# I-229 Double Decker Bridge Environmental Assessment

US Route 36 to US Route 59
St. Joseph, Missouri

MoDOT Job Number: J1I3053

Prepared for

Missouri Department of Transportation
Northwest District
St. Joseph, MO

July 2024

# 1-229 DOUBLE DECKER BRIDGE

## Environmental Assessment
## Buchanan County, Missouri
## MoDOT Job Number: J1I3053

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

**U.S. Department of Transportation - Federal Highway Administration and Missouri Department of Transportation**

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Date of Approval

For the Missouri Department of Transportation

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The Missouri Department of Transportation (MoDOT), in cooperation with the Federal Highway Administration (FHWA), is preparing a Location Study and National Environmental Policy Act (NEPA) investigation for a portion of Interstate 229 (1-229) in St. Joseph, Missouri. This study will be referred to as the 1-229 Double Decker Bridge Environmental Assessment (EA) study. The 1-229 Double Decker Bridge EA study is a transportation study that will investigate and identify improvements to 1-229 to balance the need to improve or eliminate the bridge with several community goals. The Study Area starts at the US Route 36/1-229 interchange and continues north along 1-229 to the US Route 59/I-229 interchange.

The Federal Highway Administration signature gives approval to distribute this information for public and agency review and comment. Such approval does not commit to approve any future grant requests to fund the preferred alternative.

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# Table of Contents

# List of Figures

# List of Tables

# List of Acronyms

**CHAPTER 1**

Interstate 229 (I-229)

Burlington Northern Santa Fe (BNSF)

Missouri Department of Transportation (MODOT)

Central Business District (CBD)

Metropolitan Transportation Plan (MTP)

Federal Highway Administration (FHWA)

Environmental Assessment (EA)

National Environmental Policy Act (NEPA)

Metropolitan Planning Organization (MPO)

Union Pacific Railroad (UP)

Rosecrans Memorial Airport (STJ)

Air National Guard (ANG)

Average Annual Daily Traffic (AADT)

Vehicles Per Day (vpd)

Level-of-Service (LOS)

MoDOT's Engineering Policy Guide (EPG)

Hundred Million Vehicles Miles Traveled (HMVMT)

**CHAPTER 2**

Repurpose Bridge Alternative (RPE)

Interstate Alternative (IS)

Non-Interstate Alternative (NIS)

Technical Advisory Committee (TAC)

Combined Sewer Overflow (CSO)

National Register of Historic Properties (NRHP)

St. Joseph Area Transportation Study Organization (SJATSO))

**CHAPTER 3**

Missouri Department of Natural Resources (MDNR)

Kansas City Power & Light (KCP&L)

Tax Increment Finance (TIF)

Clean Air Act (CAA)

National Ambient Air Quality Standards (NAAQS)

State Implementation Plans (SIPs)

US Environmental Protection Agency (USEPA)

Mobil Source Air Toxics (MSATs)

Particulate Matter (PM)

Noise Abatement Criteria (NAC)

Noise Sensitive Area (NSA)

Traffic Noise Model (TNM)

National Pollution Discharge Elimination System (NPDES)

Missouri Department of Natural Resources (MDNR)

United States Army Corps of Engineers (USACE)

Best Management Practice (BMP)

Stormwater Pollution Prevention Plan (SWPPP)

Executive Order (EO)

National Wetland Inventory (NWI)

Federal Emergency Management Agency (FEMA)

National Flood Insurance Program (NFIP)

Flood Insurance Rate Maps (FIRM)

State Emergency Management Agency (SEMA)

U.S Department of Transportation (DOT)

Right-of-Way (ROW)

Endangered Species Act (ESA)

United States Fish and Wildlife Service (USFWS)

Missouri Department of Conservation (MDC)

Information for Planning and Consultation (IPAC)

Migratory Bird Treaty Act (MBTA)

National Historic Preservation Act (NHPA)

National Register of Historic Places (NRHP)

State Historic Preservation Officer (SHPO)

Programmatic Agreement (PA)

United States Geological Survey (USGS)

Area of Potential Effect (APE)

Memorandum of Agreement (MOA)

American Council on Historic Preservation (ACHP)

National Park Service (NPS)

Ordinary High-Water Mark (OHWM)

Central Business District (CBD)

**CHAPTER 4**

National Highway System (NHS)

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)

Land and Water Conservation Act (LWCF)

**CHAPTER 6**

Technical Memoranda (TM)

Finding of No Significant Impact (FONSI)

Environmental Impact Statement (EIS)

Notice of Intent (NOI)

Chapter 1

# Purpose & Need

Interstate 229 (I-229) begins at I-29 near Amazonia, Missouri, then travels south through St. Joseph, Missouri where it intersects with US Route 59 and US Route 36 and then turns east to intersect with I-29 again on the south end of St. Joseph.

A portion of I-229, commonly referred to as the I-229 "double-decker" bridge, carries northbound traffic on its top deck and southbound traffic on the bottom deck along the east side of the Missouri River and the west side of the St. Joseph Central Business District (CBD). I-229 was originally built to serve the Stockyards Industrial District on the south side of downtown St. Joseph and to provide local access into the downtown. The facility is currently constrained by the Missouri River, the Burlington Northern Santa Fe (BNSF) railroad, and downtown.

Constructed from 1976 to 1985, the I-229 bridge needs to be rehabilitated. A complete rehabilitation of the bridge will be needed in the next five to ten years at an estimated cost of $60-65 million ($2024). The Missouri Department of Transportation (MoDOT) has indicated that the annual maintenance needs and associated repair costs have increased in recent years and, assuming a major rehabilitation is not completed, the annual expenditures will continue to increase. In addition, without rehabilitation, the continued viability of the structure will be put at risk, including the likelihood of either a full or partial closure of the facility.

The St. Joseph Area 2045 Metropolitan Transportation Plan (MTP) identifies the need to further evaluate the long-term options for either rehabilitation or replacement of the I-229 bridge. The MTP does not make a recommendation in terms of reconstructing/repairing "as is" or replacing. The MTP does recognize I-229 as an important connection to downtown St. Joseph and emphasizes the need to evaluate any impact to downtown access.

Because of the cost and nature of the long-term rehabilitation being considered for the I-229 bridge, there is an opportunity for re-envisioning the role of the existing facility. The goals and desired outcomes of the local stakeholders has helped shape the options for the I-229 corridor and the role that it will play in the future of St. Joseph.

**The purpose of the I-229 Environmental Assessment is to:**

Determine the most efficient long-term option for addressing the existing condition of I-229, between US Route 59 and US Route 36, while addressing other local land use, access, and development goals important to the St. Joseph community.

## 1.1 Why an Environmental Assessment?

MoDOT and the Federal Highway Administration (FHWA) are trying to determine the need to either improve or replace the I-229 double-decker bridge in St. Joseph, Missouri. This study was initiated to address the condition of the existing bridge, balancing stakeholder interests with the impacts to the natural and social environment. In addition, the study addressed the goals of travel mobility and accessibility, traveler safety, freight accessibility and mobility, downtown revitalization, resiliency, and adaptability to future conditions.

Since the project will require a federal action, this Environmental Assessment (EA) has been completed in accordance with the National Environmental Policy Act (NEPA) and developed in accordance with 23 CFR 771. The intent of the proposed action to be described and evaluated in the I-229 EA is to seek the most effective transportation improvement that will provide a long-term transportation solution that satisfies current and future transportation needs while minimizing impacts on the human and natural environment.

## 1.2 Project Study Area

The I-229 Study Area, as depicted in Figure 1-1, extends from US Route 36 north to US Route 59 (St. Joseph Avenue). The Study Area extends approximately 1.5 miles north to south and approximately 0.5 miles east to west, centered over the western portion of downtown. The intersection of I-229 with US Route 59 on the north and US Route 36 on the south form the logical termini for the project.

## 1.3 Role and Function of I-229

As part of the needs development, it is important to understand the existing transportation system along with any prior and concurrent planning processes. These previous planning activities help the study team better understand the community concerns and desires for the future vision of St. Joseph and how the I-229 bridge fits in or impedes that vision.

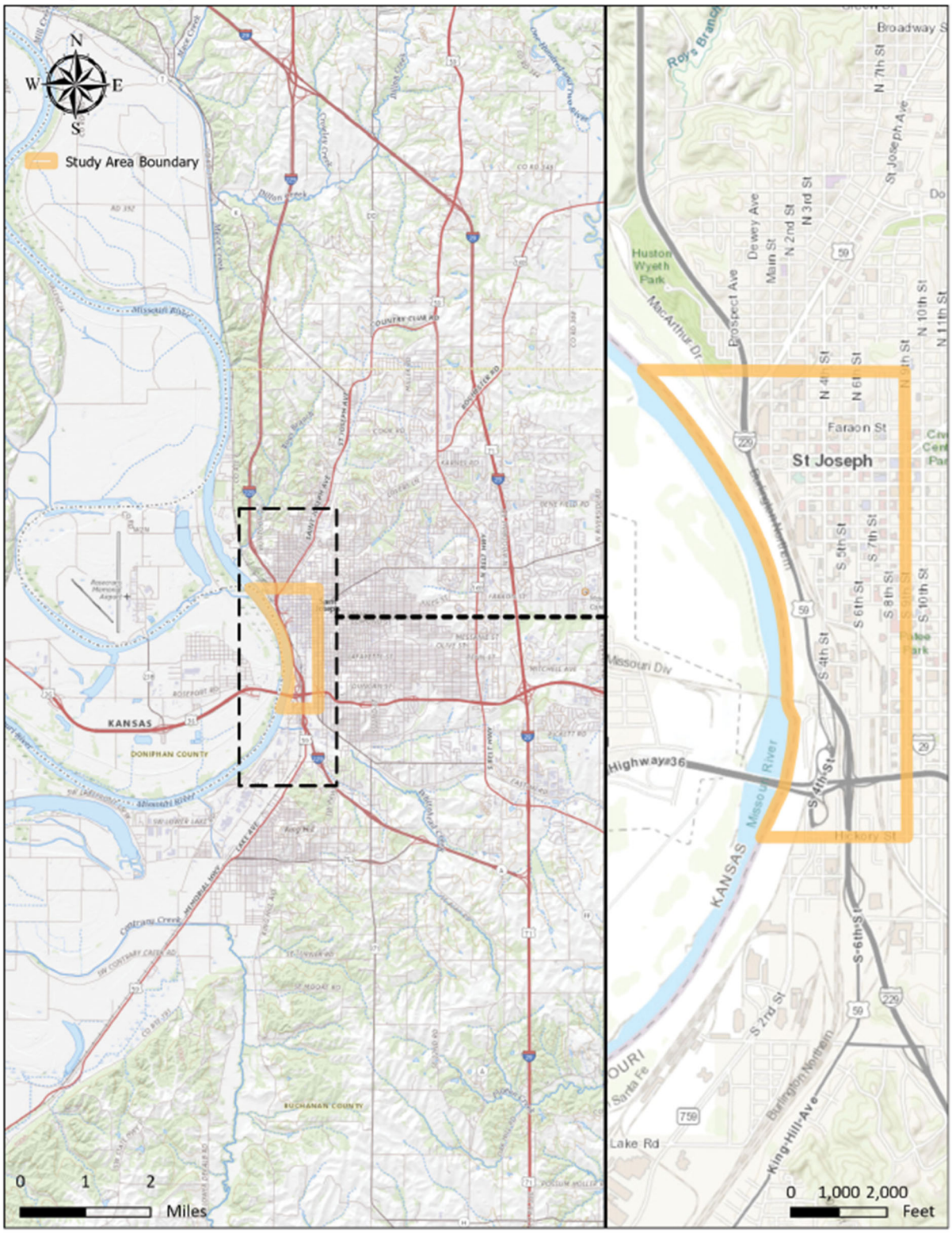
### 1.3.1 Related Planning Processes

There have been and continue to be several planning activities taking place in the St. Joseph region that influence the improvement options for the I-229 bridge.

- **2022 Comprehensive & Land Use Plan** - The comprehensive plan adopted by the City of St. Joseph in 2022 has a planning horizon of approximately 20 years and is designed to guide planning efforts within the city until the 2040s (https://www.stjosephmo.gov/804/Comprehensive-Land-Use-Plan). The new plan mentions the I-229 corridor in a couple locations. The call-out box on page 15 highlights the Plan's recommendations for I-229.

Figure 1-1

## Regional Map of the I-229 Corridor



- **2045 Metropolitan Transportation Plan (MTP)** - The MTP was developed in 2019 as the official document outlining the transportation vision for the region through 2045. The MTP recognizes that the I-229 bridge could have significant short and long-term impacts on transportation expenditures in the region. Because of the significant maintenance costs and the age of the structure, the MTP recommends monitoring the results of the I-229 study and identifying opportunities to support those improvements and related improvement opportunities. The MTP does not make a recommendation in terms of reconstructing as is, repairing or reconstructing as an at-grade roadway.

