L 110	E87	KCPL Building / West 14th St. and Wyandotte St.	106 W. 14th St.	RCRA NonGen/NLR, ECHO, FINDS, VCR, SMARS	3
Q 111	E88	Stones Cleaners - 1935	1604 Broadway Blvd.	EDU Historical Cleaner	2
O 113	E89	City of Kansas City MO Block #142	1415 McGee St.	RCRA NonGen/NLR, ECHO, FINDS	3
Q 114	E90	Meins Auto Repair - 1961	1612 Broadway Blvd.	EDR Historical Auto	2
R 115	E91	Chase Hose Drugs - 1925	1336 Broadway Blvd.	EDR Historical Auto	2
R 117	E92	Kerr Woodfin C Fill Station - 1941 / Bills Downtown Mobil Service - 1971 / Hutton & Hicks Inc. - 1972-1975	1331 Broadway Blvd.	EDR Historical Auto	2
R 118	E93	A & A Motor Service - 1920	1327 Broadway Blvd.	EDR Historical Auto	2
S 119	E94	Blaue Geo H Auto Brakes - 1930	11 E. 16th St.	EDR Historical Auto	2

EDR Report Site Number	Exhibit Site Number	Name and Dates of Operation if Available	Address	Status/Federal or State Program List	Priority
S 120					2
S 121	E96	Tiffany Marble	16th St & Main St.	PFAS ECHO	3
T 123	E97	16th and Grand, McGrew Color Graphics	E. 16th St. & Grand Blvd.	MO SMARS, MO VCP, PFAS ECHO	2
T 124	E98	Arnold Services Station - 1935	205 E. 16th St.	EDR Historical Auto	2
R 125	E99	Millers Texaco - 1945-1969 / Rohrs Texaco Service 1969-1976 / Convention Center Texaco - 1983	1318 Broadway Blvd.	EDR Historical Auto	2
U 126	E100	Chas F Clark Cleaner - 1920 / Chas F Clark Cleaner - 1925	512 W. 14th St.	EDU Historical Cleaner	2
S 128	E101	Manhattan Oil Company Filling Station - 1925 / Scudder Chas W Jr Fill Station - 1940	1600 Main St.	EDR Historical Auto	2
V 129	E102	Glover Sales Company Gasoline Equipment - 1925	1324 Grand Blvd.	EDR Historical Auto	2
P 130	E103	Jones Tharp Motors Company - 1920	1600 Grand Blvd.	EDR Historical Auto	2
P 131	E104	Bentley Ervie C Fill Station - 1930-1935 / Littrell Eug Fill Station - 1940	1600 Walnut St.	EDR Historical Auto	2
W 133	E105	KCPL Wyandotte Garage, Kansas City Power & Light	1319 Wyandotte St.	LUST, UST, RCRA NonGen/NLR, ECHO, FINDS	2
X 134	E106	Bradford Cleaners - 1930	223 W. 16th St.	EDU Historical Cleaner	2

Priority Ratings:

1 = Moderate-to-High Potential for Contamination

2 = Low-to-Moderate Potential for Contamination

3 = None-to-Low Potential for Contamination

Table 3-12: Hazardous Material Sites Near the Project Study Area – MoDNR Database Only

E Start Report Number	Shared EDR Site Number	Name and Dates of Operation if Available	Address	Status/Federal or State Program List	Priority
7					3
11	None	Walnut Street Tank	15th St. and Walnut	Former UST	1
14	None	Downtown Source	1401 McGee St.	Former UST	3

Priority Ratings:

1 = Moderate-to-High Potential for Contamination

2 = Low-to-Moderate Potential for Contamination

3 = None-to-Low Potential for Contamination

3.19.1 Hazardous Material Impacts

No-Build Alternative Impacts

There is no new construction associated with the No-Build Alternative, therefore the No-Build Alternative will not directly impact any hazardous material sites within or near the project study area.

Preferred Alternative Impacts

No potentially hazardous sites were identified within the project study area for either Preferred Alternative. Only one site with “*moderate-to-high*” priority was noted within 500-feet of the project study area. All other sites near the project study area are classified as having either “*low-to-moderate*” or “*none-to-low*” probability of contamination. Therefore, impacts to nearby hazardous waste sites are unlikely. To the extent possible, known hazardous waste sites would be avoided before and during construction. If a previously unknown site is uncovered during construction, measures will be taken, as needed, to eliminate or minimize adverse environmental consequences [Commitment 27].

In the unlikely event that hazardous materials are encountered during construction, the contractor will cease work at the suspect site immediately. The contractor will contact the appropriate environmental agency, in this case MoDNR, to discuss options for remediation. The MoDNR, EPA, the City of Kansas City, and the contractor will develop a plan for sampling, remediation, and continuation of project construction. Hazardous materials consulting, analytical, and remediation services will be obtained if necessary [Commitment 27].

3.20 Visual Resources

The visual environment within the project study area is mostly a commercial urban landscape with medium to high-rise office, hotel, and apartment structures except for the below-grade section of I-670 as it traverses through the project study area. Visual impacts can vary substantially through a project area since landscape elements can vary in their degree of visual quality and in viewer concern. There are two distinct categories of views: 1) a view of the road, which represents individuals (visual receptors) that can observe the roadway from an adjacent vantage point or who would have desirable views interrupted by the road, and 2) a view from the road which represents viewers who are users of the proposed facility.

3.20.1 Visual Resource Impacts

No-Build Alternative Impacts

There is no new construction associated with the No-Build Alternative, therefore the No-Build Alternative would not directly impact any visual resources within or near the project study area.

Preferred Alternative Impacts

Both Preferred Alternatives would construct a structural deck over I-670. If the Eastern Superblock is chosen, the structural deck would be constructed between Main Street and Grand Boulevard while closing Walnut Street over I-670. The existing Main Street, Baltimore Avenue, and Grand Boulevard bridges would be maintained. Individual structural decks between Wyandotte Street and Baltimore Avenue and Baltimore Avenue and Main Street would be constructed to complete the structure. If the Western Superblock is chosen, the structural deck would be constructed between Wyandotte Street and Main Street while closing Baltimore Avenue over I-670. The existing Main Street, and Grand Boulevard bridges would be maintained, and the Walnut Street bridge would be replaced. Individual structural decks between Main Street and Walnut Street and Walnut Street and Grand Boulevard would be constructed to complete the structure.

The combination of the existing Bartle Hall Convention Center, the Convention Center Grand Ballroom, new individual structural decks, a new eastern or western superblock structural deck, and existing bridges would functionally create a 2,200-foot long tunnel in which I-670 would be confined. Both Preferred Alternatives propose to include a variety of spaces for pedestrians including a meandering pathway, hardscape plaza space, visitor building, an elevated pedestrian walkway, restroom building, fitness play area, children's play area, retail kiosk, interactive art and water play areas, dog run, performance pavilion, and small food and beverage service buildings to support visitors. The structural deck would support landscape improvements such as native plantings, shade trees, and flexible lawn spaces.

The addition of these spaces would increase the visual resources within the project study area by covering the paved interstate system and creating a new, more visually appealing open space for community cohesion and gathering.

3.21 Utilities

Utility information was compiled from existing mapping, survey, and available online information from local municipalities and utility companies. The locations of existing utility infrastructure above-ground and below-ground within and around the project study area were identified. Utilities identified include water, sewer, gas, electric, cable television, telephone lines, and fiber optic lines. Potential service disruptions that could occur from the Preferred Alternatives were evaluated at a high level, as well as the need for future improvements to the existing utility infrastructure. That evaluation helped determine potential impacts.

Electrical services are provided by Evergy, and Spire provides natural gas service. KCWater provides water service and sewer lines within and around the project study area. Other utilities include resources from the following providers:

- Telephone: AT&T, Sprint, Verizon, Spectrum;

- Television: DIRECTV, Dish, Spectrum, Charter, and Comcast; and
- Internet: Google Fiber, Spectrum, and AT&T.

Utilities in the project study area are both buried underground and hung on above-ground poles. **Exhibit 3-11** displays select utilities within the project study area.

3.21.1 Utility Impacts

No-Build Alternative Impacts

There is no new construction associated with the No-Build Alternative, therefore the No-Build Alternative would not impact any utilities within the project study area.

Preferred Alternative Impacts

The Preferred Alternatives would likely impact underground and above-ground utilities and relocations may be required to accommodate the project improvements. If relocations are necessary, coordination with utility companies and the City of Kansas City will occur during final design to minimize the impact of relocations. The responsible party for any relocations will obtain the necessary clearances should they occur outside of the project study area. Mitigation strategies shall be developed according to the City's utility relocation guidelines. Utility relocation design shall be coordinated with, and be in compliance with, the requirements of the municipality, utility owners, and the applicable codes, regulations, and policies as established by, but not limited to, the Kansas City Missouri Building Code, KCMO Water Services Department, and Jackson County Unified Development Code [Commitment 28].

Most impacted utilities would be relocated nearby. Coordination with the public and private utility companies will be required during the design phase to ensure utility service is uninterrupted or only minimally disrupted during utility relocation and construction of the proposed improvements [Commitment 28].

Abandonment, relocation, restoration, maintenance, and extension of existing overhead utility lines, poles, and appurtenances, including service lines to adjoining properties, will be performed by the utility owners in accordance with laws and regulations of the appropriate jurisdiction, utility owners' standards, the National Electrical Safety Code (NESC), and the appropriate owner utility company or their approved contractor. Poles supporting overhead facilities may be owned by one party and shared with or rented to others under mutual agreement. Possible utilities in this joint-use arrangement are:

- Electric Cables
- Telephone Cables
- Cable Television
- Railroad Communication Lines
- Police, Fire Alarm, and other Government Lines
- Streetlights and Traffic Signals
- Overhead Catenary Lines

The designers shall coordinate their efforts with those of the owners to assure City of Kansas City plans include designs mutually acceptable to the owners and the City. All design work, maintenance, and relocation efforts, of underground and above-ground electric lines throughout the project study area shall be designed based on current practices of the power company, the requirements of the electrical code of the local agency having jurisdiction, and the NESC.

3.22 Safety, Security, and I-670 Tunnel Considerations

The construction of a structural deck over I-670 would introduce several new safety and security topics. Those include the creation of a new 2,200-foot I-670 tunnel and the intent to construct a multifaceted park, recreation, and green open space area on top of the structural deck that would be generally open to the public. The potential construction of facilities within the park and green open space may require monitoring and security systems to ensure public safety.

3.22.1 I-670 Tunnel Considerations

The NFPA 502 *Standard for Road Tunnels, Bridges, and Other Limited Access Highways* lays out the specific fire protection and life safety goal requirements for the systems and elements for the proposed I-670 tunnel and elements of the structural deck. Fire protection and life safety systems must be provided per the NFPA 502 Standard and are based on the overall tunnel length and an assessment of the specific project site [Commitment 29]. Specific requirements for road tunnels are dependent on the tunnel category identified. The proposed tunnel for this project falls under category C. The conditional mandatory requirements (CMR) and the mandatory requirements (MR) for a category C tunnel can be found in **Figure 3-1**. The CMRs and MRs for this project will be determined by the KCMO Planning and Development Department.

Figure 3-1: Conditional and Mandatory Requirements for Tunnels

Fire Protection Systems	NFPA 502 Sections	Road Tunnel Categories				
		X [See 7.2(1).]	A [See 7.2(2).]	B [See 7.2(3).]	C [See 7.2(4).]	D [See 7.2(5).]
Engineering Analysis						
Engineering analysis	4.3.1	MR	MR	MR	MR	MR
Fire Protection of Structural Elements^a						
Fire protection of structural elements	7.3	MR	MR	MR	MR	MR
Fire Detection						
Detection, identification, and location of fire in tunnel	7.4	—	—	MR	MR	MR
CCTV systems ^b	7.4.3	—	—	CMR	CMR	CMR
Automatic fire detection systems ^b	7.4.6.7	—	—	CMR	CMR	CMR
Fire alarm control panel	7.4.7	—	—	MR	MR	MR
Emergency Communications Systems^c						
Emergency communications systems	4.5/7.5	CMR	CMR	CMR	CMR	CMR
Traffic Control						
Stop traffic approaching tunnel portal	7.6.1	MR	MR	MR	MR	MR
Stop traffic from entering tunnel's direct approaches	7.6.2	—	—	MR	MR	MR
Fire Protection						
Fire apparatus ^d	7.7	—	—	—	—	—
Fire standpipe	7.8/10.1	—	MR	MR	MR	MR
Water supply	7.8/10.2	—	MR	MR	MR	MR
Fire department connections	10.3	—	MR	MR	MR	MR
Hose connections	10.4	—	MR	MR	MR	MR
Fire pumps ^e	10.5	—	CMR	CMR	CMR	CMR
Portable fire extinguishers	7.9	—	—	MR	MR	MR
Fixed water-based fire-fighting systems ^f	7.10/9.0	—	—	—	CMR	CMR
Emergency ventilation system ^g	7.11/11.0	—	—	CMR	CMR	MR
Tunnel drainage system ^h	7.12	—	CMR	MR	MR	MR
Hydrocarbon detection ^h	7.12.7	—	CMR	MR	MR	MR
Flammable and combustible environmental hazards ⁱ	7.15	—	—	CMR	CMR	CMR
Means of Egress						
Emergency egress	7.16.1.1	—	—	MR	MR	MR
Exit identification	7.16.1.2	—	—	MR	MR	MR
Tenable environment	7.16.2	—	—	MR	MR	MR
Walking surface	7.16.4	—	—	MR	MR	MR
Emergency exit doors	7.16.5	—	—	MR	MR	MR
Emergency exits (includes cross-passageways) ^j	7.16.6	—	—	MR	MR	MR
Electrical Systems^k						
General	12.1	—	CMR	MR	MR	MR
Emergency power	12.4	—	CMR	MR	MR	MR
Emergency lighting	12.6	—	CMR	MR	MR	MR
Exit signs	12.6.8	—	CMR	MR	MR	MR
Security plan	12.7	—	CMR	MR	MR	MR
Emergency Response Plan						
Emergency response plan	13.3	MR	MR	MR	MR	MR

MR: Mandatory requirement (3.3.42). CMR: Conditionally mandatory requirement (3.3.42.1).

Source: NFPA 502

NFPA 502 defines the Authority Having Jurisdiction (AHJ) as “an organization office, or individual responsible for enforcing the requirements of a code or standard, or having approving equipment, materials, an installation, or a procedure.” For this project, City of Kansas City will act as the AHJ, with other relevant stakeholders as listed below:

- Interstate owner: MoDOT
- Owner of existing overbuilt structure: KCMO
- Interstate operations: MoDOT
- Interstate maintenance: MoDOT
- Responding fire department: KCFD
- Responding police department: KCPD
- Tunnel Maintenance: To Be Determined by Airspace Agreement

MoDOT currently maintains I-670 in accordance with FHWA and MoDOT regulations and requirements as well as other applicable federal regulations. Among the regulations are requirements for inspection of roads, signals, bridges, and equipment. The current below-grade section of I-670 in the project study area is already partially covered from Wyandotte Street to Broadway Boulevard by the Bartle Hall Convention Center and Ballroom. The rest of the below-grade section is uncovered, except at the four existing bridges over I-670.

3.22.2 Tunnel Consideration Impacts and Mitigation

No-Build Alternative Impacts

The No-Build Alternative would leave the existing below-grade section of I-670 in service in its current configuration. Operations and maintenance would continue as necessary to address routine and ongoing deterioration to the extent possible. While the existing below-grade section of I-670 is operational, existing MoDOT and City of Kansas City safety and security measures and procedures will continue to be followed [Commitment 29].

Preferred Alternative Impacts

Outside of the impacts outlined in this document, construction of a tunnel would not have additional impacts but would involve many requirements pursuant to NFPA 502, MoDOT and FHWA regulations, and other state and local requirements [Commitment 29]. As project design phases progress, the following design and systems considerations will be taken into account (requirements listed below were current at the time of approval of the EA):

- **Tunnel ventilation** - As outlined in NFPA 502, Chapter 7.11, a ventilation system is not required for tunnels that are shorter than 3,280 feet in length. The length of the proposed I-670 tunnel is 2,200 feet. Conceptual design for this project does not assume a tunnel ventilation system.
- **Emergency exits** - NFPA 502 Chapter 7.16 states that the allowed distance between emergency exits is 1,000 feet at maximum distance.
- **Emergency communication systems** - Pursuant to NFPA 502 Chapter 4.5 and 7.5, emergency communications systems are required to be provided if required by the AHJ, which is the City of Kansas City in this case. Additionally, reliable radio communications are required to be provided by emergency services.
- **Standpipe, fire hydrants, and water supply systems** - NFPA 502 Chapter 7.8/10 deals with standpipes, whether dry or wet, water supply, and fire department hose connections that must be provided.
- **Fixed Fire Fighting Systems (FFFS)** - Considering the high traffic volumes and the possibility of Flammable Liquid Cargo (FLC), HGV, and alternative fuel fires, a high-pressure water mist FFFS can act as an alternative to structural fire protection measures.
- **Drainage** - According to NFPA 502 Chapter 7.12, the drainage system will be constructed of noncombustible materials and must be designed for the spill of a FLC transport tank and for fire extinguishing water.

- **Power supply** - In the event of failure of the initial power supply to the tunnel, emergency power shall be available, per NFPA 502 Chapter 12 and NFPA 70. Utility connections to two independent power distribution grid substations that provide separate service is required. An uninterruptable power supply (UPS) will be provided to ensure that all safety relevant systems (Fire Alarm System (FAS), emergency lighting, wayfinding lighting) are never disrupted for longer than 0.5 seconds.
- **Traffic control** - Per NFPA 502 Chapter 7.6, traffic control is identified as an essential safety system and in the case of a fire in the tunnel, all tunnel portals and entry ramps on both tunnel tubes are required to be closed.
- **Incident detection** - In accordance with NFPA 502 Chapter 7.4 incident detection that is quick and reliable is essential to release automatic, immediate reaction of active safety systems (tunnel closure, traffic management, FFFS, etc.) and alarm tunnel operators and emergency services.
- **Dividing walls** - Dividing walls between tunnel tubes are required in order to separate traffic and airflow, especially during a fire where separation can provide a safe, smoke-free space in the adjacent tunnel tube.
- **Control of Hazardous Materials/Environmental Hazards & Alternative Fuels** - NFPA 502 Chapters 7.14 and 7.15 identifies measures that can reduce the risks that would result from flammable combustible environmental hazards on the highway.
- **Tunnel control and operation** - Operation of each tunnel system (lighting, signaling, etc.) in normal and emergency modes is recommended as fully automatic, with manual override capability by operators in a remote operations control center.
- **Inspection, Testing, and Maintenance** - Inspection, testing, and maintenance (ITM) of tunnel systems are required. An ITM plan will be developed in accordance with federal and local code requirements. Structural inspection cycles will likely occur for 24 months, and equipment ITM cycles for 12 months. No equipment must require shorter maintenance intervals under tunnel conditions. Additionally, high quality and reliability of tunnel equipment is essential, considering the harsh environmental conditions and potential wet and corrosive atmosphere in the tunnel.
- **Emergency Response Plan** - Pursuant to NFPA 502 Chapter 4.4 an emergency response plan must be prepared in close collaboration with emergency services, the fire department, tunnel operators, and other stakeholders from early staging of the project and may have an impact on the safety concept.

3.22.3 Structural Deck Amenities Impacts and Mitigation

The construction of the structural deck with public park, recreation, and green open space amenities would introduce the need for safety and security measures to protect the general public. Conceptually, amenities on the new property may include an amphitheater, pavilions for food and beverage purchases, public restrooms, and other small-scale buildings for administration, meetings, and public gatherings. Operational constraints such as park hours, safety monitoring, and police patrols have not been determined, however a camera and video system would likely be

installed to monitor all portions of the site all at times. Similarly, emergency phones and call boxes would be situated at key locations on the property.

Emergency response vehicles would be provided access to public plazas and the remainder of the property through rolled or zero-level curbing, ensuring that no portion of the park would be difficult to reach during or after incidents.

During construction, the contractor will be required to keep the construction site, materials, and equipment secure, as well as construction workers safe from natural events (e.g., severe storms, flooding, fires, etc.), or emergencies caused by human error, mechanical failure, or intentional human intervention. Construction contractors would be required to meet all applicable safety and security requirements pursuant to local, state, regional, and federal regulations [Commitment 19].

3.23 Cumulative and Indirect Effects

3.23.1 Cumulative Effects

Cumulative effects associated with the construction of the proposed project include those impacts resulting from the construction of a structural deck over I-670, the creation of a park or green open space on the new property above I-670, and the closure of the existing Walnut Street or Baltimore Avenue bridge and lane reductions on westbound and eastbound portions of Truman Road. Additionally, the project would impact area land use and population and economic development.

Land Use

The project study area is located entirely within MoDOT and the City of Kansas City transportation ROW and, therefore, does not have any other land use designation. Land use designations north of the project study area are dominated by institutional, office, commercial (non-office), and paved surface parking lot. The Kansas City Convention Center and the Grand Ballroom are built over I-670 in the western portion of the project study area. Retail, entertainment, food and drink establishments, and other mixed uses are found in the Power and Light District to the north. Other developments adjacent to the project study area include a movie theater, multiple multifamily apartment buildings, various restaurants and retail shops, and additional offices and parking. Buildings and land use immediately south of the project study area include additional paved surface parking lot areas, apartment buildings, restaurants, retail shops, and convention center-focused hotels.

Construction of either Preferred Alternative would not, by itself, change any land uses in or around the project study area, primarily due to the lack of property acquisitions necessary to construct the project. However, the creation of green open space intended for community gathering, special events, and passive open space may spur additional development and re-development adjacent to the project study area. Any new development or re-development would need to be consistent with the City of Kansas City zoning ordinances and future land use plans and policies in effect at that time.

Population and Economic Development

The project study area connects major concentrations of business, residential, and cultural activities. The City of Kansas City has experienced long-term growth trends in both population

and economic activity. These trends are expected to continue into the foreseeable future. Population trends in Jackson County show steady recent growth from 2010 to 2020. The increase in population in Jackson County has consistently exceeded the statewide average annual growth rate for this period. Since 2000, Jackson County has experienced low unemployment rates and a positive annual growth in employment. The proposed project is expected to compliment Jackson County's positive population and economic activity trends. Additionally, the project is not expected to adversely impact foreseeable future trends.

Summary and Actions by Others

The following projects are currently planned or currently under construction within or adjacent to the project study area:

- Three Light Residential Tower – A residential use building currently under construction. Located north of North Truman Road and between Main Street and Walnut Street;
- Four Light Residential Tower – A planned residential use facility to be built north of North Truman Road between Baltimore Avenue and Main Street, adjacent to the existing movie theater;
- 1400KC Office Tower – A planned commercial use building nearing completion of construction. Located north of North Truman Road between Wyandotte Street and Baltimore Avenue;
- Lux Living Hotel/Apartment Tower – A planned mixed use building including a hotel and residential living. If constructed, this project would be located north of 14th Street between Wyandotte Street and Baltimore Avenue;
- Midland Lofts - Conversion of a historic office building into a 135-unit residential apartment building. Located on the northeast corner of 13th Street and Baltimore Avenue; and
- Multi-story Residential Buildings - Two planned residential buildings with ground-floor retail space at the southwest and southeast corners of South Truman Road & Main Street.

3.23.2 Indirect Effects

Construction of either Preferred Alternative would create indirect effects, which would occur later in time and outside the project study area. Adverse indirect impacts to the broader community are not anticipated. The Preferred Alternatives are anticipated to support access, connectivity, and mobility within the Kansas City area.

3.24 Resource Impact Summary

Table 3-13 summarizes the impacts of the Preferred Alternatives to the resources discussed in this EA.