*The 2022 Comprehensive & Land Use Plan for St. Joseph discusses the role I-229 plays in the future of the community.*

*"The I-229 corridor through downtown is currently being evaluated for reconstruction. This corridor is an important carrier of regional traffic that supports both local industries and regional farmers. However, it has also been a significant barrier between the downtown and the southernmost portion of the riverfront, not to mention the aesthetic issues the large structure creates. The city and MPO should collaborate on a solution that continues to provide regional access to the businesses in the southern portion of the city while improving the experience visitors and residents have in the downtown and connecting them to the developing portions of the riverfront. The solution should have the least amount of negative physical impact on existing businesses."*

- **St. Joseph Riverfront Master Plan** - This plan, finalized in 2019, was developed with the input of a variety of stakeholders who are interested in the development of the St. Joseph riverfront. There is a community desire to better connect the riverfront and the downtown. However, the plan focused primarily on sections of the riverfront north of downtown near the Frontier Casino and Remington Nature Center. While some of the area being considered is adjacent to the I-229 bridge, conversations with the Mayor and City Council have indicated (details provided in Technical Memorandum 9 - Riverfront Development) that this area is a much lower priority for the city than the northern improvements.
- **Imagine St. Joseph 2040** – Launched in 2018, the St. Joseph Chamber of Commerce and the United Way of Greater St. Joseph have been working together to help identify a future that would attract professionals, retain current residents and their families, and draw visitors from the surrounding region. Removing the Interstate designation of I-229 was discussed in this planning effort and was one of the final recommendations based on the perception that the bridge was an impediment to economic development.
- **National Park Service Historic Trails Charrette** - In late 2018, the National Park Service moved forward with a charrette process, consisting of stakeholders in St. Joseph, to look at the significance of the history of the California and Pony Express National Historic Trails on the area and the development of the western United States. The

charrette looked at how to enhance the historic trail experience, connect the sites in a meaningful way, and provide interpretation and a positive visitor experience. The trail locations and areas considered for enhancement fall within the I-229 Study Area.

### 1.3.2 Existing Transportation System

The existing transportation system in the I-229 Study Area includes roadways, transit, non-motorized facilities, railroads, a river port and, just across the river, aviation.

- **Roadways** - The roadways in the I-229 Study Area include I-229, US Route 59, US Route 36, and several city arterial/collector-distributor roadways. The MTP identified the Riverside Road corridor near US Route 36 and portions of US Route 169 near I-29 as the main area of concern. The MTP does not identify any traffic congestion issues along the I-229 corridor but mentions its role in moving freight, the current bridge condition issues, and the need to coordinate with the ongoing study.
- **Transit** - Existing transit service is provided in a couple of different formats. Fixed-route transit service is provided by the St. Joseph Transit System, called "The Ride." The Ride operates eight routes within the St. Joseph city limits and Elwood, Kansas. Curb-to-curb route deviations are available on a scheduled or walk-on basis regardless of ability. OATS, Inc. also provides personalized advance reservation and demand response transportation services to senior citizens and persons with disabilities. OATS is also available for the public in rural areas when space is available.
- **Non-Motorized** – Bicycle and pedestrian trails comprise most of the non-motorized portion of the existing transportation system. There are approximately 17 miles of trails with most of the system located within the City of St. Joseph. In addition to the trail system are areas of on-street bike lanes. Currently, the Riverwalk Trail follows the Missouri River from Heritage Softball Park, past the casino and Nature Center, until it terminates at the parking facility located under I-229 at Francis Street. Providing trail access further to the south has been identified as a potential study benefit.
- **Rail** - The St. Joseph area has access to two Class 1 rail carriers. The Burlington Northern Santa Fe (BNSF) railway's tracks run north-south through the Study Area and adjacent to the I-229 bridge. The Union Pacific (UP) railway operates the existing Missouri River swing span bridge just to the north of US Route 36 and generally operates from east to west in Kansas and north to south in Missouri. The BNSF does allow UP trains to be operated on the BNSF line adjacent to the I-229 bridge. The UP track crosses the Missouri River to Elwood, Kansas, providing services to industries in Elwood such as a lumber yard and feed mill. Through short line carriers, both railroads serve several St. Joseph area businesses. The proximity to I-229 of the existing BNSF line limits potential improvement strategies and the potential shifting of traffic to local streets that have at-grade crossings will need to be evaluated.

- **Waterway** - The Missouri River is a large part of the history of St. Joseph and is currently the city's gateway to the Gulf of Mexico, as part of the nation's inland waterway system. The Corps of Engineers controls the flow of the river using dams upstream allowing for navigation for about eight months of the year. Access to the river allows businesses the option of transporting goods via river barge. The Port of St. Joseph, located just northwest of the I-229 and US Route 36 interchange, is an intermodal facility owned by the St. Joseph Regional Port Authority and operated by Transport 360. The port offers the community full intermodal capabilities of barge, rail and truck. Discussions with the community have confirmed the need to maintain and/or improve access to this port facility.
- **Air** - The Rosecrans Memorial Airport (STJ) is owned and operated by the City of St. Joseph, although it is located about four miles west of the city across the Missouri River in Buchanan County, Missouri. STJ is located on approximately 1,708 acres of land. The airport has two runways and serves charter, air ambulance service, flight training and aircraft services. The airport is also home to the Missouri Air National Guard (ANG) 139th Airlift Wing. STJ is accessed from US Route 36 west from St. Joseph, across the Missouri River, to Kansas Highway 238 in Doniphan County, Kansas. Maintaining access to the airport for commuters and (ANG) personnel, as well as promoting industrial occupancy of recently vacated space by the ANG has been identified by stakeholders as important.

### 1.3.3 Understanding the Role and Function of I-229

I-229, including the I-229 bridge, is classified as an "interstate" – that is, a high-speed controlled access freeway that is part of the Interstate Highway System. Controlled access means points of entry (with few exceptions) are limited to interchanges with grade separations. Providing urban interstate access to a community's downtown was popular in the 1960s and 1970s to quickly get citizens from the suburbs to downtown. Over the last forty or fifty years several communities, including nearby Kansas City, have begun to rethink the relative merit of high-speed interstate downtown access. The St. Joseph community is no different.

High-speed interstate access to downtown St. Joseph can be convenient for those who commute downtown every day and for those wanting to experience the dining and entertainment amenities. However, whether a grade separated interstate facility continues to be the highest and best use of the transportation system or if there are better and more efficient ways to accomplish the community's goals is what this EA process will evaluate.

To better understand the role and function of the existing transportation system, it is important to understand how travelers use the system – generally where they are coming from and where they are going. To help with that assessment, the study team relied on detailed information from a

travel origin and destination study. Details of the origin and destination study as well as several supporting figures have been provided in Technical Memorandum 4 - Traffic Study.

- **I-229 Corridor** - Based on recently collected traffic volumes, the existing I-229 bridge carries approximately 17,000 vehicles per day. Most of those trips come from St. Joseph Avenue (US Route 59), US Route 36 or 6th Street, with a relatively limited number of trips coming from or destined to I-229 either north of or south of downtown. I-229 just south of 6th Street carries about 2,000 vehicles per day in the northbound direction and only 7 percent of those trips continue north of downtown on I-229. Coming from the north, I-229 north of Highland Avenue carries about 1,600 southbound vehicles per day and a similar 8 percent of those trips continue on I-229 to the south of downtown. Therefore, based on this data, it appears that I-229 provides a high-speed connection for only a small volume of longer distance through traffic with most of the traffic utilizing the facility being local, shorter distance trips.
- **US Route 36, US Route 59 and 6th Street Corridors** - Most of the traffic on the I-229 bridge does not come from I-229 either north or south of the Study Area. In fact, based on the traffic information, most of the traffic is coming from other major travel corridors in the region. As can be ascertained from the data, most of the northbound trips on the I-229 bridge come from either 6th Street (28%) or US Route 36 from the east (26%). Likewise, those same northbound trips on I-229 are destined primarily for either US Route 59 (44%), downtown (24%) or the Highland Avenue interchange (18%). The primary northbound movement across the bridge is from 6th Street on the south to US Route 59 to the north. Similarly, the data suggests similar results in the southbound direction. Almost half (48%) of the southbound traffic on the bridge comes from the US Route 59 corridor with smaller percentages coming from downtown (21%) and Highland Avenue (16%). Those same southbound trips are then destined primarily to either 6th Street (28%) or US Route 36 to the east (26%). Again, the primary southbound movement is from US Route 59 to 6th Street.

In conclusion, there does not appear to be a need for longer distance travel to use the I-229 bridge to head either north or south on I-229. However, the data shows a need for traffic to travel to or from US Route 59 to access US Route 36, 6th Street and the Stockyards area south of downtown. Conversely, there is a need to accommodate trips to or from 6th Street to access US Route 59 and Highland Ave.

## 1.4 Project Need

*The condition of the existing I-229 double-decker bridge has been identified as the only need that must be addressed with this study.*

MoDOT has estimated that a major rehabilitation will be required in the next five to ten years. The existing I-229 bridge was originally constructed between 1976 and 1985 and has been providing high-speed interstate access to downtown St. Joseph for the past forty years. The bridge was constructed as a double-decked structure with a two-lane facility directly on top of the other two lanes. Figure 1-2 illustrates the general typical section of the bridge structure and Figure 1-3 provides some aerial perspectives of various sections of the bridge.

### 1.4.1 Existing Characteristics

More specifically, the I-229 bridge has the following characteristics:

- **Roadway Deck Geometry** - The I-229 bridge has two 12-foot lanes with 3-foot shoulders on both the top and bottom decks, for a total width of 30 feet, and a 55 mile-per-hour (mph) speed limit. Due to the narrow shoulders the deck geometry for the top and bottom decks receives a rating of 4 out of 5 which indicates it meets the minimum tolerable rating. Current MoDOT design standards

Figure 1-2

I-229 Double-Decker Bridge Typical Section

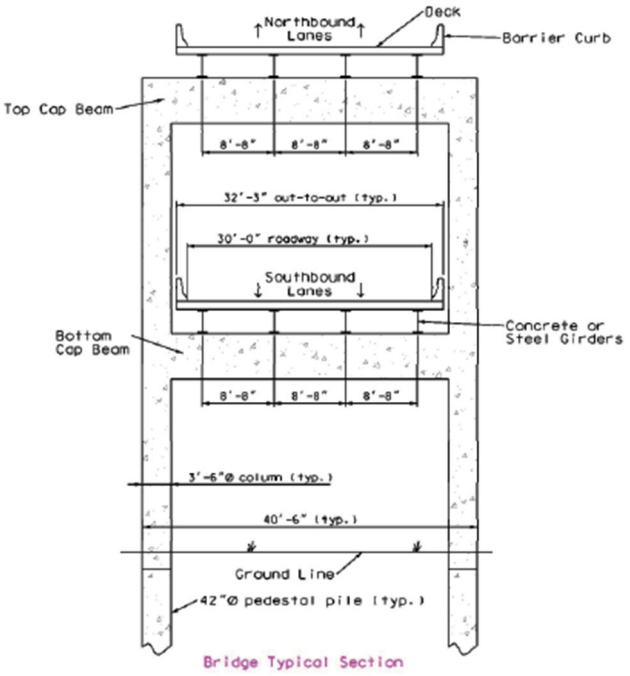



Figure 1-3

Aerial Perspectives of the I-229 Bridge

**The primary need identified in the I-229 Environmental Assessment is:**

The existing I-229 double-decker bridge will require a significant rehabilitation soon to avoid either partial or full closure of the structure. The long-term viability of the bridge needs to be achieved either through rehabilitation or demolition.

**What does it mean for a bridge to be "structurally deficient"?**

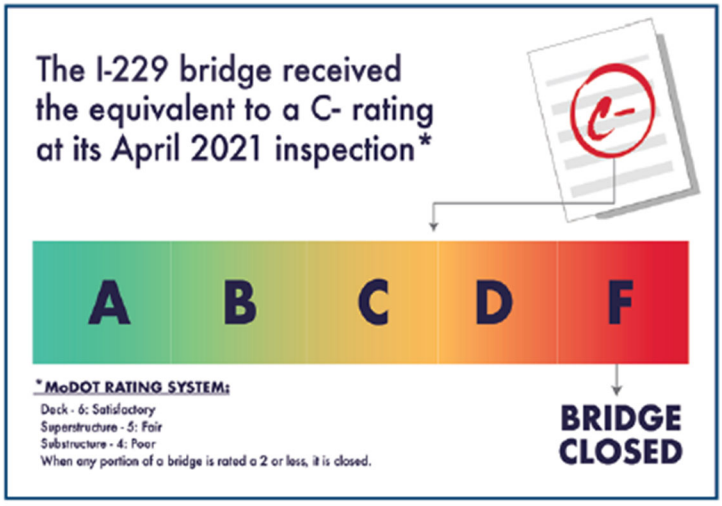
A bridge is considered to be structurally deficient when the deck, superstructure, or substructure condition is rated 4 or lower. This designation does not mean the bridge is unsafe or likely to collapse; however, it must be monitored, inspected, and repaired or replaced as appropriate to retain structural integrity. In some cases, the gross vehicular weight allowed on the bridge may be reduced to keep it safely open to traffic. If a physical inspection identifies unsafe conditions, the bridge must be closed.

for interstate bridges require the bridge width to be equivalent or greater than the approach roadway width. The existing approach roadway widths are 41 feet consisting of 12-foot lanes with 10-foot outside shoulders and 7-foot inside shoulders.