Table 3-13: Summary of Impacts

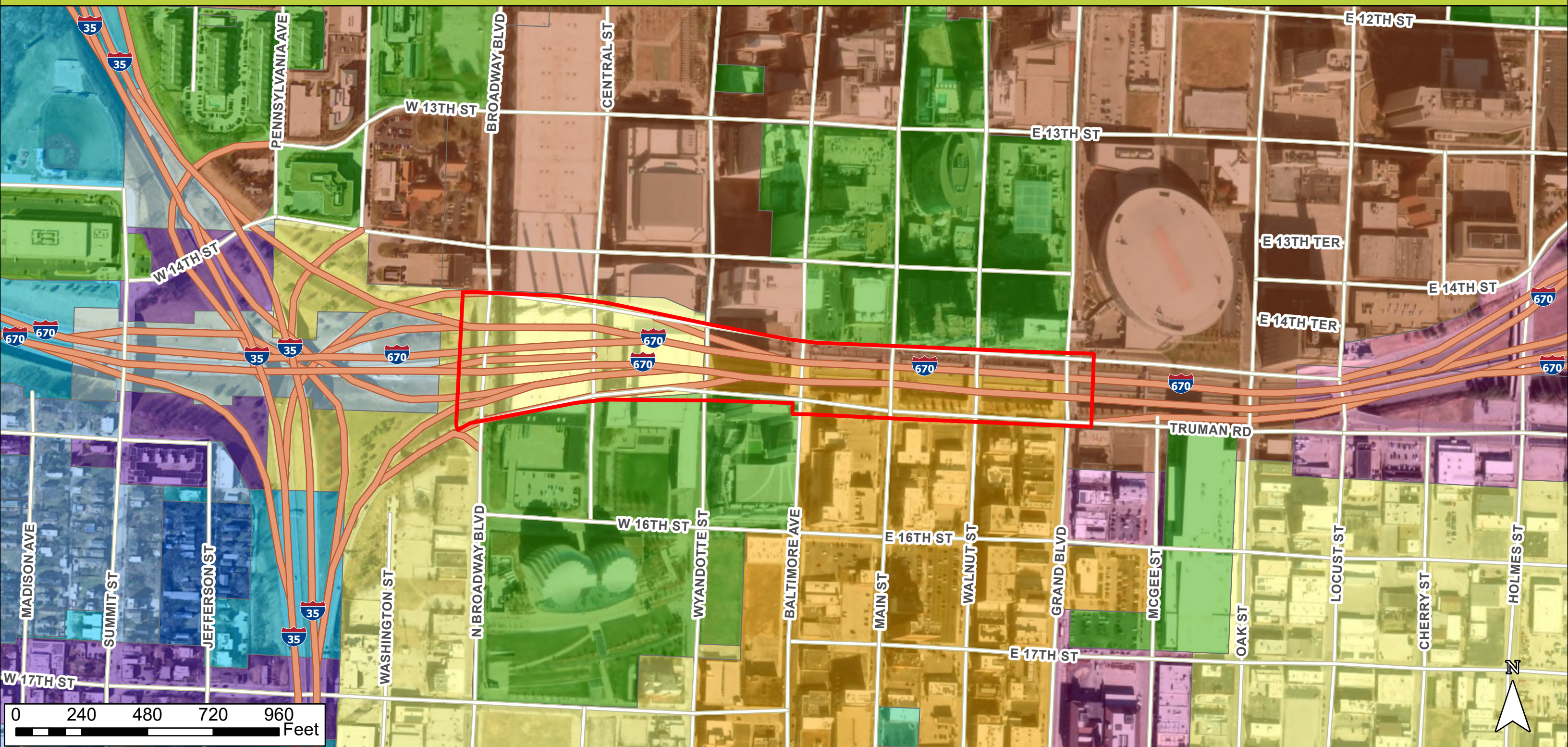
Resource	Measure	No Build Alternative	Preferred Alternative (Eastern Superblock)	Preferred Alternative (Western Superblock)
Community Resources (Police, Fire, Libraries, Hospitals, Houses of Worship)				0
Economics	Positive / Neutral / Negative Impacts	Neutral	Positive	Positive
Parks Recreation Areas, Trails, Section 4(f) Resources	Quantity and acres	0	0.14-acre privately owned dog park, 0 Section 4(f) properties	0.14-acre privately owned dog park, 0 Section 4(f) properties
Bicycle and Pedestrian Facilities	Quantity and linear feet	0	0	0
Stormwater	Positive / Neutral / Negative Impacts	Neutral	Positive	Positive
Historical Sites or Districts	Quantity	0	0	0
Archaeological Sites	Quantity	0	0	0
Section 6(f) Properties	Quantity	0	0	0
Full Property Acquisitions	Number/Acres	0	0	0
Partial Property Acquisitions	Number/Acres	0	0	0
Wetland Impacts	Acres	0	0	0
Stream Impacts	Linear feet	0	0	0
Floodway Impacts	Acres	0	0	0
100 year Floodplain Impacts	Acres	0	0	0
500 year Floodplain Impacts	Acres	0	0	0
Threatened and Endangered Species Critical Habitat	Acres	0	0	0
Noise Impacts (2050 Design Year)	Sensitive receptors with impacts	0	0	0
Hazardous Material sites	Quantity and type	0	0	0



- Project Study Area
- Land Use Designation**
- Residential / Hotel
- Commerical
- Industry
- Education / Convention

- Parking / Automobile
- Emergency Response / Public Safety
- Activity / Open Space
- Vacant Non-Residential (including billboards)
- ROW



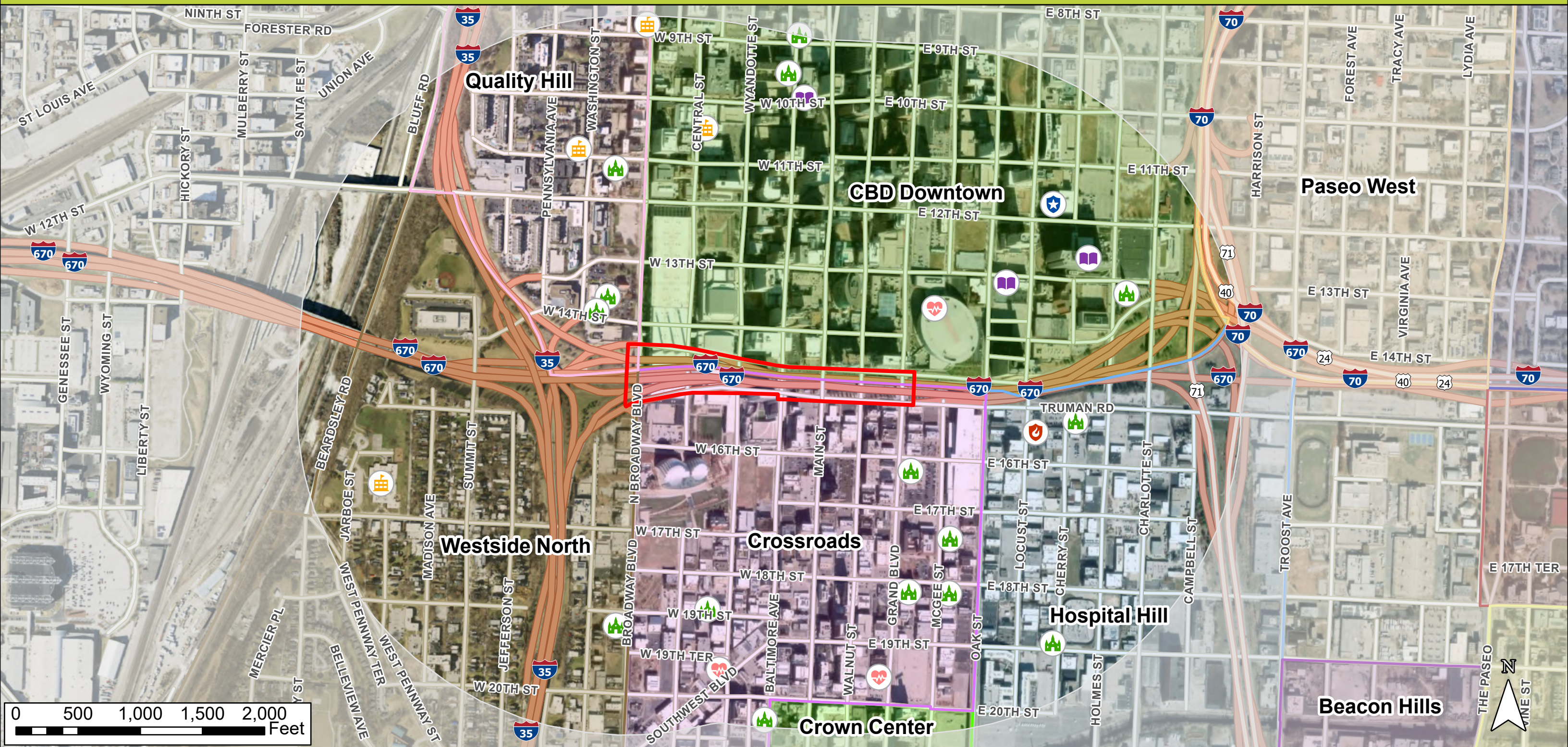


- Project Study Area
- Zoning Designation
- Adult Entertainment
- Downtown Core
- Downtown Mixed-Use

- Heavy Business / Commercial
- Manufacturing 1
- Neighborhood Business 1
- Residential: 1 unit / 500 sq. ft.
- Residential: 1 unit / 1,500 sq. ft.

- Residential: 1 unit / 2,500 sq. ft.
- Residential: 1 unit / 6,000 sq. ft.
- Urban Redevelopment





- Project Study Area
- Police Station
- School
- Fire Station
- Health Care
- Library
- Place of Worship

- Crown Center
- Hospital Hill
- Parkview
- Paseo West
- Quality Hill
- Wendell Phillips
- Westside North

- 18th and Vine and Downtown East
- Beacon Hills
- CBD Downtown
- Crossroads

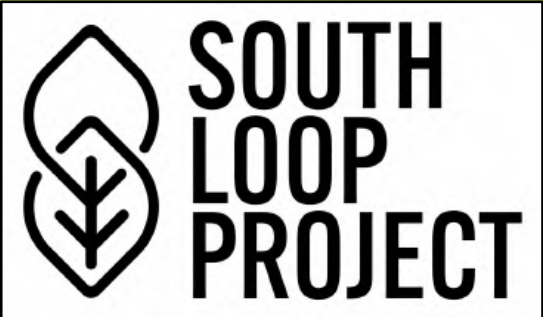
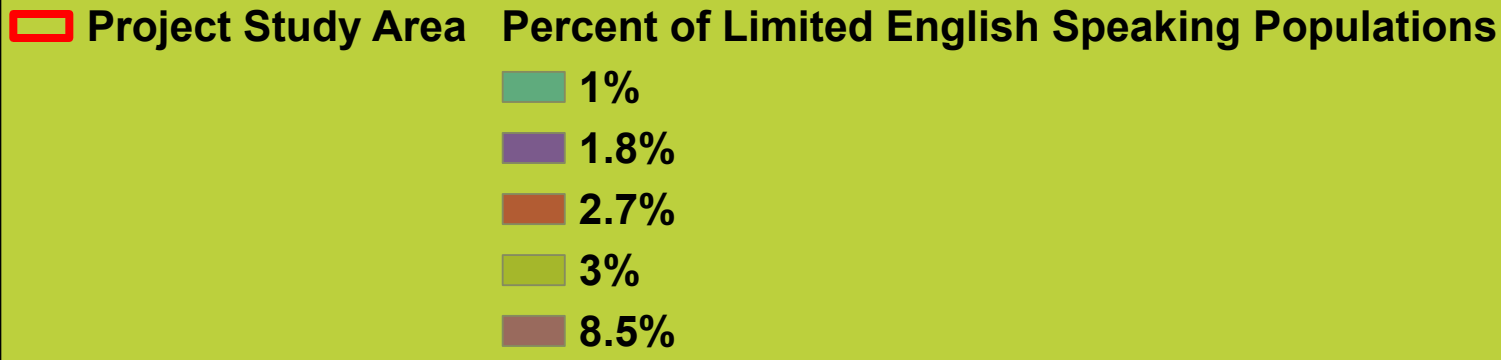
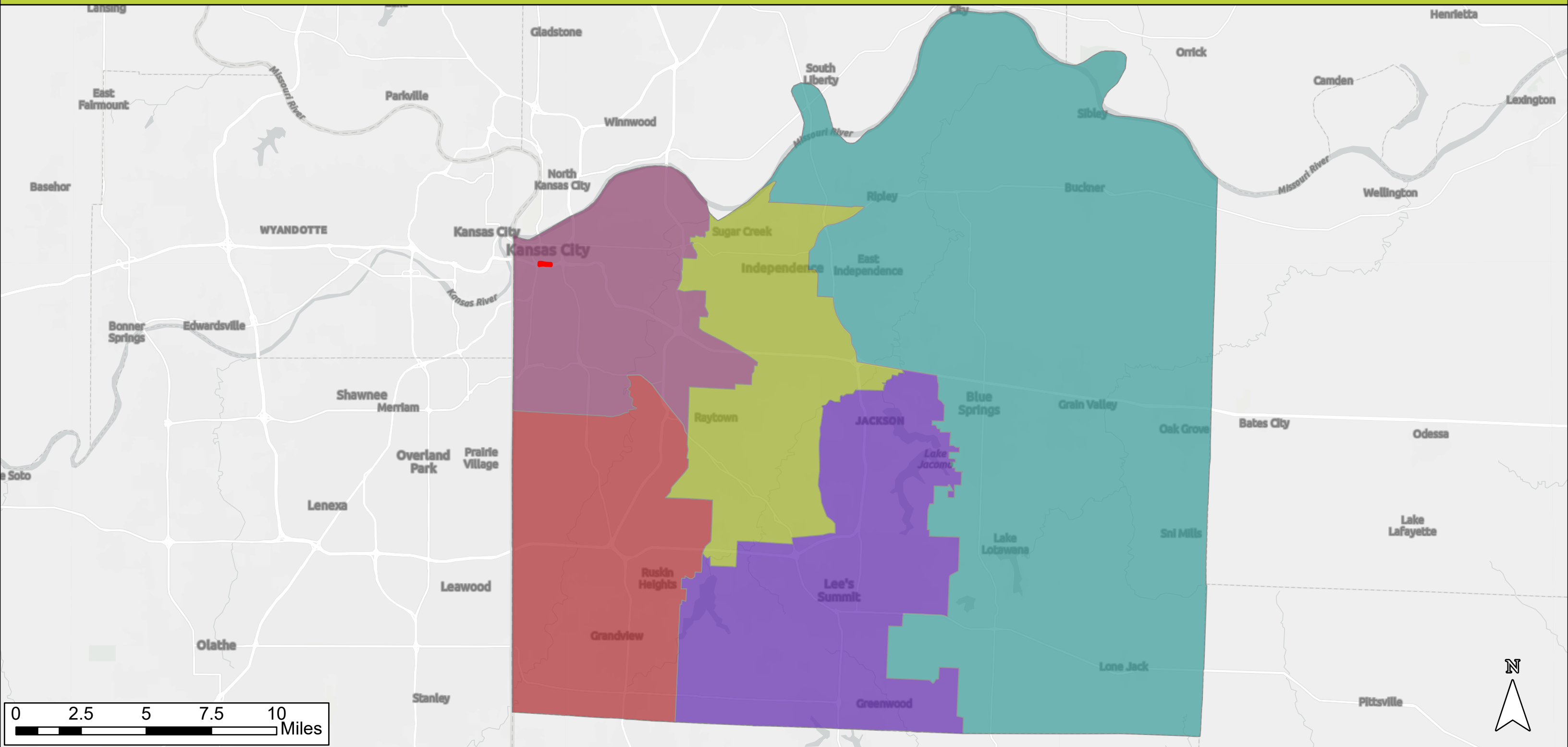
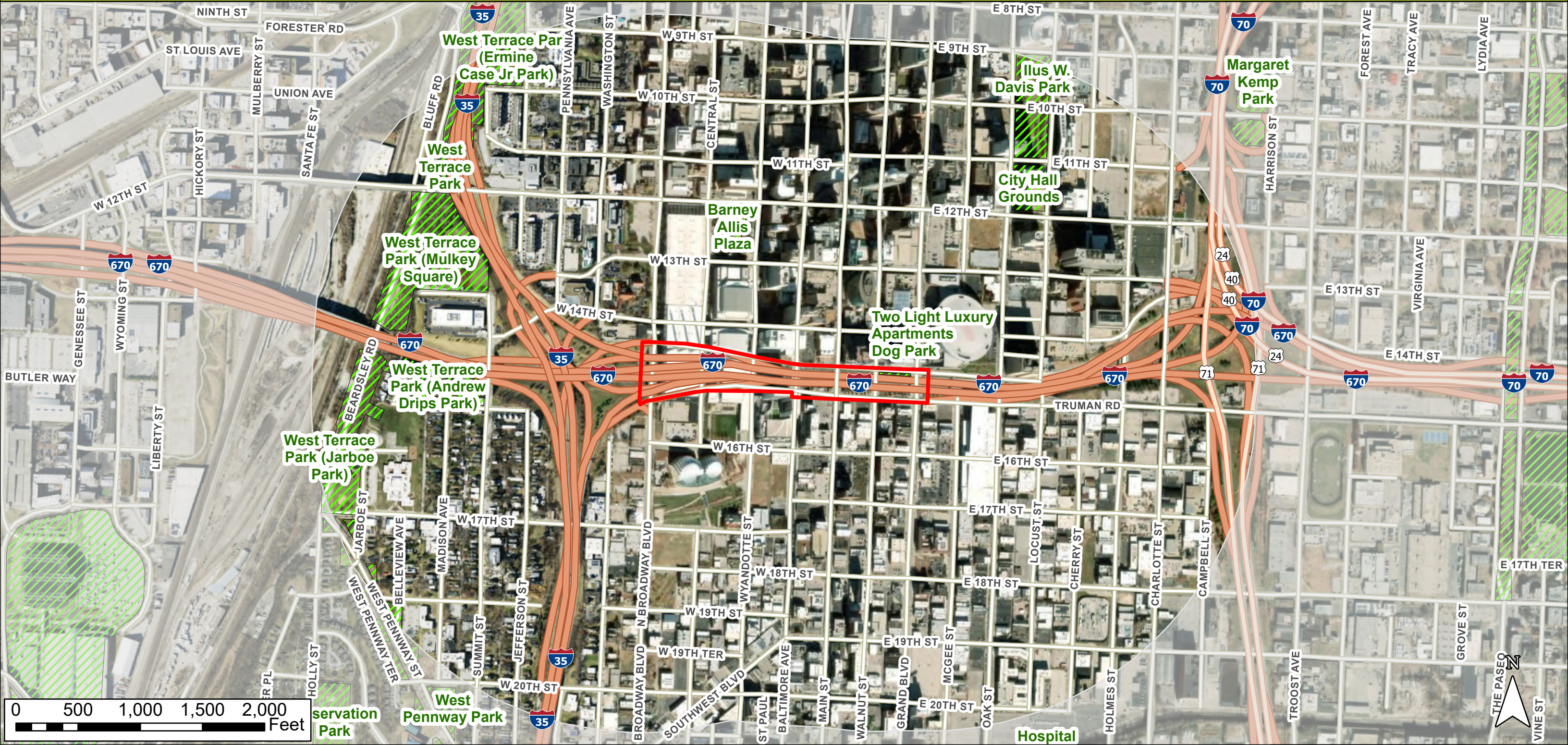


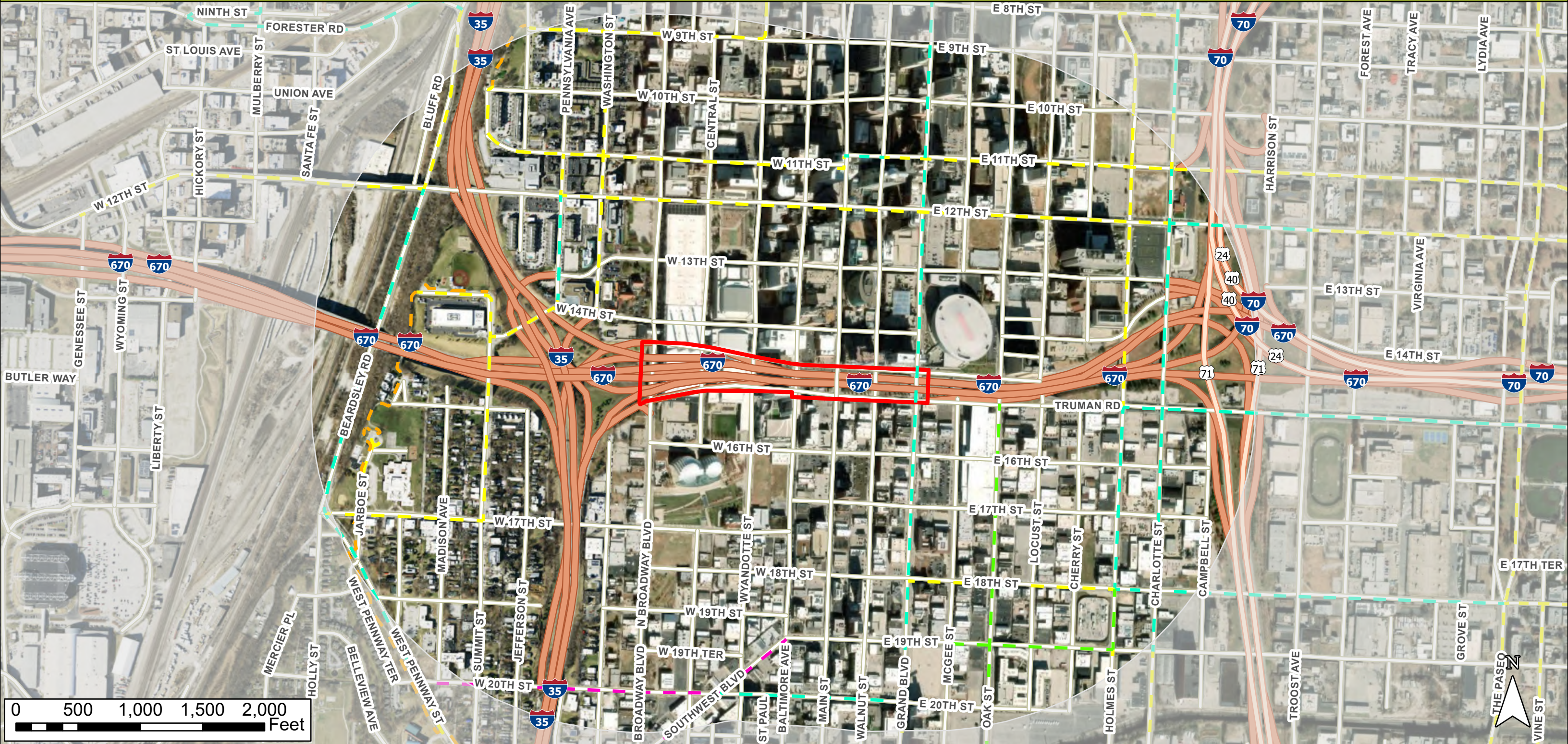
Exhibit 3-4: Limited English Speaking Population





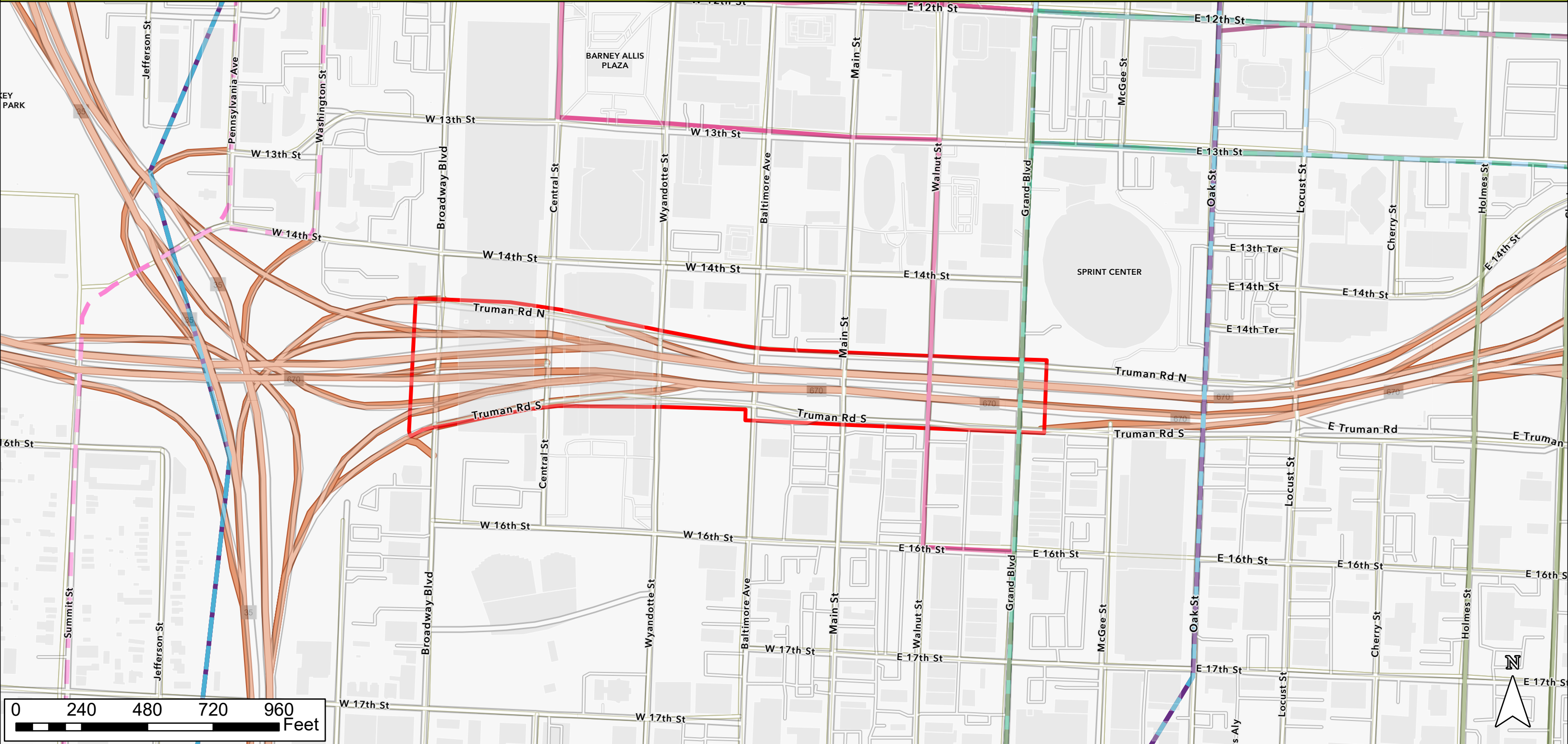
-  Project Study Area
-  Parks and Recreation Areas





-  Project Study Area
-  Cycle Track
-  Bike Lane
-  Marked Bike Route
-  Marked Share the Road
-  Shared Use Path