- **Structural Characteristics** - The I-229 bridge consists of two structures identified in this document as the upper structure and the lower structure. The upper structure carries the northbound lanes of traffic. The top deck and upper structure are approximately 6,826 feet in length consisting of 94 spans of which the longest span is 118 feet in length. The lower structure carries the southbound lanes. The bottom deck and lower structure are approximately 6,659 feet in length consisting of 93 spans of which the longest span is 117 feet in length. The top and bottom decks have a low slump concrete wearing surface and the superstructure for both decks consist of a combination of prestressed concrete I-girders and welded plate girders.
- **Vertical Clearances** - The vertical clearance below the bridge between the bottom superstructure and the BNSF Railroad is 20.9 feet. Current BNSF standards require a minimum clearance of 23.5 feet. The vertical clearance between the top superstructure and the bottom deck is 16.4 feet.

### 1.4.2 Existing Conditions

The bridge is inspected every other year (biennially) and the substructure (foundation, piers, and abutments), superstructure (girders, bearings, and joints), and deck (riding surface) are each assigned numerical condition ratings. These ratings range from 0- a failed condition that cannot be corrected and typically requires closing the bridge, to 9- excellent condition.




A detailed bridge study was completed, and the results have been provided in Technical Memorandum 1 - Bridge Rehabilitation Study. In addition, Figure 1-4 illustrates some of the bridge condition issues present on the bridge.

The results of the latest inspection for the I-229 bridge include:

**Condition of Upper Structure** - Based on the 2021 inspection, the conditions of the upper structure's substructure, superstructure, and deck are rated 5 (fair). More specifically, the I-229 bridge upper structure has the following sub-standard conditions:

- **Substructure Conditions** - The substructure has moderate to heavy spalling and delamination throughout most bent beam caps and columns at the expansion joints.
- **Superstructure Conditions** - The superstructure has minor to advanced section loss throughout the girder cantilevers and minor to moderate spalling and delamination at a few prestressed concrete I-girder ends.
- **Deck Conditions** - The upper structure's deck has 10% saturation with spalls and delamination.

**Condition of Lower Structure** - For the bridge's lower structure, the substructure condition is rated 4 (poor) due to heavy section loss at the Bent 79 steel cap. The lower structure's superstructure has section loss in bearing areas and deterioration of prestressed I-girders under joints and is rated 5 (fair). The deck has transverse cracks and spalls and is rated 6 (satisfactory). Due to the 4 rating for the lower structure's substructure, the lower structure is considered structurally deficient.

**Structural Sufficiency Ratings** - Sufficiency ratings are an overall rating of a bridge's ability to remain in service based on the bridge field inspection and evaluation. One hundred percent

Figure 1-4

Existing I-229 Bridge Condition Concerns

*Area of Section Loss*

*Pack Rust Inside Column*

*Section Loss from Inside*

*Typical Cap Deterioration*

*Typical Cast Deterioration*

*Barrier Curb Deterioration*

represents an entirely sufficient bridge and zero percent a deficient or entirely insufficient bridge. The bridge's upper structure has a sufficiency rating of 52.6% while the lower structure has a sufficiency rating of 35.9%. Structural defects, low vertical clearances, and narrow lanes all contribute to the I-229 bridge's low sufficiency rating.

**Weight Restrictions** - The I-229 Bridge is currently weight restricted to a limit of 40 tons for both the upper and lower structures.

## 1.5 Project Goals

*While the primary need for the I-229 study involves finding a long-term solution for the existing bridge condition, there are several project goals that have been developed based on initial conversations with the Technical Advisory Committee, the project stakeholders, and at the initial Visioning Workshop.*

### 1.5.1 Maintain Traveler Mobility

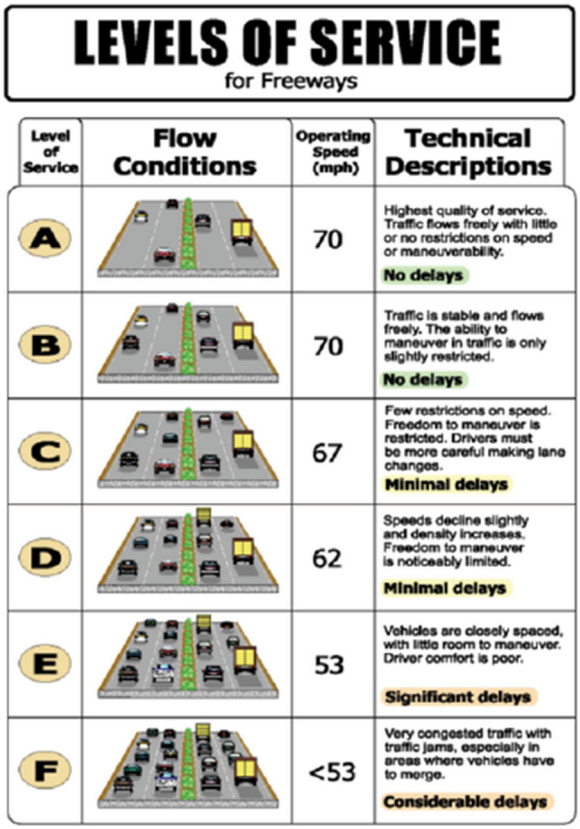
Because of the convenience and relative free traffic flow, the existing I-229 bridge provides excellent mobility and accessibility to the downtown, the Stockyards, as well as US Route 59 and US Route 36. In fact, traffic studies show that drivers are willing to drive out-of-distance because of the convenience of using the bridge. If the bridge were either partially or fully closed, this mobility and accessibility would be limited. Detailed traffic analysis was completed, and additional details have been provided in Technical Memorandum 4 - Traffic Study. Some highlights of that study have been provided here.

**Daily Traffic Volumes.** From 2001 to 2018, the average daily traffic (AADT) on the top deck of the bridge (northbound) ranged between 7,000 and 9,000 vehicles per day (vpd). The AADT on the bottom deck (southbound) ranged between 3,000 and 9,000 vpd. Those volumes are expected to increase slightly over the next twenty years to 9,500 vpd for the top deck and 9,700 vpd for the bottom deck. Commercial trucks averaged 22% of the total traffic on the upper deck and 18% on the lower deck. For comparison purposes, the graphic on the right compares the amount of traffic utilizing I-229 with other highway facilities in the area. I-229 has some of the lowest interstate traffic volumes in the State of Missouri.


*Traffic volumes on the I-229 double-decker bridge are some of the lowest interstate volumes in the state and significantly less than other major facilities in St. Joseph.*

**Levels of Service.** Mobility reflects the efficiency of travel and is measured in several ways. It gauges how well a

roadway operates compared to its capacity or ability to convey traffic. One of the industry's standard approaches to measuring roadway mobility is Level-of-Service (LOS). A standardized scale is used, ranging from LOS A to LOS F, in descending quality, with LOS A being best. According to MoDOT's Engineering Policy Guide (EPG) Section 232, "it is adequate for all roads in urban or suburban locations to accommodate the 20-year peak hour traffic at a LOS of E and off-peak traffic at a LOS of D". I-229 throughout the study corridor has existing and future LOS of either A or B which are well above MoDOT's thresholds.




*The I-229 double-decker bridge currently operates at a LOS A or B, well above the acceptable levels (D or E) for urban interstate facilities.*

More specifically:

- **I-229 Mainline** - Mainline I-229 has a LOS of A, which means traffic flows at or above the posted speed limit with little or no restrictions on maneuverability.
- **I-229 Ramps** - Most of the I-229 ramps and ramp termini have a LOS A although some have a LOS B. A LOS of B indicates traffic flows freely with only a slightly restricted ability to maneuver in traffic.

Based on the low traffic volumes and relatively high levels of service, this study does not include a need to reduce traffic congestion. Instead, the study goal would be to maintain mobility in the event of a closure or after implementation of the Recommended Preferred Alternative.

### 1.5.2 Maintain Traveler Accessibility

Accessibility to key destinations would be hindered with the closure of the I-229 double-decker bridge. As indicated in Section 1.3.3, the origin-destination information shows a need for traffic to travel to or from US Route 59 to access US Route 36, 6th Street and the Stockyards area south of downtown. Conversely, there is a need to accommodate trips to or from 6th Street to access US Route 59 and Highland Ave. The study goal would be to maintain accessibility for these key travel movements.

### 1.5.3 Maintain Traveler Safety

Improved safety is a foundational goal for MoDOT. It is emphasized in all the department's activities and is a cornerstone of the State's statewide vision. The overarching goal is to eliminate injury and fatality crashes on Missouri's roadways. Improving Missouri's roadway safety performance impacts and benefits everyone – both residents and the traveling public.

A detailed traffic safety analysis was completed, and additional details have been provided in Technical Memorandum 5 - Traffic Safety Analysis. In summary, I-229 has the following safety history:

- **Historical Crash Rates** - A roadway's safety performance is typically measured by the number of crashes per hundred million vehicle miles traveled (HMVMT) over the last five full years of available crash data. For this project, crash rates were calculated from US Route 36 to US Route 59 for the I-229 ramps and for mainline I-229. The last five full years of available crash data are from the beginning of year 2017 to the end of year 2021. For I-229, there were 137 total crashes during that period, which resulted in a calculated crash rate of 163 crashes per HMVMT on the lower deck (southbound) of I-229 and 77 crashes per HMVMT on the upper deck (northbound). That compares to a statewide average rate for a similar class of roadway which is 119 crashes per HMVMT.
- **Crashes by Location and Type -** Along this segment, crashes tended to occur at merge or weave points near ramp termini with the highest occurrence at the MO-759 (Stockyards Expressway) ramps. The highest crash types were out of control, rear-end, and passing incidents.

The historical crash data indicates that both the mainline I-229 and the connecting ramps have crash rates similar, if not slightly higher, than the statewide averages. However, the safety history of the facility would not be sufficiently high to warrant improvements based on safety alone. Therefore, the study team incorporated the importance of safety into the study process and established maintaining or improving traveler safety as a study goal.

### 1.5.4 Maintain Truck Freight Accessibility

Throughout the course of this study, the team has heard from various stakeholders about the value that freight related business have had and will continue to have to the economic fortunes of St. Joseph. The Stockyards Industrial District is located along the river just south of US Route 36 and the project Study Area provides most, but not all, of the freight related activity. Access for freight into and out of the Stockyards, as well as downtown, is important to the community.

To better understand the truck freight dynamic, the study team completed two freight-based studies. The first was to talk directly to the shippers and receivers (details provided in Technical Memorandum 8 - Economics & Freight) and the second was to understand the origins and

destinations of the freight traffic. Details of the origin and destination information have been provided in Technical Memorandum 4 - Traffic Study.

The summary of those findings is provided here and helps establish the overall goal of maintaining accessibility for truck freight in the Study Area:

**Freight Shippers & Receivers Surveys** - To better understand the needs of the St. Joseph freight community, the study team met with 20 different businesses that move freight into and out of the region, including businesses within the Stockyards, downtown, and across the Missouri River into Kansas. The intent of those interviews was to hear how important I-229 is to their respective businesses; share the study background, process, and timeline; and collect freight information. The study team completed the surveys between September 12 and September 27, 2018, with 17 in-person meetings and three e-mail surveys. The study team met with thirteen manufacturers, five agricultural related businesses, and three distribution/warehousing companies.