 Project Study Area

Transit Route

 Blue Springs Express

 Broadway

 Gardner-OP Express

 Lee's Summit Express

 Main Street MAX

 Metcalf-Downtown

 North Oak

 Northeast-Westside

 Olathe Express

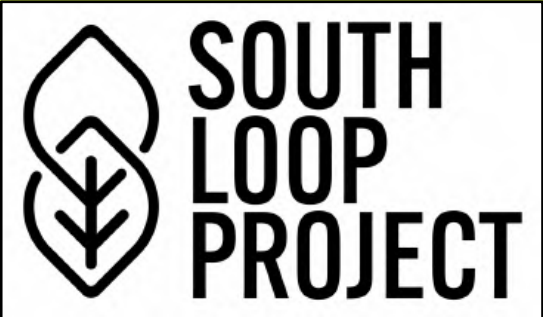
 Paseo

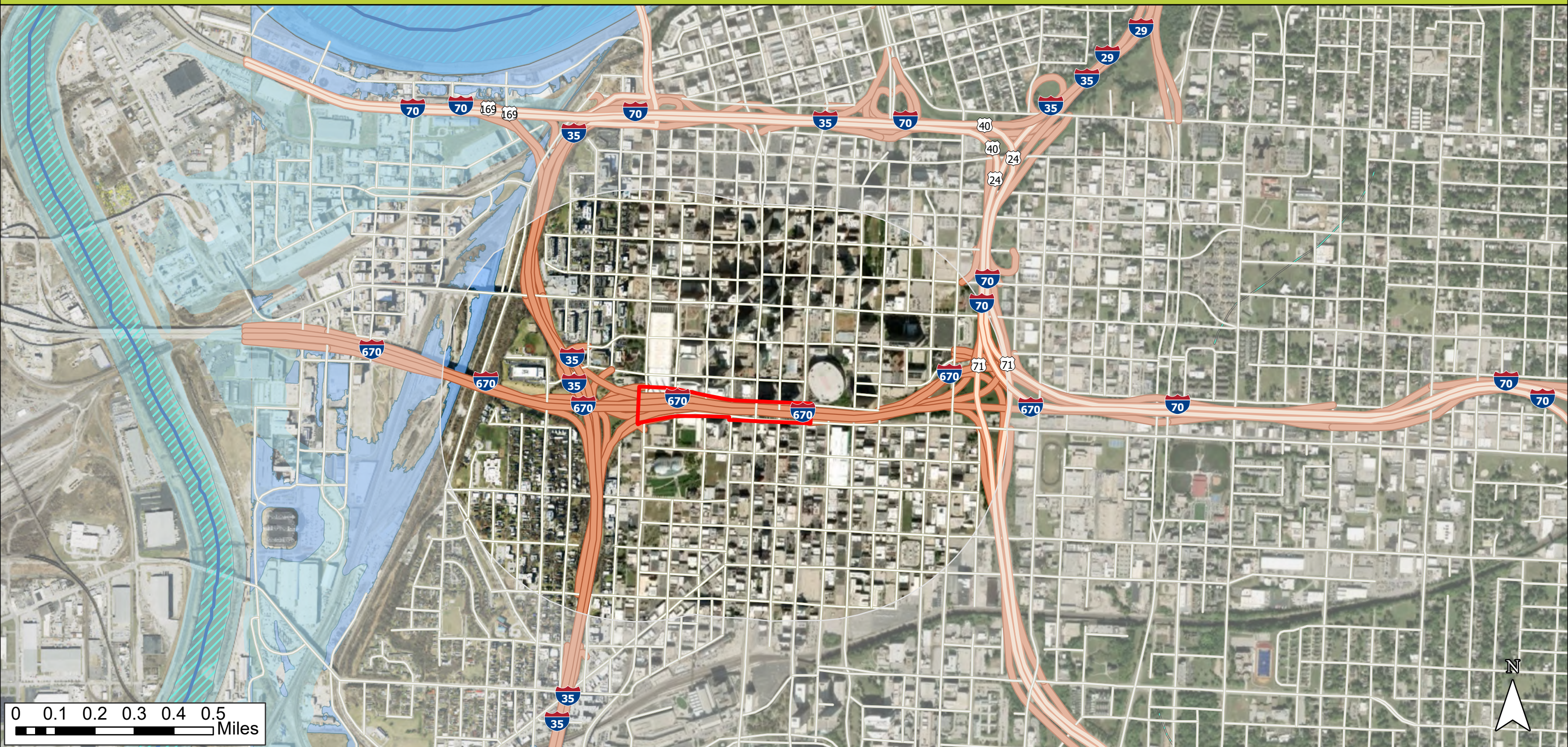
 Shawnee Express

 South OP Express

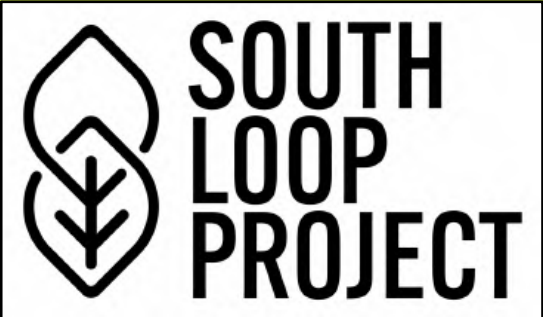
 Strang Line Express

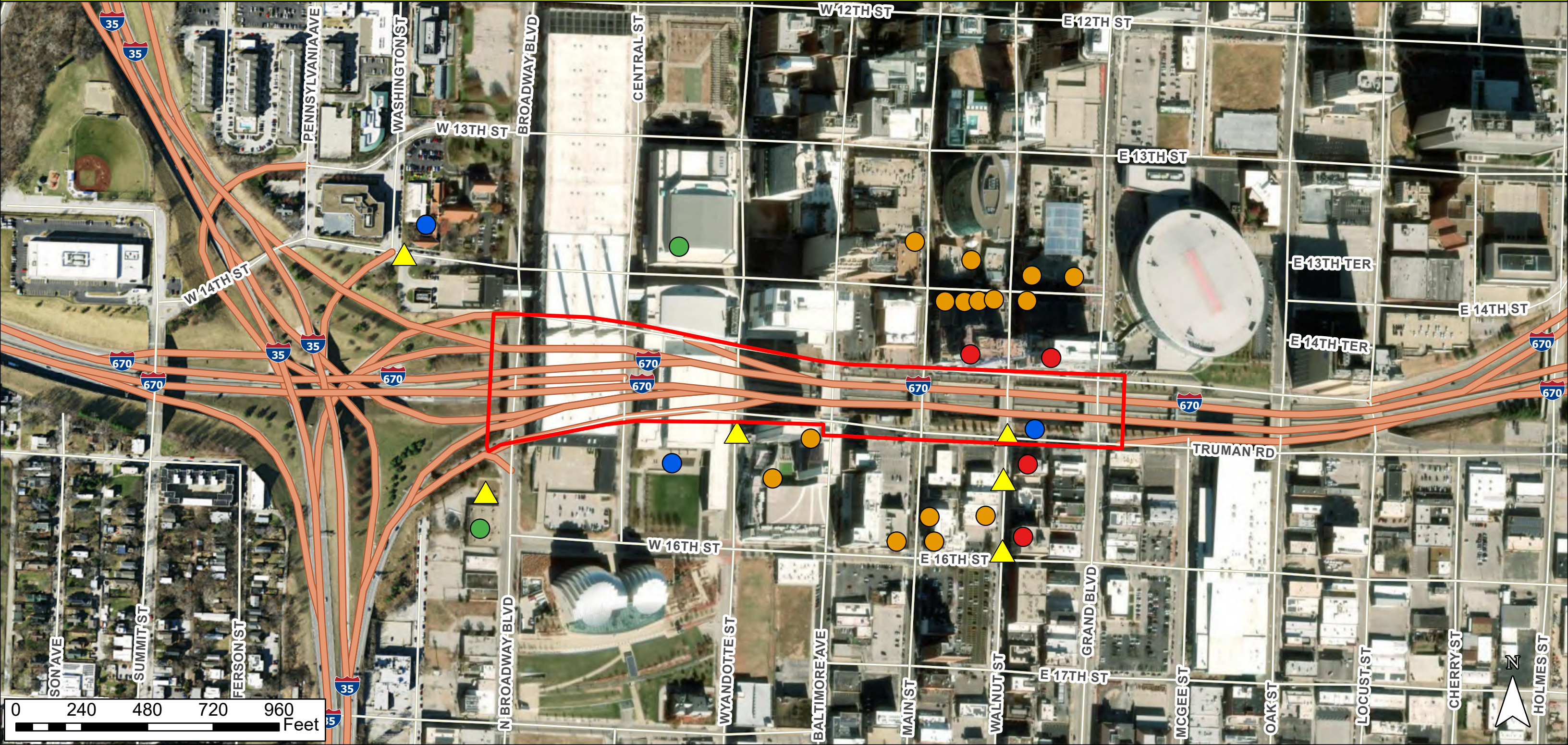
 Troost MAX





-  Project Study Area
-  Rivers and Streams
-  Floodway
-  500-Year Floodplain
-  Riverine Wetland
-  100-Year Floodplain





- Project Study Area

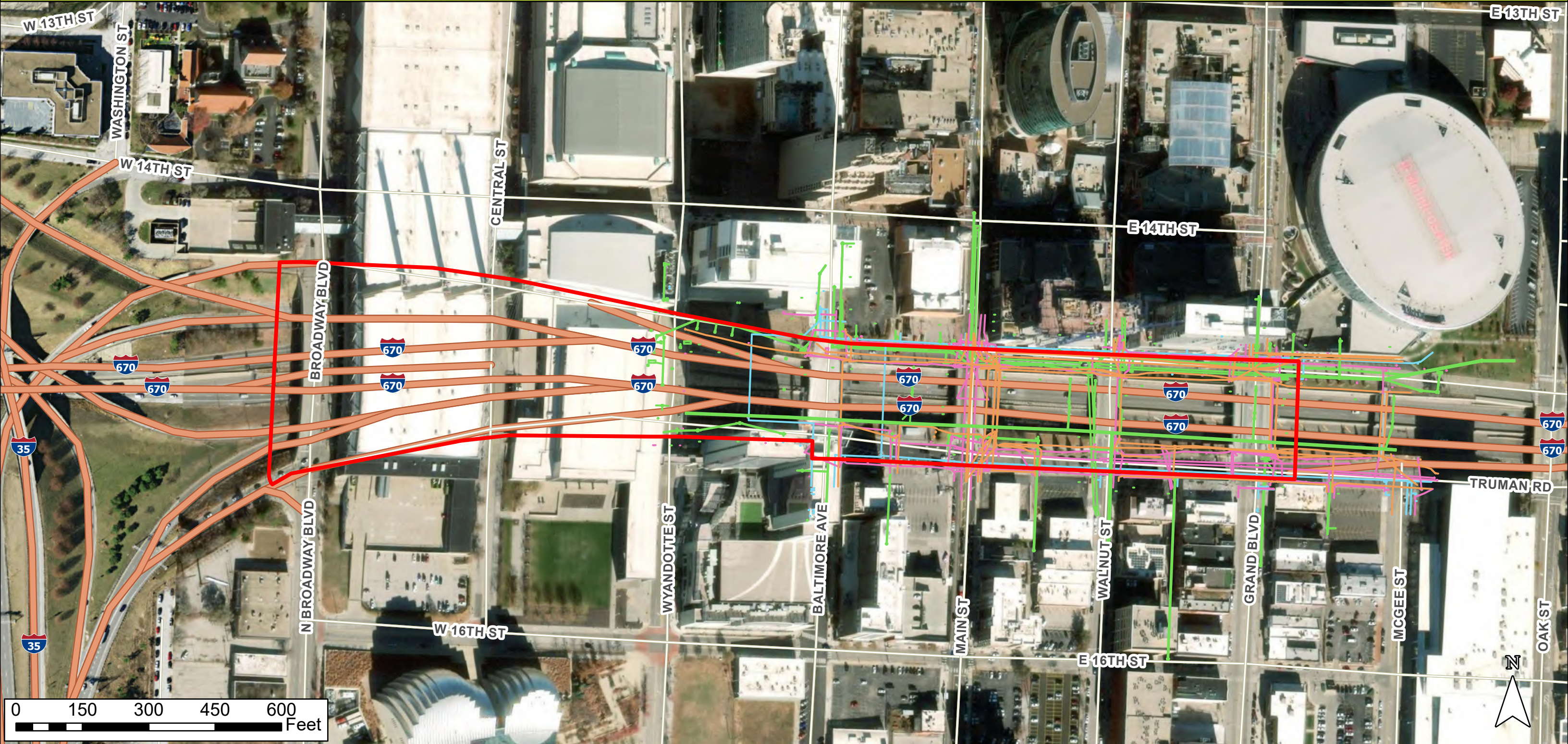
Field Measurement Location
- Noise Sensitive Receptors
- Activity Category B

Activity Category C

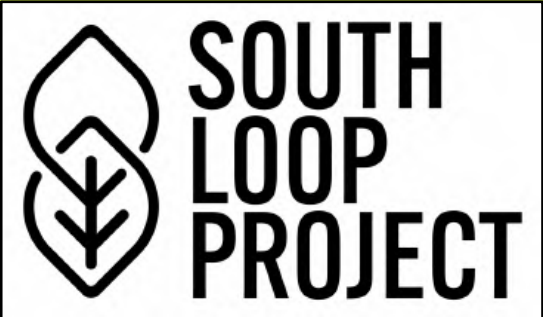
Activity Category D

Activity Category E





- ▭ Project Study Area
- Utilities
 - Electrical/Power
 - Sewer
 - Water
 - Communications/Other



4.0 Public Involvement and Agency Coordination

The South Loop Project is focused on constructing a structural deck over a four-block below-grade section of I-670 in downtown KCMO. The project intends to reconnect two physically separated economic and cultural districts, the CBD and the adjacent Crossroads Arts District, and enhance multimodal connections for residents of adjacent neighborhoods and the broader community. Public engagement had various levels of involvement within every phase of the project. A Public Involvement Plan was developed in the first phase to engage and communicate with stakeholders, outline the objectives, and define the tools to be used. Activities took place throughout the project to accomplish the following goals at key milestones, including:

- Engage new and re-engage previous stakeholders to inform them of the current project status and future plans;
- Elicit feedback about desired park amenities, usage, and features; and
- Confirm the project vision and purpose and need.