The businesses surveyed had varying opinions relevant to the I-229 study:

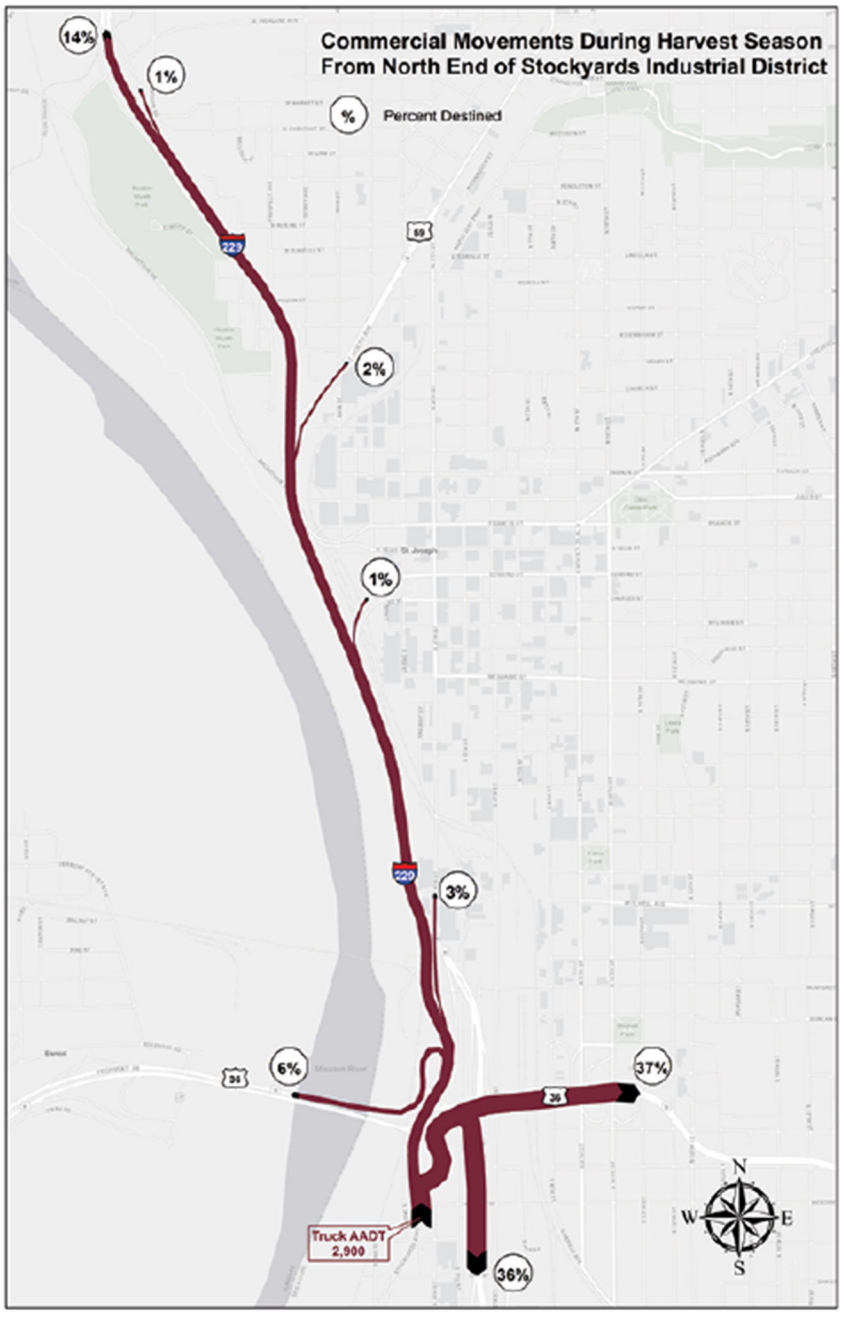
- The businesses located north of US Route 36 tended to value access to the I-229 bridge as important to their business.
- For those located downtown, I-229 provides easy access to markets regardless of which direction the freight is heading.
- For the agricultural related businesses (grain, livestock, fertilizers, and chemicals) located primarily in the Stockyards, access to I-229 to the north was important as they typically receive inbound products from their suppliers located in northwest Missouri, Iowa, and Nebraska.
- Most of the remaining businesses indicated that the I-229 bridge was not as important to their business because most of their freight moves to/from the south or they use US 36 to go east or west.

The I-229 interstate designation is far less important to these businesses than having a reliable, safe, four-lane roadway. The respondents generally preferred a four-lane facility that allows trucks and does not require additional over-dimensional or overweight permitting requirements. Concerns were raised about a two-lane roadway that could change driver route behavior, result in longer travel and supply lead times, create congestion on the alternate routes, and decrease safety on the alternate routes.

**Origin and Destination of Freight Trips** - The traffic data was used to evaluate the distribution of freight-based trips within the Study Area. The data helped verify the observational information collected during the freight interviews. For this analysis, the study team evaluated freight-based truck trips entering or exiting the Stockyards via the Stockyards Expressway and the US Route 36 interchange:

- **Exiting the Stockyards.** The data estimates that 2,900 trucks per day head north on the Stockyards Expressway out of the Stockyards. Of those trips, the vast majority either head south on I-229 towards Kansas City (35%) or east towards St. Louis on US Route 36 (34%). Confirming what the team heard from the freight businesses, the third largest movement is north on I-229 (15%) toward northwest Missouri, Iowa, and Nebraska.
- **Entering the Stockyards.** Conversely, of the 2,200 trucks per day entering the Stockyards, the vast majority are coming from US Route 36 from the east (38%) followed by I-229 from the south (25%) and then from I-229 from the north (15%). The data confirms that trucks to and from the north are currently using the I-229 bridge to access markets.

During conversations with freight businesses, the team was reminded that truck traffic typically increases during the harvest season and any potential improvement needs to account for the increased truck traffic during this period. While the total number of trucks obviously increases during this period, the




*The study team reviewed origin and destination information for both typical vehicles and trucks to help understand how traffic flows through the Study Area. All the origin and destination figures can be found in Technical Memorandum 4 - Traffic Study. This figure is just an example of where trucks exiting the Stockyards area travel during the harvest season.*

distribution of those trucks remains constant. Most of the trucks are still headed south toward Kansas City (36%) or east on US Route 36 (37%) with a similar percentage headed north on I-229 (14%). The origin of those trucks also follows closely the distribution observed during a normal, non-harvest day.

Based on both the interviews with the freight community and verified with the travel market data, there is a clear goal to provide both accessibility and mobility for the regional freight providers. While north on I-229 is not the dominant movement, trucks do utilize the I-229 bridge to access markets to the north and the impacts of potentially changing how trucks head north are important to understand during the alternatives evaluation phase.

### 1.5.5 Promote Downtown Revitalization

The community supports the idea that changes to the I-229 bridge could be used to support opportunities for economic growth and amenities which are thought to not only draw visitors to the area but encourage people to relocate to St. Joseph. The community is concerned with the loss of young people once they leave for higher education or jobs and see downtown revitalization as opportunities for positive changes that could encourage that population to remain in or return to St. Joseph. Therefore, maintaining vehicular access into the downtown and connectivity to the region's highway system should be balanced with opening up additional land for development, improving connectivity via the local street network, and encouraging opportunities for improved amenities (trails, smart streets, parks, etc.) believed to help the community's redevelopment efforts.

The community is more concerned about the accessibility and mobility that the existing I-229 roadway provides to the existing business community than about whether it is signed as an interstate facility. For example, conversations with the Chamber of Commerce have indicated that having I-229 as an interstate does little to help foster downtown development. Options that open available space for development, reconnect the Riverfront, and provide accessibility and mobility regardless of the interstate designation would be preferred by the community.

## 1.6 Summary of Purpose and Need

The I-229 bridge is structurally deficient and continues to require ongoing maintenance. MoDOT will soon need to make significant decisions related to the future of this structure. The remaining chapters of this Environmental Assessment, along with their supporting technical memoranda (TM), have been based on the project Purpose and Need established here:

- **Project Purpose** - To determine the most efficient long-term option for I-229, between US Route 59 and US Route 36, while addressing other local land use, access, and development goals important to the St. Joseph community.

- **Project Need** - The existing I-229 double-decker bridge will require a significant rehabilitation soon to avoid either partial or full closure of the structure. The long-term viability of the bridge needs to be achieved either through rehabilitation or demolition.
- **Project Goals** - Assuming the project purpose and project need are met, each alternative will then be evaluated based on the series of project goals established here: traveler mobility, traveler accessibility, traveler safety, freight accessibility, and downtown revitalization.

Chapter 2

# Alternatives

This chapter examines the development and evaluation of the project's alternatives. The process began with the collection of environmental, engineering, traffic, social and economic data as well as a public visioning workshop and numerous stakeholder meetings. The public visioning workshop and stakeholder meetings were not only used to inform, but more importantly to solicit input from the public and stakeholders on what they wanted for the future of St. Joseph and how the I-229 corridor impacted that vision.

The alternative development process was a three-tiered process:

- **Initial Alternatives** - Based on the data collection and public/stakeholder input, the study team developed the study's Purpose and Need and began identifying a wide range of alternatives that could potentially address the transportation needs. The alternatives developed in this first phase are referred to as the Initial Alternatives. The Initial Alternatives were developed in accordance with the principles of appropriate design standards, consideration of existing planning goals, public involvement, potential environmental impacts, and engineering judgment. Section 2.1 presents the development and screening of the Initial Alternatives.
- **Reasonable Alternatives** - Section 2.2 presents the Reasonable Alternatives that were determined to satisfy the study's Purpose and Need, best met the study's project goals, and minimized impacts to other engineering and environmental criteria. The Reasonable Alternatives were further developed and refined based on more detailed engineering analysis and known constraints. This allowed for the establishment of preliminary study footprints and, in turn, for detailed impact assessments, cost estimates, and traffic evaluations. These activities constituted the second tier of the alternative development process and included public/stakeholder input from a public meeting and numerous stakeholder meetings.
- **Recommended Preferred Alternative** - Section 2.3 presents the screening of the Reasonable Alternatives and represents the third tier of the alternative development process. The Reasonable Alternative that satisfied the Purpose and Need, best achieved the study goals, while avoiding, minimizing, or mitigating impacts to the social and natural environment is identified as the Recommended Preferred Alternative.

## 2.1 Initial Alternatives

The Initial Alternatives screening identified twenty-one (21) Initial Alternatives that were developed as possible strategies to achieving the overall project need. Each of those, including the No-Build strategy, is described, the potential advantages and disadvantages are listed, the overall ranking relative to the screening criteria has been identified, and the public reaction to those alternatives discussed. The result of that analysis is summarized here with a more detailed evaluation provided in Technical Memorandum 2 - Initial Alternatives Screening.

The twenty-one Initial Alternatives included the No-Build and the Rehabilitation of the Existing Bridge. The remaining nineteen alternatives, to help simplify the evaluation, were grouped into eight different buckets. Each bucket included two to five Initial Alternatives. The eight buckets (Figure 2-1) and their respective Initial Alternatives are summarized in Table 2-2. The table also includes a summary of the recommendation, whether to keep or eliminate, for each Initial Alternative.

The criteria used to screen the Initial Alternatives was based on feedback received from the project Technical Advisory Committee, the project stakeholder groups, and through discussions at the initial Visioning Workshop. Table 2-1, to the right, details the screening criteria used to evaluate the various Initial Alternatives. That criteria started with the overall need to provide a long-term solution to the condition of the I-229 bridge and then included various criteria relevant to each of the two overarching goals: maximizing travel mobility & accessibility and providing

Table 2-1

### Initial Alternatives Screening Criteria

The Initial Alternatives were screened based on the following criteria:

**Project Need** - The alternative must provide for the long-term viability of the I-229 bridge either through rehabilitation or removal.

**Project Goals** - The alternative should improve, maintain or minimize impacts to the project goals:

- Maximize Travel Mobility & Accessibility
  - Travel Time
  - Incidents
  - Freight Access & Travel Time
  - Railroad Impacts
  - Port Access
- Economic Development Goals
  - Riverfront Access (Vehicular & Pedestrian)
  - Acres of New Land (Riverfront)
  - Downtown Revitalization
  - Downtown Access (Vehicular)
  - Developable Land (Downtown)
  - Truck Traffic (Downtown)

**Additional Criteria** - The alternatives were also evaluated based on a series of engineering, environmental and socio-economic considerations:

- Engineering Considerations
  - Constructability
  - Cost
  - Maintenance
- Environmental & Socio-Economic Considerations
  - Threatened & Endangered Species
  - Historic Properties
  - Hazmat Sites
  - Displacements

Figure 2-1

## Grouping of Initial Alternatives


Table 2-2

## Initial Alternatives Evaluation and Recommendation

| Initial Alternative | Recommendation | |
|---|---|---|
| No-Build | Keep (NEPA Required) | Although the No-Build alternative does not satisfy the Purpose and Need for the project, the No-Build alternative is carried forward for comparison with the other Reasonable Alternatives in accordance with NEPA requirements. |
| Rehabilitation of Existing Bridge | Eliminate | The Rehabilitation alternative has been found to not be a viable solution. While a significant investment could be made to prolong the life of the existing structure, the bridge is still approaching the end of its useful life. For these reasons, it was recommended that this alternative not be carried forward. |
| Repurpose Existing Bridge Options | | |
| RPE-03: Bridge Removal between Downtown Ramps | Eliminate | This alternative keeps a large portion of the existing double-decker structure requiring extensive rehabilitation and diverts traffic for short distances onto the city street network. For these reasons, this alternative has been recommended for elimination from further consideration. |
| RPE-14: 4-Lane Single Deck | Eliminate | This alternative would result in impacts to both the Missouri River and the BNSF rail lines, still require the rehabilitation of the existing lower structure, without the benefits to the Downtown. For these reasons, this alternative has been recommended for elimination from further consideration. |
| Interstate Options | | |
| IS-18: Interstate East of Tracks | Eliminate | This alternative would have significant impacts to existing businesses currently located east of the BNSF tracks, would have a high risk of environmental impacts to both historic cultural sites and hazardous material sites, and would have large costs associated with right-of-way acquisition. For these reasons, this alternative has been recommended for elimination from further consideration. |
| IS-09: System to System 1-Lane Ramps | Eliminate | This alternative would require the construction of two independent bridge structures along the existing alignment without improving the ability to develop the Downtown. The additional costs of the structures, along with the other disadvantages, have resulted in this alternative being recommended for elimination from further consideration. |
| IS-08: 4-Lane Diverging | Eliminate | This alternative would require bank stabilization along the Missouri River and/or shifting of the BNSF rail line without improving the ability to develop the riverfront. The additional costs associated with the structures and required fly-overs, along with the other disadvantages, have resulted in this alternative being recommended for elimination from further consideration. |
| Main/2nd Street Extension Options | | |
| NIS-13: Roundabouts | Keep | This alternative provides a high level of service for access into the downtown, improves accessibility to the Riverfront, is compatible with the Riverfront Master Plan, and provides opportunities for "gateway" enhancements at the roundabouts. For these reasons, this alternative has been recommended to be carried forward as a Reasonable Alternative. |
| NIS-12: 3 or 4 Lane Option Down Main Street | Eliminate | This alternative was like the next alternative (NIS-11) and the recommendation was to merge the positive features of each into a revised Reasonable Alternative. |
| NIS-11: 3 or 4 Lane Down 2nd & Main Streets | Keep | This alternative provides a high level of service for access into the downtown, improves accessibility to the Riverfront, and is compatible with the Riverfront Master Plan. For these reasons, this alternative has been recommended to be carried forward as a Reasonable Alternative. |
| NIS-21: Boulevard Partially East of Tracks | Keep | This alternative requires the acquisition of three properties with known hazardous materials issues and MoDOT has determined that it would not take on the additional liability for cleaning up those properties. However, based on feedback from city and MPO staff and their desire to find a mechanism to improve those properties it was decided that this alternative merited additional investigation. For these reasons, this alternative has been recommended to be carried forward as a Reasonable Alternative. |

*Alternatives highlighted in green have been recommended to be carried forward as a Reasonable Alternative.*

Table 2-2 (Cont'd)

## Initial Alternatives Evaluation and Recommendation

| Initial Alternative | Recommendation | |
|---|---|---|
| **Parkway/Boulevard Options** | | |
| NIS-19: McArthur Drive Extension | Eliminate | While this alternative provides the opportunity to make substantial improvements to the Riverfront it would require existing I-229 traffic to utilize the existing street network which was a concern expressed by the public, the local businesses and the city staff. For these reasons, this alternative has been recommended to be eliminated as a Reasonable Alternative. |
| NIS-16: Parkway Option | Eliminate | This alternative provides similar benefits to the community as the McArthur Street Extension option but does not provide a connection to proposed or existing parkway facilities. In addition, the alternative would require existing I-229 traffic to utilize the existing street network which was a concern expressed by both the public, the local businesses and the city staff. For these reasons, this alternative has been recommended to be eliminated as a Reasonable Alternative. |
| NIS-15: Dewey Avenue Extension | Eliminate | This alternative provides similar benefits to the community as the McArthur Street Extension option but does not provide a connection to proposed or existing parkway facilities. In addition, the alternative would require existing I-229 traffic to utilize the existing street network which was a concern expressed by the public, the local businesses and the city staff. For these reasons, this alternative has been recommended to be eliminated as a Reasonable Alternative. |
| **Arterial Along Riverfront Options** | | |
| NIS-07: 4 Lane with Intersections at Edmond & Felix Streets | Keep | This alternative was supported by the city staff and the general public and provided the necessary accessibility for trucks into and out of the Stockyards and Downtown. For these reasons, this alternative has been recommended to be carried forward as a Reasonable Alternative. |
| NIS-01: Elevated T- Intersection | Eliminate | This alternative would impact the Missouri River floodplain, provide a barrier to Riverfront access, would not be compatible with the downtown development, and would require an elevated T-intersection on structure that would not be desirable. For these reasons, this alternative has been recommended for elimination from further consideration. |
| **Local Street Options** | | |
| NIS-06: One-Way Pairs 3rd and 4th Streets, Michel and Franklin Streets | Eliminate | This alternative included a new bridge along 4th Street that would impact a known hazardous waste site. In addition, this alternative relied on the use of one-way streets which was contrary to the City's desire to eliminate one-way pairs. For these reasons, this alternative has been recommended for elimination from further consideration. |
| NIS-17: One-Way Pairs 5th & 6th Streets | Eliminate | This alternative requires an extension of 5th Street resulting in additional impacts to buildings and the need for additional right-of-way. In addition, this alternative relied on the use of one-way streets which was contrary to the City's desire to eliminate one-way pairs. Compared to the other Local Street Options, this alternative has the worst overall rank and, therefore, has been recommended for elimination from further consideration. |
| NIS-04: Arterials East | Eliminate | This alternative is compatible with the Riverfront Master Plan, provides additional developable land, and is consistent with the City's desire not to have one-way pairs. However, based on feedback from the public, local businesses and city staff there was concern with this alternative resulting in a significant increase in traffic, especially truck traffic, onto the local street network. For this reason, this alternative has been recommended for elimination from further consideration. |
| **Kansas Side Options** | | |
| NIS-10: Kansas Side from US Route 59 | Eliminate | This alternative requires an additional Missouri River crossing, does not address the overall project need, and would impact a conservation area. While the study acknowledges the communities desire to provide a second access into the airport, this study was never intended to address that need. For these reasons, this alternative has been recommended for elimination. |
| NIS-20: Kansas Side from Cook Road | Eliminate | This alternative requires an additional Missouri River crossing, does not address the overall project need, and would impact conservation areas. While the study acknowledges the communities desire to provide a second access into the airport, this study was never intended to address that need. For these reasons, this alternative has been recommended for elimination from further consideration. |
| **Non-Build Options** | | |
| New Technology – Autonomous Vehicles Options | Eliminate | A stand-alone AV/CV alternative could not be thoroughly evaluated at this time due to the conceptual nature of the technology. However, these technologies could potentially be incorporated in the future as they are implemented. |
| Transit Options | Eliminate | Due to low traffic demand on I-229 and the lack of addressing freight needs, a transit alternative was not carried forward. |
| Non-Motorized Transportation Options | Eliminate | Due to low traffic demand on I-229 and the lack of addressing freight needs, a non-motorized alternative was not carried forward. |

**Alternatives highlighted in green have been recommended to be carried forward as a Reasonable Alternative.*

consistency with local land use. Additional criteria included relevant engineering, environmental, and socio-economic considerations.

MoDOT invited the public to participate in an interactive open house style meeting to review and rate the Initial Alternatives. In parallel to the public meeting, an online survey was launched that walked visitors through the same materials shown at the in-person meeting. Nearly 100 residents participated in the open house and 487 completed the online alternatives assessment. Details of the Initial Alternatives public meeting have been provided in Technical Memorandum 17 - Public Meetings.

Attendees had an opportunity to study each alternative in depth, ask questions of the project team, and assess twenty-one different Initial Alternatives grouped into eight different categories. Each potential alternative was visually mapped. The project team also identified the "pros" and "cons" of each. The potential alternatives were assessed in relation to the project's purpose, need and overarching goals. Finally, each alternative was assessed a relative cost score compared to the other alternatives. There was very little variation between the results gathered at the open house and the results gathered online. This consistency adds to the veracity of the results.

## 2.2 Reasonable Alternatives

Based on the analysis detailed earlier in Technical Memorandum 2 - Initial Alternatives Screening, the study team recommended that four Reasonable Alternatives, plus the No-Build, be carried forward into the Environmental Assessment. These four reasonable options were then evaluated in greater detail within the requirements of the NEPA process prior to the identification of the Recommended Preferred Alternative.

Based on feedback from the advisory committees (Core Team and Technical Advisory Committee (TAC)) and from comments from the public, two of these alternatives have been modified slightly from the original concepts presented at the public meeting and in the online survey. Any modifications have been incorporated into the Reasonable Alternative exhibits provided in the EA and discussed below.

Based on the criteria developed to screen the Initial Alternatives, the following alternatives are considered Reasonable Alternatives moving forward and were the subject of detailed evaluation in the I-229 EA:

- **No-Build** – Under NEPA, the No-Build alternative is required to be evaluated and provides a baseline from which to compare the other Reasonable Alternatives.
- **Alternative A: Main Street Corridor** - This alternative was Initial Alternative NIS-11, 3 or 4 Lane Down 2nd & Main Streets. In this alternative, the double-decker bridge is removed. A two- to four-lane arterial road would be constructed at grade (elevated as necessary for compliance with floodplain and stormwater drainage requirements) in

generally the same location as the existing double-decker bridge between the railroad tracks and the Missouri River, except for the section between US Route 59 and Messanie Street. Along this section, at the north end of the corridor, this alternative would cross back over the railroad tracks, tie into Main Street, head north along Main Street and reconnect to I-229 near US Route 59. This alternative would require the de-designation of I-229 as an interstate.

- **Alternative B: 2nd Street Corridor** - This alternative was Initial Alternative NIS-13 Roundabouts and was modified to remove the roundabouts and replace them with typical signalized intersections based on feedback from the community. In this alternative, the double-decker bridge is removed and a two- to four-lane arterial constructed. The arterial would be constructed at grade (elevated as necessary for compliance with floodplain and stormwater drainage requirements) in the same location as the existing double-decker bridge between the railroad tracks and the Missouri River, except for a section between Messanie Street and Francis Street. Along this section, at the north end of the corridor, this alternative would cross back over the railroad tracks, tie into 2nd Street, head north along 2nd Street to Felix Street and then, turning left onto a new structure, would connect back into I-229 to the north. This alternative would require the de-designation of I-229 as interstate.
- **Alternative C: Railroad Tracks East Corridor** - This alternative was Initial Alternative NIS-21 Boulevard East of Tracks. In this alternative, the double-decker bridge is removed and is replaced with a new four-lane boulevard constructed at-grade east of the railroad tracks. The new structure would connect I-229 with downtown St. Joseph via a signalized intersection at Charles and Edmond Streets and ramps at St. Joseph Avenue. This alternative would require the de-designation of I-229 as an interstate.
- **Alternative D: Existing Corridor** - This alternative was Initial Alternative NIS-07, 4 Lane with Intersections at Edmond & Felix Streets. In this alternative the double-decker bridge is removed and replaced with a new four-lane arterial road constructed at-grade (elevated as necessary for compliance with floodplain and stormwater requirements) in generally the same location as the existing double-decker bridge between the railroad tracks and the Missouri River. Access to downtown would only be provided at 4th Street and a new interchange at US Route 59. This alternative would require de-designation of I-229 as an interstate.

Additional information for each Reasonable Alternative, including maps and aerial-based renderings have been provided in Figures 2-2 through 2-5.