A scoping and coordination process was initiated that involved appropriate federal, state, and local agencies, as well as stakeholders and the public. This continued throughout the study to engage the local and regional community, obtain public input, and keep the public informed. Coordination meetings were held as needed with affected/concerned local, state, and federal governmental entities. Public meetings were held to gather input and share findings on the EA. The EA will be made available for public and agency review and comment prior to the final public hearing. Materials utilized and obtained as a result of the public involvement process are included in **Appendix E**.

4.1 Public Meetings

As part of the NEPA process, Port KC, the DTC, and KCMO conducted community outreach to establish the overall vision for the South Loop Project. Four public meetings were conducted to provide opportunities for the public to view project progress and provide input.

4.1.1 Public Meeting #1

The first public meeting was held from 4:30 p.m. to 6:30 p.m. on Tuesday, March 7, 2023, at the Kirk Family YMCA in KCMO. Over 200 people attended the first in-person, open house public meeting, with 36 completing feedback forms. The purpose of the first public meeting was to present a project overview, the NEPA process, and the Purpose and Need; present a variety of project topics and site analysis data; elicit feedback through an interactive dot exercise to weigh in on the park vision, as well as potential features and amenities, and provide an opportunity for attendees to leave open-ended comments; and launch a survey for those who were unable to attend online.

Project team members were available to talk through informational boards and facilitate two public engagement activities, giving the public the opportunity to learn about the project and provide input or ask questions. Attendees were able to participate in two dot activities at the in-person meeting. The first dot activity was focused on participants placing a dot on their preferred vision for the park and the second dot activity was to place five dots on their top park amenity preferences among 20 options offered. For those who could not attend the first public meeting in person, an online survey with the same meeting activities was made available from March 7-21,

2023. In total, between the in-person and the online survey, over 1,600 responses were received.

After the in-person meeting, pictures of the meeting, an online comment form, and survey results were posted online at <https://kcsouthloopproject.org>. This provided an opportunity for those who were unable to attend the in-person meeting to review the information and submit comments.

Promotion for the first public meeting occurred in a number of different ways. Printed postcards were mailed to 6,605 residents and businesses zip-code targeted within the CBD and the Crossroads Arts District areas. Postcard invitations were also delivered in stacks at 26 locations and adjacent businesses to the project study area, shared with the DTC for distribution at committee meetings, shared with attendees at Update Meeting #1, and distributed on Kansas City Area Transportation Authority (KCATA) buses. Paid social media campaigns were also conducted through the DTC's Facebook and Instagram accounts and media alerts and a news release was distributed by KCMO to media outlets. Three dedicated emails were sent through MailChimp; a total of 741 emails were sent out in February and March of 2023. A promotional toolkit that included content and digital graphics was emailed to the project team, three Project Partners, City Council members and their aides, Update Meeting members, and approximately 170 key target audiences to help distribute information about the public meeting and the survey to their constituents through their respective communication channels. The promotional toolkit included email/newsletter content, a statement and contact information for reasonable accommodation requests, two digital graphics for social media channels such as Facebook, Twitter, LinkedIn, Instagram, email, websites, and customizable social media posts. A second promotional toolkit was created for the survey and included email/newsletter content, two digital graphics for social media channels, and customizable social media posts.

4.1.2 Public Meeting #2

The second public meeting was held from 5:00 p.m. – 7:00 p.m. on Tuesday, April 11, 2023, at The Gallery event space in KCMO. Over 130 community members attended the meeting in-person with 86 feedback forms being completed. The purpose of the meeting was to present the initial park concepts, and elicit feedback to weigh in on them, and ways in which the park can be inviting and inclusive, with an opportunity for attendees to submit open-ended comments. The presentation was recorded, and an online survey launched, to offer an alternate method of participation for those who were unable to attend. Those who attended were given the opportunity to learn about the overall project and timeline, discuss potential outcomes, and ask questions. Project information was available on informational display boards, and the project team landscape architects gave a formal presentation. Project team members were available to answer questions or provide additional information. In addition to the in-person public meeting, a virtual online survey was offered to the public to access the same project information at their convenience. The online survey was available from April 11-15, 2023. The survey received over 1,000 responses and comments.

To advertise the second public meeting, Port KC, the DTC, and KCMO used the same methods of communication that were used to promote the first public meeting. Postcard invitations were sent to 6,625 residents and businesses zip-code targeted within the CBD and Crossroads Arts District and were also shared with attendees of Update Meeting #2. Paid social media campaigns were used through the DTC's Facebook and Instagram and a media alert and a news release was distributed by KCMO to media outlets. Three dedicated emails created through MailChimp sent out 2,886 emails during April of 2023. Similar to the first public meeting, a promotional toolkit consisting of content and digital graphics was emailed to the project team, three Project Partners,

City Council members and their aides, Update Meeting members, and 170 key target audiences to distribute information. The toolkit again included email/newsletter content, a statement and contact information for reasonable accommodation requests, two digital graphics for social media channels, and customizable social media posts. The toolkit used for the survey was made up of email/newsletter content, two digital graphics for social media channels, and customizable social media posts.

4.1.2 Public Meetings #1 and #2 Comments and Concerns

People attending the first and second public information meetings in-person and online provided their thoughts and input through feedback forms. Responses indicated participants were overall supportive of building a structural deck over the below-grade section of I-670 in downtown Kansas City. Some additional comments and concerns included:

- Thank you for including the community in this event- to get input on the urban park.
- Space was small, didn't allow much for people to gather and discuss for an extended period of time.
- If any intersecting streets/bridges are being considered to be closed and used as park space, I would like to see Walnut bridge be closed.
- I feel there is enough land/space to facilitate the creation of a park with the following aspects: civic/cultural events space, community front yard for downtown, and a green refuge in the city.
- We are opposed to any/all non-critical improvements which require taxpayer monies when all of KCMO is not included in the process or finished project.

4.1.3 Public Meeting #3

Over 160 people attended the third in-person public meeting and 37 completed general comment cards at the meeting. Public Meeting #3 was held from 5-7 p.m. on Tuesday, September 19, 2023, at The Gallery event space located at 61 E 14th Street., Kansas City, MO 64105. After the meeting, a video recording of the presentation was uploaded to YouTube and posted on the project website.

The purpose of this public meeting was to present the latest park design concept and to gather feedback and reactions to the updated design. Those who attended were given the opportunity to learn about the overall project and project timeline, discuss potential outcomes, and ask questions. Project information was available on informational display boards, and the project team landscape architects gave a formal presentation. Project team members were available to answer questions and/or provide additional information.

To advertise the third public meeting, Port KC, the DTC, and KCMO used the same methods of communication that were used to promote the first two public meetings. Postcard invitations were sent to 6,919 residents and businesses zip-code targeted within the CBD and Crossroads Arts District and were also shared with attendees of latest Update Meeting. Paid social media campaigns were used through the DTC's Facebook and Instagram and a media alert and a news release was distributed by KCMO to media outlets. Three dedicated emails created through MailChimp were sent out. Similar to the first two public meetings, a promotional toolkit consisting of content and digital graphics was emailed to the project team, three Project Partners, City Council members and their aides, Update Meeting members, and 170 key target audiences to distribute information. The toolkit again included email/newsletter content, a statement and

contact information for reasonable accommodation requests, two digital graphics for social media channels, and customizable social media posts. The toolkit used for the survey was made up of email/newsletter content, two digital graphics for social media channels, and customizable social media posts.

4.1.4 Public Meeting #3 Comments and Concerns

People attending the third public information meetings in-person and online provided their thoughts and input through feedback forms. Responses indicated participants were overall supportive of building a structural deck over the below-grade section of I-670 in downtown Kansas City. Some additional comments and concerns included:

- The park development looks great. We are sad to see that the streets are cutting through the public space. Bridges seem like a good compromise to maintain pedestrian flow & motor traffic.
- What about the rumble of the traffic underneath?
- Please don't jeopardize streetcar operations. Need to invest in network solutions to prevent Main from being overwhelmed. Need better connection between park and Truman N/S.
- Love the designs - can't wait for this project to begin.

4.1.5 Public Meeting #4 and Public Hearing

A fourth public information meeting, the option for a Public Hearing was offered for anyone requesting (no requests were received), included information related to the alternatives screening and selection, potential impacts of the Preferred Alternatives, and other pertinent schedule, cost, and construction information. The public was provided multiple opportunities to comment on the proposed project and its environmental effects. This meeting occurred on February 13, 2025, during the 30-day public comment period which ran from January 23 to February 23, 2025, following FHWA approval of this EA. Over 65 people attended the public meeting and 17 people completed general comment cards. In total during the public comment period 28 comments were received from citizens and community organization. Public Meeting #4 was held from 5-7 p.m. at The Kirk Family YMCA located at 222 W. 11th Street, Kansas City, MO 64105. Project team members were available to answer questions and/or provide additional information.

People attending the fourth public meeting in-person and online provided their thoughts and input through feedback forms. Responses indicated participants were overall supportive of building a structural deck over the below-grade section of I-670 in downtown Kansas City. Some additional comments and concerns included:

- Will new crosswalks, pedestrian over/underpasses, or other pedestrian options be added to allow safe travel between park sections separated by bridges over I-670 (ie on Baltimore, Grand, Main, etc.)?
- I favor closing Baltimore rather than Walnut.
- Prefer Western superblock in order to keep Walnut bridge open. Would be better for T Mobile events.
- I feel like having the superblock closer to the sprint center will be great for large events! I can't wait to see the completed project.

4.1.6 Substantive Comments

Substantive comments received were related to the operations of the streetcar due to the potential closure of Walnut Street and the reconfiguration of Truman Road. These were addressed through an additional traffic analysis which provided multiple potential mitigation measures. These measures were found to be beyond the scope of this project and there was no change to the project as a result of the additional analysis.

4.2 Stakeholder Outreach

The project team met in-person with residents and businesses located within and adjacent to the project study area and in the broader Kansas City community at multiple times and locations. These meetings and events were intended to provide an overview of the study and gather feedback from the residents and businesses such as how they use their property, concerns they have in the area, and improvements they would like to see. Meetings and events the project team attended, met with residents and businesses, or gave presentation to the community have included:

- The Downtown Kansas City 2023 Annual Luncheon, April 14, 2023
- Crossroads Community Association Infrastructure Committee, April 17, 2023
- NFL Red Zone Draft Event, April 28, 2023
- Kansas City Downtown Council Meeting, May 4, 2023
- Guadalupe Center Cinco de Mayo Celebration, May 5, 2023
- MARC Committee, May 11, 2023
- River Market Community Association, May 11, 2023
- 6th Council District Monthly Meeting, May 12, 2023
- Downtown Neighborhood Association, May 23, 2023
- Crossroads Community Association First Friday Event, June 2, 2023
- 5th Council District Monthly Meeting, June 5, 2023
- Blue Springs Chamber of Commerce Legislative Task Force, June 9, 2023
- Hispanic Chamber of Commerce Coffee with Carlos, June 15, 2023
- Westside Neighborhood Association, June 15, 2023
- Historic East Neighborhood Coalition, June 16, 2023
- Juneteenth Festival, June 17, 2023
- Mattie Rhodes Center Tamale Fest, June 24, 2023
- Kansas City Public Library – Central Branch, July 19, 2023
- City Farmers Market, July 22, 2023
- Paseo West Neighborhood Association, July 26, 2023

4.3 Public Surveys

Port KC, the DTC, and KCMO conducted a public online survey from March 7-21, 2023, to gather information about what the public's top park amenity preferences were and what they felt the South Loop Project in Kansas City should be. Over the two-week period, the survey received 1,633 responses total, 1,458 being online responses and 175 being in-person responses. A second survey was conducted from April 11-15, 2023. The second survey focused on allowing participants to share their preference on the design concepts, how they would access the park (transit and mobility options), and how the team could make this project more inviting and

inclusive. The second survey received over 1,003 responses total, 917 online responses and 86 in-person responses. **Exhibit 4-1** and **Exhibit 4-2** display the approximate number of survey respondents per zip code near the project study area.

Both surveys were distributed in multiple ways. Hard copies of the survey were available for those who attended the public meetings in-person with a QR code linked directly to the survey for printed materials. In addition to hard copies, electronic surveys were available for those who were not able to obtain hard copies of the survey. Hard copies and electronic copies of the survey were distributed through multiple forms of communication, such as postcard mailers, email blasts, newsletters, websites, graphics, and social media posts.