Figure 2-2

**Reasonable Alternative A**
**Main Street Corridor**

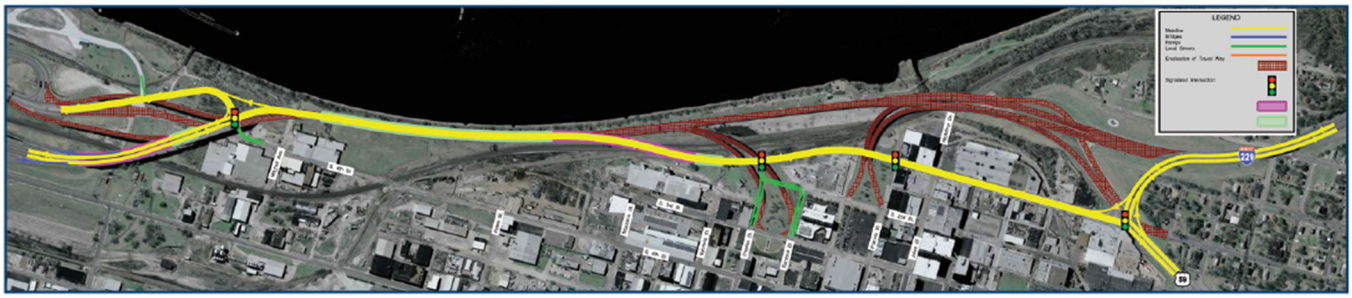




Figure 2-3

Reasonable Alternative B
2nd Street Corridor

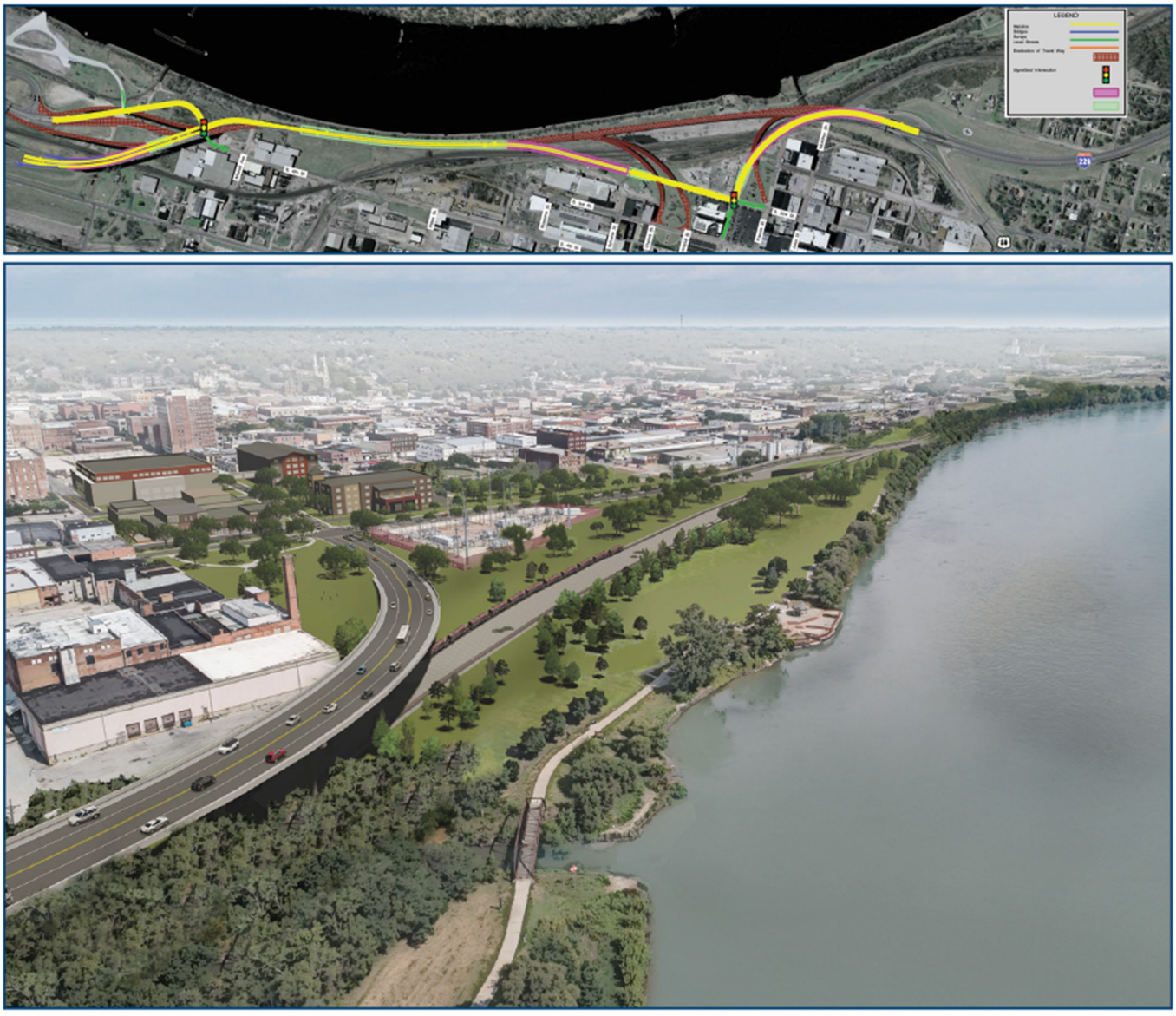



Figure 2-4

Reasonable Alternative C
Railroad Tracks East Corridor


Figure 2-5

Reasonable Alternative D
Existing Corridor

### 2.2.1 Screening Methodology

Each of the Reasonable Alternatives satisfies the study's Purpose and Need, scores well relative to the study goals, conforms to the study's engineering requirements, and results in minimal impact to the natural and social environment. Otherwise, the alternative would have been screened out during the Initial Alternatives phase.

Therefore, to understand the relative merits of the remaining Reasonable Alternatives, they were each further developed based on more detailed engineering analysis and known environmental constraints. This allowed for the establishment of preliminary study footprints, and once established, helped the team develop detailed impact assessments, cost estimates, and traffic evaluations.

The detailed screening criteria have been provided in Table 2-3, on the next page. In addition, additional details for each of these criteria have been provided in the Reasonable Alternative's TM-3 through 16, as well as Chapter 3 - Affected Environment.

Each of the Reasonable Alternatives, including the No-Build Alternative, is described in the next several sections, the potential advantages and disadvantages are listed, and the public reaction to those alternatives discussed. The results of the Reasonable Alternative screening for each of the previously identified criteria, have been summarized in Table 2-4. The information provided in this table helps form the final recommendation for a preferred alternative along with other factors including community support. As can be determined by reviewing the data in the table, apart from the No-Build Alternative, each alternative has both positives and negatives that were balanced against each other in making the final recommendation. In the end, community support for the recommended preferred alternative played a significant role in eventually getting to an alternative that MoDOT, the City of St. Joseph, the St. Joseph Area Transportation Study Organization – Metropolitan Planning Organization (MPO) and the community could get behind.

*The Purpose & Need, along with the study goals, was developed in partnership with community stakeholders. That process began with a Visioning Workshop where the community helped the study team understand what was important, where they wanted the community to go over the next fifty years, along with their concerns and ideas for the future of this corridor.*

Table 2-3

## Reasonable Alternatives Screening Criteria

The Reasonable Alternatives were screened based on the following criteria:

**Address Bridge Conditions** - All the Reasonable Alternatives, except the No-Build, addressed the primary need of providing a long-term solution for the condition of the I-229 double-decker bridge.

**Project Connectivity** - The criteria considered in the screening process related to maximizing travel mobility and accessibility included the following:

- Freight Connectivity
  - Travel time to the north from Stockyards
  - Ease of access for trucks into downtown
- Vehicular Accessibility
  - Travel Time to Downtown (change in min.)
  - Travel Time for Major Movements (change in min.)
- Bike/Ped Accessibility
  - Enhanced Bike/Ped Connectivity
- Railroad Impacts
  - Additional Traffic on 4th St. At-Grade Railroad Crossing
  - Maintain At-Grade Railroad Crossing at Felix Street
  - Vertical Clearance over Tracks (in ft.)
- Port Impacts
  - Port Access (from the North)

**Land Use Compatability** - The criteria considered in the screening process related to each alternatives compatibility with local land use included the following:

- Riverfront Development
  - Riverfront Access (Vehicular, Pedestrian, Bicycle)
  - New Land in Riverfront
  - Potential Southern Riverfront Access (Vehicular)
- Downtown Revitalization
  - Compatable w/ Downtown Revitalization Plans
  - Discourages Heavy Trucks Downtown
  - New Potentially Developable Land Downtown (acres)

**Engineering** - The engineering categories considered and identified in the screening process related to the design and the impacts on system usage included:

- Costs
  - New Construction (millions) (includes bridge demo)
  - Non-Routine Maintenance on New Construction (millions)
  - Routine Maintenance on New Construction (millions)
  - Environmental Mitigation (millions)
  - Right of Way Costs (millions)
  - Total Cost (millions) (50-year life cycle)
- Other Engineering Considerations
  - Constructability
  - Burden on Travelers during Construction
  - Potential CSO Impact
  - Siltation Removal Access (Main Street)
  - Four-Lane Boulevard Compatible
  - Additional Traffic on Local City Streets
  - Total Crashes / FI Crashes (Number/Year)

**Environmental** - The engineering categories considered and identified in the screening process related to the design and the impacts on system usage included:

- Natural Environment
  - Wetlands (acres)
  - Threatened/endangered species (number)
  - Visual (positive/neutral/negative)
  - Acres of Floodplain Disturbed
  - Section 4(f) public parks/lands
- Cultural | Historic Resources
  - Number of NHRP Listed/Eligible (indirect/direct impacts)
- Hazardous Materials
  - Number of High Risk Hazmat Sites (indirect/direct impacts)
- Displacements (Relocations/Property w/ Buildings)
  - Residential Relocations (number)
  - Business Relocations (number)
- Displacements (Properties)
  - Full Property Impacts (number/assessed value)
  - Partial Property Impacts (number/assessed value)

Table 2-4

## Reasonable Alternatives Evaluation

| Screening Criteria | | Reasonable Alternatives | | | | |
|---|---|---|---|---|---|---|
| | | No-Build | Alt A - Main Street Corridor | Alt B - 2nd Street Corridor | Alt C - Railroad Tracks East Corridor | Alt D - Existing Corridor |
| **Address Bridge Condition** | | 1 | 5 | 5 | 5 | 5 |
| **Connectivity** | Freight | | | | | |
| | Travel Time to North from Stockyards (change in min.) | 7.0 | 2.3 | 1.3 | 1.2 | 0.6 |
| | Ease of Access for Trucks Downtown | 1 | 3 | 3 | 4 | 2 |
| | Vehicular Accessibility | | | | | |
| | Travel Time to Downtown (change in min.) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Travel Time for Major Movements (change in min.) | 3.5 | 2.0 | 1.1 | 1.0 | 0.6 |
| | Bike/Ped | | | | | |
| | Enhanced Bike/Ped Connectivity | 1 | 4 | 2 | 3 | 1 |
| | Railroad Impacts | | | | | |
| | Additional Traffic on 4th St. At-Grade Railroad Crossing | 7400 | 1700 | 1800 | 1600 | 6700 |
| | Vertical Clearance over Tracks (in ft.) | 20.9 | 23.5 | 20.9 - 23.5 | 20.9 - 23.5 | 23.5 |
| | Port Impacts | | | | | |
| | Port Access (from the North) | Worse | Better | Better | Better | Better |
| **Compatible with Land Use** | Riverfront Development | | | | | |
| | Riverfront Access (Veh, Ped, and Bike) | 3 | 3 | 3 | 3 | 2 |
| | New Land in Riverfront (acres) | 0.0 | 10.9 | 10.6 | 14.0 | 0.0 |
| | Potential Southern Riverfront Access (Vehicular) | 1 | 1 | 1 | 4 | 1 |
| | Downtown Revitalization | | | | | |
| | Compatable w/ Downtown Revitalization Plans | 1 | 4 | 3 | 3 | 3 |
| | Discourages Heavy Trucks Downtown | 5 | 2 | 2 | 3 | 5 |
| | New Potentially Developable Land Downtown (acres) | 0.0 | 18.9 | 3.1 | 1.7 | 3.4 |
| **Engineering Considerations** | Costs | | | | | |
| | New Construction (millions) (includes bridge demo if pertinent) | $0.0 | $45.3 | $51.4 | $71.4 | $48.3 |
| | Non-Routine Maintenance on New Construction (millions) | $0.0 | $11.3 | $8.1 | $11.5 | $13.7 |
| | Routine Maintenance on New Construction (millions) | $0.0 | $2.3 | $3.2 | $5.3 | $4.2 |
| | Environmental Mitigation (millions) | $0.0 | $0.1 - $0.5 | $0.0 | $0.8 - $5.0 | $0.1 |
| | Right of Way Costs (millions) | $0.0 | $0.1 | $0.1 | $7.3 | $0.3 |
| | Total Cost (millions) (50-year life cycle) | $0.0 | $59.3 | $62.8 | $98.4 | $66.7 |

**Non-quantifiable ratings are ranked 1-Worst to 5-Best*

Table 2-4 (Cont'd)

## Reasonable Alternatives Evaluation

| | Screening Criteria | Reasonable Alternatives: No-Build | Alt A Main Street Corridor | Alt B 2nd Street Corridor | Alt C Railroad Tracks East Corridor | Alt D Existing Corridor |
|---|---|---|---|---|---|---|
| Engineering Considerations (cont'd) | Other Engineering Considerations | | | | | |
| | Constructability | 5 | 4 | 4 | 3 | 3 |
| | Burden on Travelers during Construction | 5 | 4 | 3 | 3 | 2 |
| | Potential CSO Impact | 5 | 2 | 2 | 3 | 3 |
| | Siltation Removal Access (Main Street) | 5 | 1 | 5 | 5 | 4 |
| | Four-Lane Boulevard Compatible | 1 | 3 | 3 | 5 | 3 |
| | Additional Traffic on Local City Streets | Yes | Minimal | Minimal | Minimal | Yes |
| | Total Crashes / FI Crashes (Number/Year) | 230 | 232 / 88 | 232 / 89 | 235 / 89 | 234/90 |
| Environmental Considerations | Natural Environmental | | | | | |
| | Wetlands (acres) | 0 | 0 | 0 | 0 | 0 |
| | Threatened/endangered species (number) | 0 | 0 | 0 | 0 | 0 |
| | Visual (positive/neutral/negative) | Neg | Positive + | Neutral | Positive ++ | Neutral |
| | Acres of Floodplain Disturbed | 0 | 3.5 | 3.7 | 0 | 4.3 |
| | Section 4(f)/6(f) public parks/lands | No | Yes | Yes | No | Yes |
| | Cultural \| Historic Resources | | | | | |
| | Number of NRHP Listed/Eligible (indirect/direct impacts) | 100 / 0 | 5 / 1 | 2 / 0 | 1/1 | 1 /0 |
| | Hazardous Materials | | | | | |
| | Number of High Risk Hazmat Sites (indirect/direct impacts) | 0 / 0 | 5 / 0 | 5 / 0 | 2 / 3 | 3 / 0 |
| | Displacements (Relocations/Property w/ Buildings) | | | | | |
| | Residential Relocations (number) | 0 | 0 | 0 | 0 | 0 |
| | Business Relocations (number) | 0 | 0 | 0 | 2 | 0 |
| | Displacements (Properties) | | | | | |
| | Full Property Impacts (number/assessed value) | 0/$0 | 2/$7.5k | 0/$0 | 5/$316.9k | 0/$0 |
| | Partial Property Impacts (number/assessed value) | 0/$0 | 14/$41.6k | 9/$109.9k | 7/$54.7k | 6/$48.3k |

**Non-quantifiable ratings are ranked 1-Worst to 5-Best*

### 2.2.2 No-Build Alternative

Under the No-Build alternative, the existing double-decker bridge would be left in place. Only routine maintenance and repair of the existing bridge would occur. There would be no widening of the bridge, no improvement of the roadway or bridge profiles, no major rehabilitation, and no replacement of the existing bridge. Due to its deteriorated condition, the I-229 double-decker bridge would fall into a significant state of disrepair causing the bridge to eventually be load posted and ultimately closed - potentially within the next few years.