The first survey revealed the most popular responses for what the South Loop Project should be were:

- The community front yard for downtown (109)
- A green refuge in the city (34)
- The place for civic & cultural events (32)

Respondents from the first survey also indicated the five most popular preferences for park features and amenities were:

- Event lawn (524)
- Interactive public art (486)
- Passive space (483)
- Shady courts (432)
- Park restrooms (415)

As a result of the feedback collected after the second public meeting and the survey, a third preliminary design concept was developed to show all streets open to through traffic within the project study area. The second survey also revealed the top transit and mobility options that would be used to access the park in order were:

- Walking (338)
- Public transit (bus, streetcar) (322)
- Car (229)
- Bike (153)
- Other (17)

4.4 Agency Coordination

4.4.1. Agency Early Coordination Package

Port KC, DTC, and KCMO, in coordination with MoDOT, prepared an initial early coordination packet for distribution to local, state, and federal agencies, tribes, officials, and organizations identified in **Table 4-1**. That packet was sent to agencies on May 12, 2023. The packet included a letter inviting the agency to coordinate on the EA, a description detailing the project and its process, a project study area map, the purpose and need statement, and a copy of the Agency Coordination Plan. The early coordination packet was meant to fulfill the scoping activities point

of collaboration. **Appendix F** of the EA contains copies of response letters received during the initial coordination process.

4.4.2. Agency Alternatives Screening Package

A second agency coordination packet, the alternatives screening packet, was distributed to local, state, and federal agencies, tribes, officials and organizations identified in **Table 4-1**. The alternatives screening packet included information related to the development of build alternatives, screening criteria, and evaluation of the alternatives. This packet was sent to agencies in October 2023. Agencies did not identify any concerns or issues with the alternatives screening process for the project.

4.4.3. Cooperating and Participating Agencies

Cooperating agencies are those governmental agencies specifically requested by the lead agency to participate during the environmental evaluation process for the project. Cooperating agencies are federal agencies that have jurisdiction by law regarding aspects of the proposed project or special expertise pertaining to the project. Port KC, the DTC, and KCMO, in coordination with MoDOT and FHWA, determined that there will be no cooperating agencies for this project. If there becomes a need to request any agencies to serve as a cooperating agency, Port KC, the DTC, and KCMO, in consultation with MoDOT and FHWA, will issue that agency an invitation.

Participating agencies are federal and non-federal governmental agencies that may have an interest in the project because of their jurisdictional authority, special expertise, and/or statewide interest. All federal, state, regional, and local government agencies that may have an interest in the project were invited to serve as participating agencies. Non-governmental organizations and private entities cannot serve as participating agencies.

4.4.4. Agency List

Table 4-1 shows the lead and participating agencies for the project. This table displays those agencies that have responded.

Table 4-1: List of Lead and Participating Agencies

Agency	Role	Response Received	Responsibility
Port Authority of Kansas City, Missouri (Port KC)			Manage environmental review process; prepare and approve EA evaluation; provide opportunities for public and agency involvement
Downtown Council of Kansas City, Missouri (DTC)	Local Lead Agency	NA	Manage environmental review process; prepare and approve EA evaluation; provide opportunities for public and agency involvement
City of Kansas City, Missouri (KCMO)	Local Lead Agency	NA	Manage environmental review process; prepare and

Agency	Role	Response Received	Responsibility
			approve EA evaluation; provide opportunities for public and agency involvement
Missouri Dept. of Transportation (MoDOT)	State Lead Agency	NA	Manage environmental review process; prepare and approve EA; provide opportunities for public and agency involvement
Federal Highway Administration (FHWA)	Federal Lead Agency	NA	Approval of NEPA
U.S. Army Corps of Engineers (USACE), Northwestern Division, Kansas City District	Participating Agency		Consultation
U.S. Fish and Wildlife Service (USFWS)	Participating Agency	Y (IPaC)	Consultation
U.S. Environmental Protection Agency (EPA)	Participating Agency	Y	Consultation
U.S. Department of Agriculture (USDA)	Participating Agency		Consultation
Federal Emergency Management Agency (FEMA)	Participating Agency		Consultation
U.S. Department of the Interior, National Park Service, Midwest Region (NPS)	Participating Agency		Consultation
Natural Resource Conservation Service (NRCS)	Participating Agency		Consultation
Federal Transit Administration (FTA), Region 7	Participating Agency		Consultation
Missouri Department of Natural Resources (MoDNR)	Participating Agency	Y	Consultation
Missouri Department of Natural Resources (MoDNR) SHPO	Participating Agency		Consultation
State Emergency Management Agency Missouri (SEMA)	Participating Agency		Consultation
Missouri Office of Administration	Participating Agency	Y	Consultation
Missouri Department of Conservation (MDC)	Participating Agency	Y	Consultation
Iowa Tribe of Kansas and Nebraska	Participating Agency	Y	Consultation
Iowa Tribe of Oklahoma	Participating Agency		Consultation
Kaw Nation of Oklahoma	Participating Agency		Consultation
Miami Tribe of Oklahoma	Participating Agency		Consultation
The Osage Nation	Participating Agency		Consultation
Ponca Tribe of Nebraska	Participating Agency		Consultation
Ponca Tribe of Indians of Oklahoma	Participating Agency		Consultation
Sac and Fox Tribe of the Missouri in Kansas and Nebraska	Participating Agency		Consultation
Sac and Fox Tribe of the Mississippi in Iowa	Participating Agency		Consultation

Agency	Role	Response Received	Responsibility
Sac and Fox Nation of Oklahoma			Consultation
Shawnee Tribe	Participating Agency	Y	Consultation
Wyandotte Nation	Participating Agency		Consultation
Economic Development Corporation of Kansas City (EDCKC)	Participating Agency		Consultation
Kansas City Chamber of Commerce (KC Chamber)	Participating Agency		Consultation
Kansas City Planning and Development Department	Participating Agency		Consultation
Kansas City Public Works Department	Participating Agency		Consultation
Crossroads Community Association of Kansas City (CCA)	Participating Agency		Consultation
Kansas City Downtown Neighborhood Association	Participating Agency		Consultation
Kansas City Streetcar Authority	Participating Agency		Consultation
Mid America Regional Council (MARC)	Participating Agency		Consultation
RideKC/Kansas City Area Transportation Authority	Participating Agency		Consultation
Downtown Kansas City Community Improvement District	Participating Agency		Consultation
Jackson County, Missouri	Participating Agency		Consultation

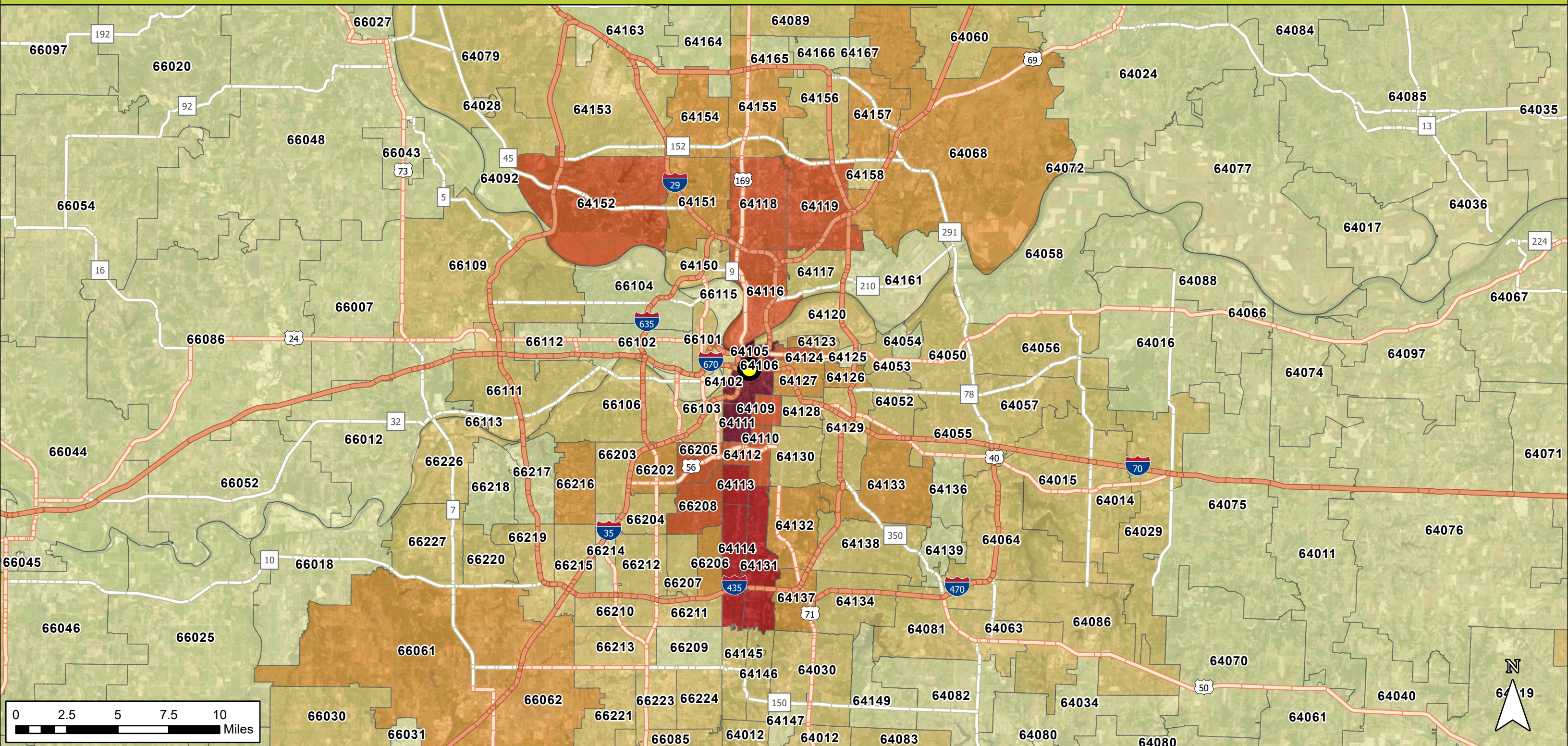
4.4.5. Tribal Coordination

Tribes that indicated cultural or religious interests in projects located in Jackson County, Missouri were contacted by email from FHWA on April 14, 2023. The Tribes received the same informational coordination packet sent to local, state, and federal agencies with an invitation to coordinate and consult on the project. Coordination packets were sent to the following Tribes:

- Iowa Tribe of Kansas and Nebraska;
- Iowa Tribe of Oklahoma;
- Kaw Indian Nation of Oklahoma;
- Miami Tribe of Oklahoma;
- Osage Nation;
- Ponca Tribe of Nebraska;
- Ponca Tribe of Oklahoma;
- Sac and Fox Nation of the Missouri in Kansas and Nebraska;
- Sac and Fox Tribe of the Mississippi in Iowa;
- Sac and Fox Nation of Oklahoma;
- Shawnee Tribe; and
- Wyandotte Nation.

Coordination responses, and the Study Team responses to requests for additional information are available in **Appendix F**.

Exhibit 4-1: Survey #1 Responses by Zip Code

 **NEPA Project Area**

Survey #1 Respondents

☐ No Responses (72)

1 - 5 (58)

6 - 10 (16)

11 - 25 (10)

26 - 50 (3)

51 - 181 (4)



5.0 Environmental Commitments and Mitigation

The City of Kansas City, MoDOT, and FHWA commit to adhering to all local, state, and federal laws, rules, and regulations, and will implement all regulatory commitments as listed in this section of the EA.