*Overall, this alternative does not meet the Purpose & Need, scores relatively poorly for the goals of connectivity and land use compatibility and would result in significant disruption to the community if it resulted in the bridge being closed. Conversely, because this alternative does not involve any new construction it scores relatively well for all the environmental categories. Finally, this alternative did not have any support from the community, the city or the MPO. More details of this alternative's advantages and disadvantages have been provided in Table 2-5 below. The Study Team recommended this alternative be eliminated from further consideration.*

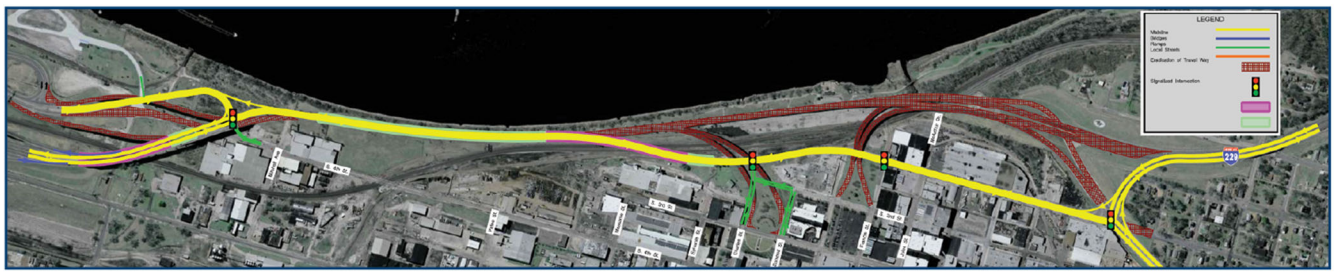
Table 2-5

**No-Build Alternative Recommendation**

| Advantages | Disadvantages |
|---|---|
| • Little to no environmental impacts because this alternative does not include any new construction.<br>• In the near term, travel will continue to be safe and efficient, freight movements will be provided to the Stockyards and downtown, and access will continue be good. | • Deteriorating conditions will soon lead to load postings and eventually closure in the next few years.<br>• In the long term, assuming the bridge is closed, travel will not continue to be safe and efficient, freight movements to the Stockyards/downtown will be impeded, and access into the downtown will be inefficient.<br>• Would not be conducive to riverfront development within the corridor nor compatible with Riverfront Master Plan.<br>• Not conducive to Downtown revitalization.<br>• Does not meet any elements of the Purpose and Need nor any of the study goals.<br>• Not supported by stakeholders. |
| **Recommendation** | |
| **Eliminate** | The No-Build alternative does not satisfy the Purpose and Need for the project, would result in significant community disruptions if closed, and does not achieve any of the outlined community goals. For these reasons, the No-Build has been eliminated from further consideration. |

### 2.2.3 Alternative A - Main Street Corridor

In this alternative, the double-decker bridge is removed. The arterial would be constructed at-grade (elevated as necessary for compliance with floodplain and stormwater drainage



requirements) in the same location as the existing double-decker bridge between the Burlington Northern Railroad tracks and the Missouri River except for the section between US Route 59 and Messanie Street. The 2-lane arterial would cross over the railroad and tie into Main Street on Felix Street, and St. Joseph Avenue. A bridge would be required to bring the new arterial over the Burlington Northern Railroad tracks. On the south end of the project, the bridge configuration would remain largely as-is except for the northbound Stockyards Expressway connection to the new arterial.

*While this alternative does meet the Purpose & Need, the significant concerns from the community regarding impacts to the brick streets and businesses along Main Street resulted in this alternative being eliminated from consideration as a recommend preferred alternative. More details of this alternative's advantages and disadvantages have been provided in Table 2-6.*

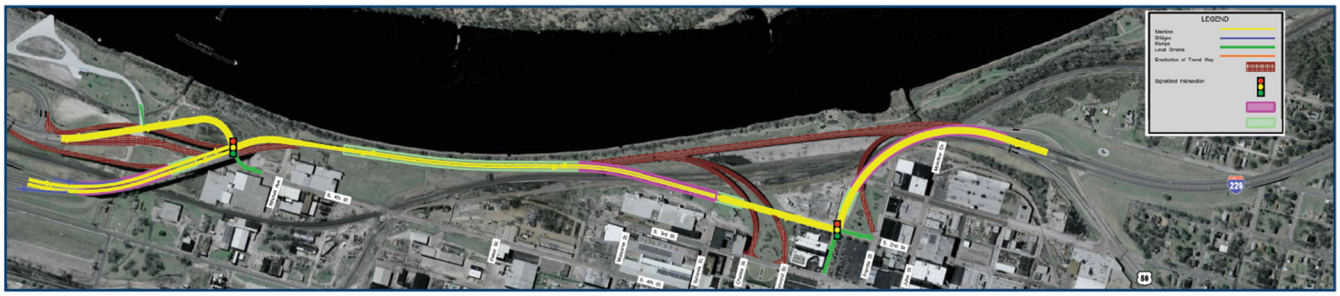
Table 2-6

**Alternative A - Main Street Corridor Recommendation**

| Advantages | Disadvantages |
|---|---|
| • Addresses long term condition of existing bridge - meets the Purpose & Need.<br>• Downtown access to I-229 would generally be maintained through local connections in proximity to where the existing on/off ramps are today.<br>• Provides open space along the riverfront for access and/or development and is compatible with Riverfront Master Plan.<br>• Provides some additional space in the downtown for development | • Decreased level of service for interstate traffic with minimal increase in travel time but would require travel through additional signalized intersections.<br>• Impacts to brick street on Main Street and concern with disruptions to the business operations and expansion plans of the Hillyard campus.<br>• May require acquisition of railroad right-of-way. Partial removal of vertical clearance impacts to east railroad spur track may be necessary.<br>• The large elevation difference between Main Street and I-229 north of US Route 59 may require roadway grades that could necessitate removal or replacement of the bridges over Poulin Street.<br>• Significant concern among some local stakeholders, especially the City staff, City Council, and members of the MPO about potential impacts along Main Street. The MPO formally came out in opposition of this being the recommended preferred alternative. |

| Recommendation | |
|---|---|
| **Eliminate** | While this alternative does meet the Purpose & Need, the significant concerns from the community regarding impacts to the brick streets and business along Main Street resulted in this alternative being eliminated from consideration as a recommend preferred alternative. |

### 2.2.4 Alternative B - 2nd Street Corridor



In this alternative, the double-decker bridge is removed and a two- to four-lane arterial constructed. The arterial would be constructed at grade (elevated as necessary for compliance with floodplain and stormwater drainage requirements) in the same location as the existing double-decker bridge between the railroad tracks and the Missouri River, except for a section between Messanie Street and Francis Street. Along this section, at the north end of the corridor, this alternative would cross back over the railroad tracks, tie into 2nd Street, head north along 2nd Street to Felix Street and then, turning left onto a new structure, would connect back into I-229 to the north. This alternative would require the de-designation of I-229 as interstate.

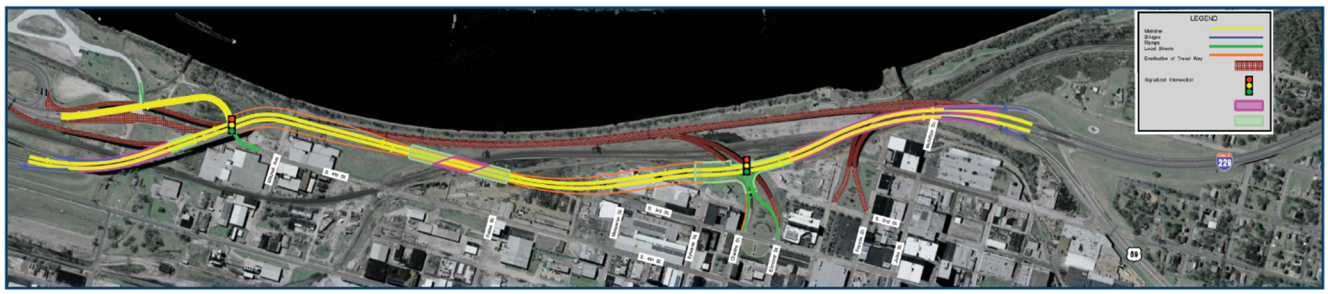
*While this alternative does meet the Purpose & Need, there are significant concerns from the community regarding impacts to traffic, especially truck traffic, heading to/from the north using the new bridge with steep grades. The community was especially concerned during inclement weather. The potential traffic impacts along with a lack of community support resulted in this alternative being eliminated from consideration as a recommended preferred alternative. More details of this alternative's advantages and disadvantages have been provided in Table 2-7.*

Table 2-7

**Alternative B - 2nd Street Corridor Recommendation**

| Advantages | Disadvantages |
|---|---|
| • Addresses long term condition of existing bridge - meets the Purpose & Need.<br>• Downtown access to I-229 would generally be maintained through local connections in proximity to where the existing on/off ramps are today.<br>• Provides open space along the riverfront for access and/or development and is compatible with Riverfront Master Plan.<br>• Provides some additional space in the downtown for development | • Decreased level of service for interstate traffic with minimal increase in travel time but would require travel through additional signalized intersections.<br>• Significant concerns among some local stakeholders, especially the City staff, City Council, and members of the MPO about traffic, especially trucks, using the bridge to access I-229 to/from the north. Northbound trucks would stop at the intersection, turn left and then have to climb up a grade. Southbound trucks would be required to take a steep downhill grade into downtown that was concerning, especially during inclement weather.<br>• Lack of support from the community, including the City and MPO. |
| **Recommendation** | |
| **Eliminate** | While this alternative does meet the Purpose & Need, the significant concerns from the community regarding travel impacts of having I-229 trips, especially heavy trucks, take the new bridge with steep grades to head north resulted in this alternative being eliminated from consideration as a recommend preferred alternative. |

### 2.2.5 Alternative C - Railroad Tracks East Corridor



In this alternative, the double-decker bridge is removed and is replaced with a new four-lane boulevard constructed at-grade (elevated as necessary for compliance with floodplain and storm requirements) east of the railroad tracks. The new structure would connect I-229 with downtown St. Joseph via a signalized intersection at Charles and Edmond streets and ramps at St. Joseph Avenue. This alternative would require the de-designation of I-229 as an interstate.

*While this alternative does meet the Purpose & Need and had some support from the MPO, the significant concerns related to the displacement of several downtown businesses, the impacts on three properties with known hazardous material sites, and the concern regarding the constructability of the northern bridge resulted in this alternative being eliminated from consideration as a recommend preferred alternative. More details of this alternative's advantages and disadvantages have been provided in Table 2-8.*

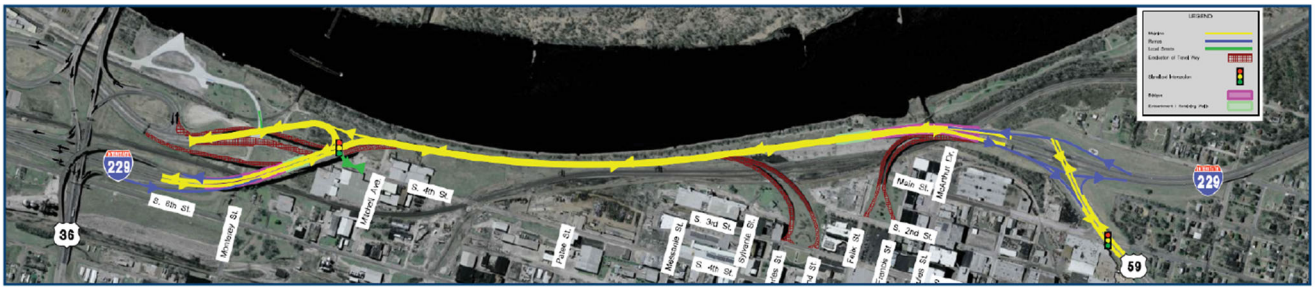
Table 2-8

**Alternative C - Railroad Tracks East Corridor Recommendation**

| Advantages | Disadvantages |
|---|---|
| • Addresses long term condition of existing bridge - meets the Purpose & Need.<br>• Downtown access to I-229 would be improved through through local connections in proximity to where the existing on/off ramps are today.<br>• Provides open space along the riverfront for access and/or development and is compatible with Riverfront Master Plan.<br>• Provides limited additional space in the downtown for development | • Would require the acquistion of three properties with known hazardous materials: Farmland Pesticide, Advantage Metals, and HPI. MoDOT determined that the additional liability of acquiring those properties were not in the best interest of the Department nor a wise use of taxpayer dollars.<br>• Displacement of several businesses east of the railroad tracks was a concern the community, those business owners, and to the regional chamber.<br>• Lack of support from the community, including the City and MPO. There were some within the MPO that did favor this alternative. |

| Recommendation | |
|---|---|
| **Eliminate** | While this alternative does meet the Purpose & Need and had some support from members of the MPO, the potential liability of acquiring three properties with known hazardous materials was sufficient to remove this alternative as a recommended preferred alternative. |

### 2.2.6 Alternative D - Existing Corridor




In this alternative, the double-decker bridge is removed and replaced with a new four-lane arterial road constructed at-grade (elevated as necessary for compliance with floodplain and stormwater requirements) in generally the same location as the existing double-decker bridge between the railroad tracks and the Missouri River. Access to downtown would only be provided at 4th Street and a new interchange at US Route 59. This alternative would require de-designation of I-229 as an interstate.