- 1) The Project Partners will ensure the lateral width of I-670 will not be impacted and, therefore, capacity will not be negatively affected within the project study area.
- 2) The Project Partners will ensure a minimum of 15'6" vertical clearance will be met and included in the final design documentation.
- 3) The City of Kansas City and the Project Partners will obtain design exceptions for any design elements not meeting technical requirements prior to completion of final design of the project.
- 4) The Project Partners will design and implement pedestrian access to the park and across I-670 to be ADA compliant. Additionally, sidewalks and trail facilities will provide ADA connections across the park facility.
- 5) **I-670 Tunnel (Section 2.6.1)** - The contractor in coordination with the City of Kansas City and MoDOT will develop a tunnel safety concept for each construction phase of the project to maintain an adequate level of safety during the entire construction process. Additional traffic management measures will be completed to minimize risks through the tunnel. Tunnel systems would be successively installed, commissioned, and tested in segments.
- 6) **Property Governance (Section 2.6.2)** – The City of Kansas City will obtain a ROW Permit from MoDOT ([Permits | Missouri Department of Transportation \(modot.org\)](#)), which has been coordinated with FHWA, before construction begins.
- 7) **Property Governance (Section 2.6.2) and Parks, Recreation and Section 4(f) Resources (Section 3.5)** - The City of Kansas City will enter into an Airspace Agreement with the Missouri Highways and Transportation Commission to occupy the new property created above MoDOT ROW prior to construction authorization. This agreement will be revocable and terminable, with specific conditions for use. This agreement shall also satisfy provisions under 23 CFR 774.11(i) to establish the property for future transportation improvements. In doing so impacts from the future transportation use are not considered a Section 4(f) impact.
- 8) **Property Governance (Section 2.6.2)** - The City of Kansas City will enter into an agreement with a yet to be formed 501(c)(3) nonprofit entity prior to the completion of construction and opening of the park. This agreement will outline how the property above I-670 will be operated, maintained, programmed, and funded.
- 9) **Environmental Analysis (Section 3.0)** - The Project Partners and MoDOT commit to re-evaluating potential project impacts should the scope of improvements, project limits, existing conditions, or regulations pertaining to some aspect of the project change during design or construction.
- 10) **Neighborhoods and Community Resources (Section 3.3)** - The City of Kansas City's City Council will develop a community benefits agreement with the Project Partners of the South Loop Project prior to construction to outline programs and support mechanisms during and after construction that will benefit areas and populations within and beyond the project study area.
- 11) **Neighborhoods and Community Resources (Section 3.3)** - MoDOT will ensure a TMP is included in the construction contract to respond to temporary disruptions in travel patterns and travel time. Once developed, the Project Partners in coordination with MoDOT will assess the impacts of the TMP within the framework of NEPA. If the TMP could result in impacts that were not previously reviewed under NEPA—such as new or additional road

- closures, access changes, or other circumstances that could cause new or modified impacts to resources, the Project Partners in coordination with MoDOT's environmental section will review these impacts prior to implementing the TMP.
- 12) **Neighborhoods and Community Resources (Section 3.3)** - The City of Kansas City will provide information to non-English proficient populations during final design and construction in the following ways:
- The project website will be available in seven languages: English, Spanish, French, German, Chinese (Simplified), Korean, and Vietnamese;
 - All public meetings will include an option to request an interpreter; and
 - All content publicly provided will be noted as available in alternative languages upon request.
- 13) **Neighborhoods and Community Resources (Section 3.3)** - The City of Kansas City will continue outreach to various neighborhood, civic, and other organizations as requested and as necessary during final design and construction.
- 14) **Neighborhoods and Community Resources (Section 3.3)** - The Contractor, in coordination with the City of Kansas City and Transit Agencies, will develop a plan prior to construction to reroute transit services during construction as necessary to maintain connections to community resources and employers.
- 15) **Parks, Recreation, and Section 4(f) Resources (Section 3.4)** - The City of Kansas City and the Two Light Luxury Apartments HOA will review the lease agreement to determine future actions related to the dog park (non-4(f) resource) prior to its closure for construction activities.
- 16) **Right of Way and Displacements (Section 3.6)** - The City of Kansas City will compensate property owners that will incur temporary construction impacts as determined by City of Kansas City, MoDOT, and FHWA guidelines and processes for acquisitions in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended by the Surface Transportation Assistance Act of 1987 and 49 Code of Federal Regulations, Part 24. Relocation assistance will be made available to all persons and businesses to be relocated without discrimination.
- 17) **Cultural Resources (Section 3.8)** - The Contractor and the City of Kansas City will implement the provisions of the Archaeological Testing Plan and all other provisions as outlined in the Programmatic Agreement, intended to refine the archaeological assessment as identified in the EA and Section 106 Memo.
- 18) **Cultural Resources (Section 3.8)** - The City of Kansas City, MoDOT, and FHWA will continue consultation and coordination with those Tribal Nations that have expressed interest in the project as it progresses to construction.
- 19) **Cultural Resources (Section 3.8)** - In the event that a previously unevaluated cultural resource is discovered during construction, all construction and excavation activities will cease immediately within the area. The Contractor will secure the area, the material will be left in place with no further disturbance, and MoDOT, the Missouri SHPO, FHWA, and Tribal Nations, as appropriate will be contacted immediately.
- 20) **Construction (Section 3.9)** - The Contractor shall ensure that emergency response vehicles have access throughout the corridor during construction. Any detours will be temporary in nature and limited in duration to the period of time required to construct project improvements. These detours will be coordinated with emergency services prior to their implementation.
- 21) **Construction (Section 3.9)** - The Contractors on the project will be required to comply with all applicable local, state, and federal air pollution regulations during construction.

- Additionally, the Contractor and the City of Kansas City will ensure local and regional access to existing rural and urban areas and facilities are maintained during construction.
- 22) **Construction (Section 3.9)** - The Contractor and the City of Kansas City will ensure measures are taken to reduce fugitive dust and other emissions generated during construction. Emissions from construction equipment would be controlled in accordance with emission standards prescribed under state and federal regulations. Materials resulting from construction operations would be removed from the project and disposed of by the contractor. Additionally, burning of construction debris will be prohibited and requirements to properly dispose of all such material off site will be included.
- 23) **Surface Waters and Water Quality (Section 3.12)** - The Contractor will submit an NOI to obtain a NPDES stormwater construction permit and develop a SWPPP prior to the beginning of construction. The Contractor will be responsible for the monitoring of the BMPs and updating the SWPPP as necessary during project construction. The contractor will also follow BMPs to reduce impacts to groundwater during construction and will also follow recommendations set forth in the TMDLs for the Missouri River. The contractor will also obtain a Site Disturbance Permit from the City of Kansas City per City Code Section 63-25 and prepare an Erosion Control and Sediment Control Plan per Section 63-30 prior to construction.
- 24) **Surface Waters and Water Quality (Section 3.12)** – The City of Kansas City, in coordination with MoDOT, will create a stormwater management system during final design to control temporary runoff during construction.
- 25) **Endangered Species (Section 3.15)** - The Contractor will be responsible for adhering to the MBTA. If migratory birds are found to be nesting on the Walnut Street bridge (#A0819) or the Baltimore Avenue bridge (#A0817), or if Peregrine Falcons are occupying the nest box, then a protective Job Special Provision (JSP) will be put in place to avoid conflict with the MBTA and follow up with the MDC will be initiated.
- 26) **Geology and Soils (Section 3.16)** - The Contractor and City of Kansas City will perform Geotechnical investigations in later design phases to determine precise bedrock and structural loading requirements.
- 27) **Hazardous Materials (Section 3.18)** - The Contractor will monitor the construction site for hazardous materials during construction. If hazardous materials are encountered during construction, the contractor will cease work at the suspect site immediately. The contractor will contact the appropriate environmental agency, in this case MoDNR, to discuss options for remediation. The MoDNR, EPA, the City of Kansas City, and the contractor will develop a plan for sampling, remediation, and continuation of project construction. Hazardous materials consulting, analytical, and remediation services will be obtained if necessary.
- 28) **Utilities (Section 3.20)** - The City of Kansas City and Contractor during final design and construction will coordinate with utility companies to minimize the impact of necessary utility relocations. The responsible party for any relocations will obtain the necessary clearances should they occur outside of the project study area. All design work, maintenance, and relocation efforts, of underground and above-ground electric lines throughout the project study area shall be designed based on current practices of the power company, the requirements of the electrical code of the local agency having jurisdiction, and the NESC.
- 29) **I-670 Tunnel Considerations (Section 3.21)** - The Contractor and the City of Kansas City will adhere to applicable NFPA 502 Standards for Road Tunnels, Bridges, and Other Limited Access Highways as well as all applicable MoDOT and FHWA regulations for the design and construction of the project. The local jurisdictional fire chief will review and approve the final design of the proposed tunnel.
- 30) If there are changes in the project scope, project limits, existing conditions, pertinent regulations, or environmental commitments, MoDOT will re-evaluate potential impacts prior



to implementation. Environmental commitments will not change without prior written approval from FHWA.

6.0 References

- City of Kansas City, Missouri. 2009. *South Loop Link: Truman Road Feasibility Study/Planning Improvements over I-670*.
- City of Kansas City, Missouri. 2023. *Bike KC*. <https://www.kcmo.gov/city-hall/departments/public-works/bike-kc-building-a-bicycle-friendly-community>.
- City of Kansas City, Missouri. 2023. *Kansas City Parks & Recreation*. <https://kcparks.org/>.
- City of Kansas City, Missouri. *Code of Ordinances City of Kansas City, Missouri Volume I*. Jan. 1, 1995.
- City of Kansas City, Missouri. *Greater Downtown Area Plan*. Oct. 2019.
- City Plan Commission of Kansas City. 1943. *Suggested Location of Inter-Regional Highways: Greater Kansas City*.
- City of Kansas City Office of Environmental Quality. 2020. *Environmental Management Systems and Green Solutions Annual Report*. <https://www.kcmo.gov/home/showpublisheddocument/6292/637474421363700000>.
- Downtown Council of Kansas City (DTC). 2023. *South Loop Project*. <https://www.downtownkc.org/#south-loop-project>.
- Federal Emergency Management Agency (FEMA). 1977. *Executive Order 11988 Floodplain Management*. <https://www.fema.gov/glossary/executive-order-11988-floodplain-management>.
- Ferguson, Joseph L (eReferenceDesk). 2023. *Missouri Geography: The Land*. <https://www.erefencedesk.com/resources/state-geography/missouri.html>.
- H.R.5237 - 101st Congress (1989-1990): Native American Graves Protection and Repatriation Act. (1990, November 16). <https://www.congress.gov/bill/101st-congress/house-bill/5237>.
- Jackson County, Missouri. *Building a Vision Together: Jackson County Development Plan*. Nov. 2012.
- Jackson County, Missouri. *Unified Development Code*. 1995, updated 2019.
- Kansas City Regional Transit (RideKC). *RideKC Maps & Schedules*. <https://ridekc.org/routes>. Retrieved June 23, 2023.
- Mid-America Regional Council. *Connected KC 2050*. June 23, 2020.
- Missouri Department of Conservation (MDC). *Missouri Natural Heritage Program*. <https://mdc.mo.gov/your-property/responsible-construction/missouri-natural-heritage-program>.

- Missouri Department of Natural Resources (MoDNR). *Environmental Site Tracking and Research Tool (E-Start)*. <https://dnr.mo.gov/waste-recycling/long-term-stewardship-lts/environmental-site-tracking-research-tool-e-start>.
- Missouri Department of Transportation (MoDOT). 2022. *Engineering Policy Guide (EPG)*.
- Missouri Geological Survey (MGS). *Online Interactive Map*. <https://modnr.maps.arcgis.com/apps/webappviewer/index.html>.
- National Academies of Sciences, Engineering, and Medicine 2014. *Supplemental Guidance on the Application of FHWA's Traffic Noise Model (TNM)*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/22284>.
- National Fire Prevention Association (NFPA) 502, *Standard for Road Tunnels, Bridges, and Other Limited Access Highways*. 2023.
- Port Authority of Kansas City (Port KC) & the Downtown Council of Kansas City (DTC). 2022. *Mega and RAISE Grant Applications*.
- S. Rept. 105-311 - Land and Water Conservation Fund Act of 1965. (2023, June 23). <https://www.congress.gov/congressional-report/105th-congress/senate-report/311/1>.
- U.S. Army Corps of Engineers (USACE).
- U.S. Census Bureau. 2010-2021. *Kansas City and Jackson County, Missouri Census Data*. <https://data.census.gov/>.
- U.S. Department of Agriculture (USDA). *Natural Resources Conservation Service (NRCS)*. <https://www.nrcs.usda.gov/>.
- U.S. Department of Agriculture (USDA). 2019. Web Soil Survey. <https://websoilsurvey.nrcs.usda.gov/app/>.
- U.S. Department of Housing and Urban Development (HUD).
- U.S. Environmental Protection Agency (EPA). 2022. *Clean Water Act Approved Jurisdictional Determinations*. <https://watersgeo.epa.gov/cwa/CWA-JDs/>.
- U.S. Environmental Protection Agency (EPA). 2023. *Missouri State Implementation Plan (SIP): Chapter 6 – Air Quality Standards, Definitions, Sampling and Reference Methods, and Air Pollution Control Regulations for the State of Missouri*. <https://www.epa.gov/sips-mo/missouri-sip-chapter-6-air-quality-standards-definitions-sampling-and-reference-methods-and#Documents>.
- U.S. Federal Highway Administration (FHWA). 1987. *Guidance for Preparing and Processing Environmental and Section 4(f) Documents (TA 6660.8A)*.

- U.S. Federal Highway Administration (FHWA). 2012. *Section 4(f) Policy Paper*.
<https://www.environment.fhwa.dot.gov/legislation/section4f/4fpolicy.aspx>.
- U.S. Federal Highway Administration (FHWA). 2015. *HIF-15-005, Tunnel Operations, Maintenance, Inspection, and Evaluation (TOMIE) Manual*.
- U.S. Federal Highway Administration (FHWA). 2015. *Guidelines for the Visual Impact Assessment of Highway Projects*.
https://www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.aspx.
- U.S. Federal Highway Administration (FHWA). 2022. *Highway Traffic Noise*.
<https://www.fhwa.dot.gov/environment/noise/>.
- U.S. Fish and Wildlife Service (USFWS). *Information for Planning and Consultation (IPaC)*.
<https://ipac.ecosphere.fws.gov/location/GDJYZ734CBCJVPEB6E4TZNBDZU/resources>