*This alternative has the support of the community, City staff, City Council and the MPO. The MPO forwarded a signed letter of support on December 19, 2022. This alternative provides access for freight movements into the Stockyards and downtown, opens additional developable land, and minimizes impacts to the environment since it follows along the existing corridor. For these reasons, this alternative has been recommended as the preferred alternative. More details of this alternative's advantages and disadvantages have been provided in Table 2-9.*

Table 2-9

**Alternative D - Existing Corridor Recommendation**

| Advantages | Disadvantages |
|---|---|
| • Addresses long term condition of existing bridge - meets the Purpose & Need.<br>• Provides additional space in the down-town for development and is compatible with downtown redevelopment plans.<br>• Provides enhanced access for freight movements into/out of the Stockyards area, as well as for truck shipments into the downtown.<br>• Limited additional right-of-way needed as corridor follows the existing I-229 alignment.<br>• Strong support from the community, including the City and MPO. | • Would not allow for proposed improvements to the riverfront and is not compatible with the Riverfront Master Plan. As discussed in Tech Memo 9 - Riverfront Development, the Mayor and City Council have confirmed that this piece of the riverfront is a low priority and instead support this alternative.<br>• Would impact the existing park along the riverfront, where the riverboat casino used to be located, which required approval through both the Section 4(f) and Section 6(f) processes for impacting park property.<br>• Downtown access to I-229 would be changed from the existing ramps to access at either 4th Street on the south or US Route 59 on the north. MoDOT has been working with the community and has included commitments to explore additional access opportunities with the City and/or during the design process. Section 2.4 explores this in more detail. |

| Recommendation | |
|---|---|
| **Recommended Preferred** | This alternative meets the Purpose and Need and has the support of the community, City staff, City Council and the MPO. In addition, this alternative effectively balances the community goals of accommodating freight movements with being compatable with plans for improving the St. Joseph downtown. For these reasons, the study team recommends this option as the preferred alternative. |

## 2.3 Recommended Preferred Alternative

The study team has spent considerable time and energy in working with the St. Joseph community, the city staff, City Council, and the MPO in understanding the project Purpose & Need, the community goals, and to understand the priorities and importance of the alternatives screening criteria. Based on that engagement and supported by the information and analysis provided in the nineteen technical memoranda and the environmental assessment, the study team recommends Alternative D - Existing Corridor as the Recommended Preferred Alternative.

This recommendation has been agreed to by the Mayor of St. Joseph, the St. Joseph City Council, and the MPO. A formal letter of approval from the MPO has been transmitted and is included in Figure 2-6 to the right. The Recommended Preferred Alternative conforms to the study's design standards, satisfies the study's Purpose and Need, fulfills the study's desired goals, and minimizes impacts to the human and natural environment.

Figure 2-7, on the next page, shows the Recommended Preferred Alternative within the Study Area while Figure 2-8 provides a larger scale plan of the Recommended Preferred Alternative from north to south to better illustrate its location and associated land uses.

Figure 2-6

**Letter of Support St. Joseph Area Transportation Study Org.**

Greater St. Joseph Area MPO
Metropolitan Planning Organization

ST. JOSEPH AREA TRANSPORTATION STUDY ORGANIZATION
1100 Frederick Avenue, Room 204
St. Joseph, MO 64501
Telephone: (816) 271-4653
www. stjoemo.info/mpo.cfm

*The Federally Designated Organization for the Kansas & Missouri Departments of Transportation; Counties of Buchanan, Doniphan, and Andrew; Cities of Wathena, Elwood, Savannah, and St. Joseph; Village of Country Club.*

December 19, 2022

Missouri Department of Transportation
3602 N Belt Hwy
St. Joseph, MO 64506

Dear Martin Liles

At the December 15, 2022, meeting, the Coordinating Committee of the St. Joseph Area Transportation Study Organization (SJATSO) approved a motion to support MoDOT's plan regrading the future of Interstate 229. This is an important step forward for our community. This will make our community safer, more accessible, and more attractive to businesses and visitors.

The 229 Corridor is an important corridor for moving people and goods in the Greater St. Joseph Metropolitan Area. Furthermore, this project is in line with the MPO's 20-year Metropolitan Transportation Plan and was approved by the SJATSO Technical Committee in November.

Lastly, I am confident that MoDOT will manage this project in a cost-effective and efficient manner. The City of St. Joseph and the SJATSO are committed to working with MoDOT to ensure that this project is completed in a timely and successful manner.

I thank you for your support of this important initiative, and I look forward to seeing the positive changes it will bring to our community.

Sincerely,

Chance Gallagher
Deputy Director of Public Works and Transportation
St. Joseph Area Transportation Study Organization

Figure 2-7 Recommended Preferred Alternative

This page was left intentionally blank. The figure is an 11x17 of the recommended preferred and has been included in the pdf of this EA.

I-229
MOVING FORWARD

Figure 2-8
Recommended Preferred Alternative
(Page 1 of 3)

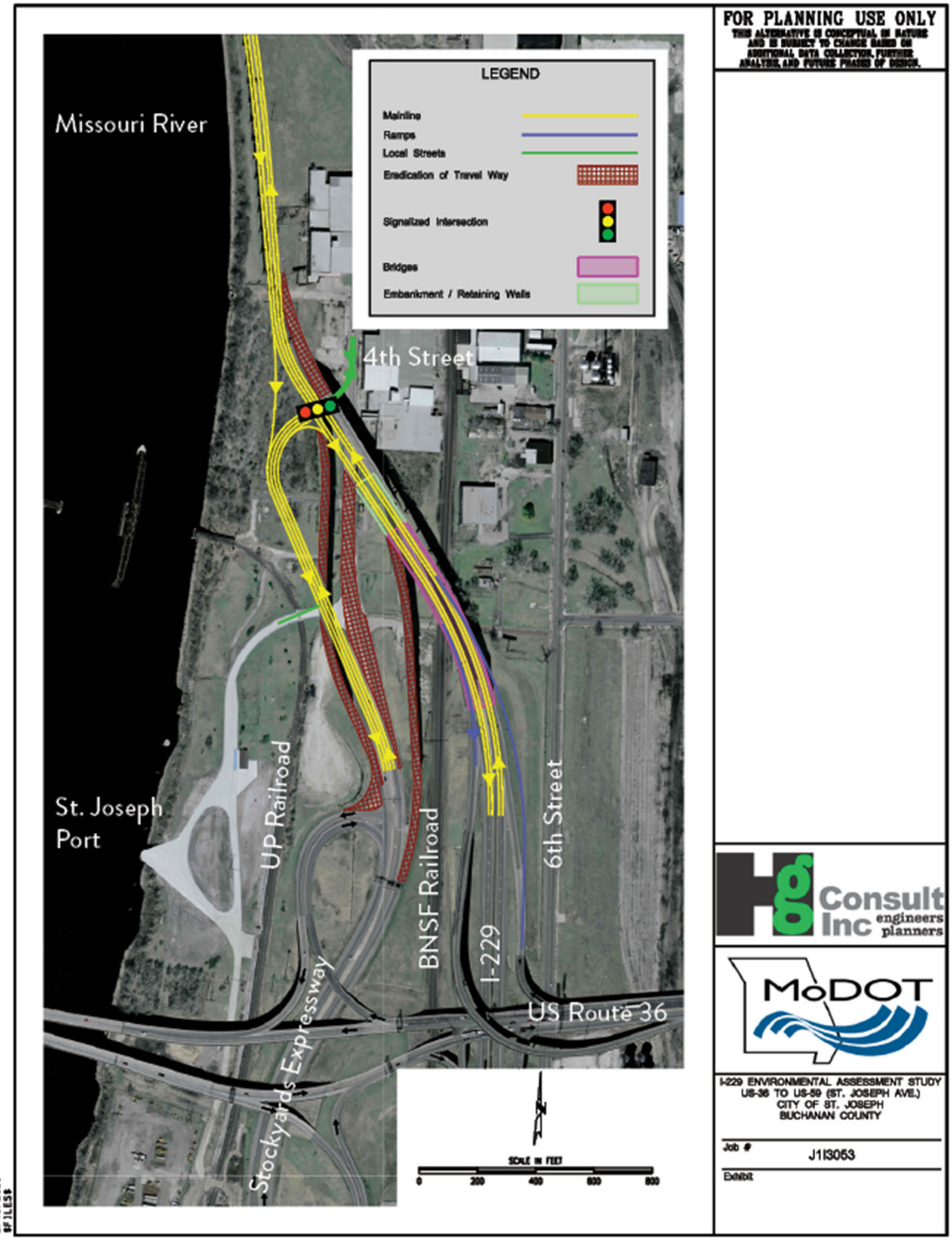



Figure 2-8

Recommended Preferred Alternative
(Page 2 of 3)

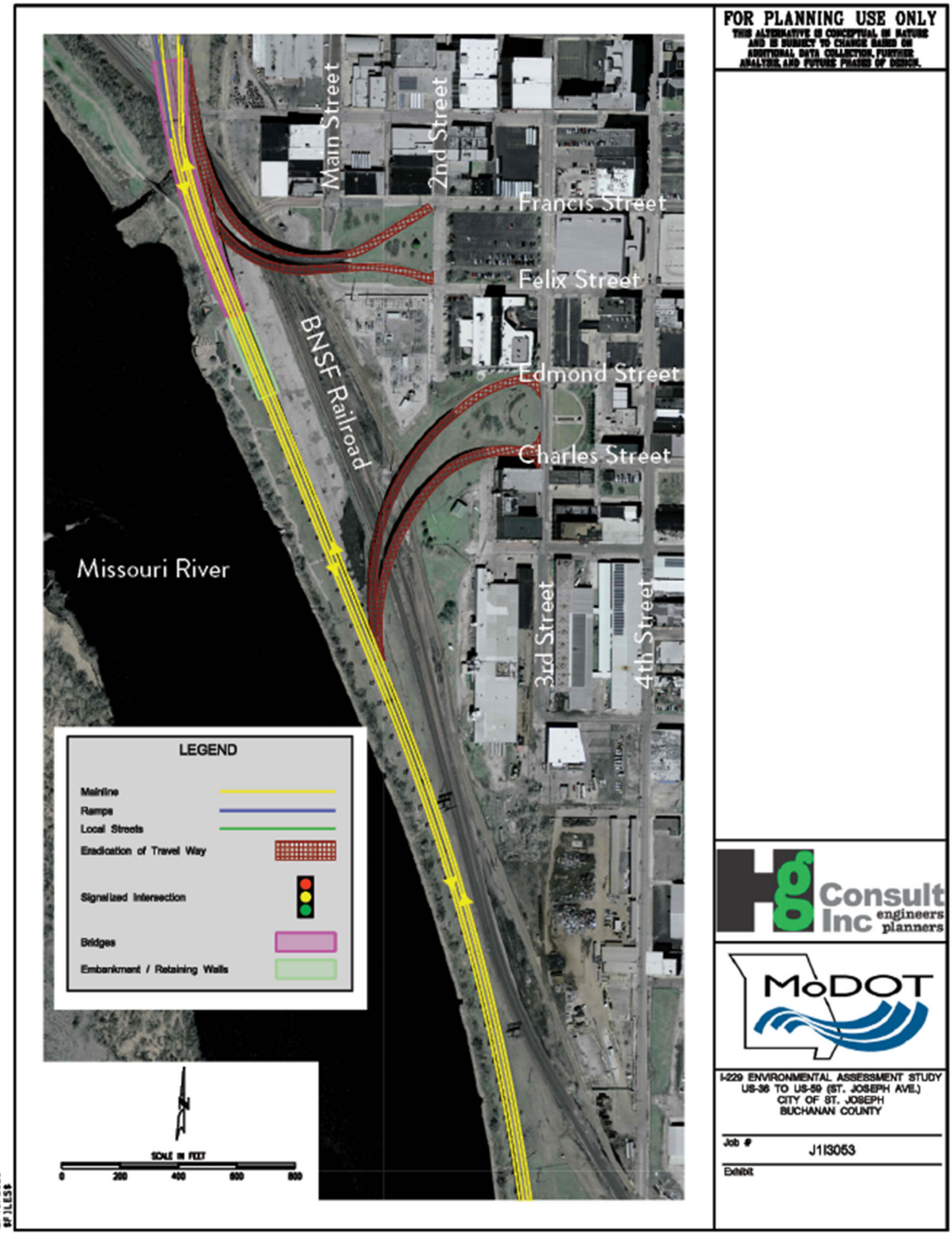
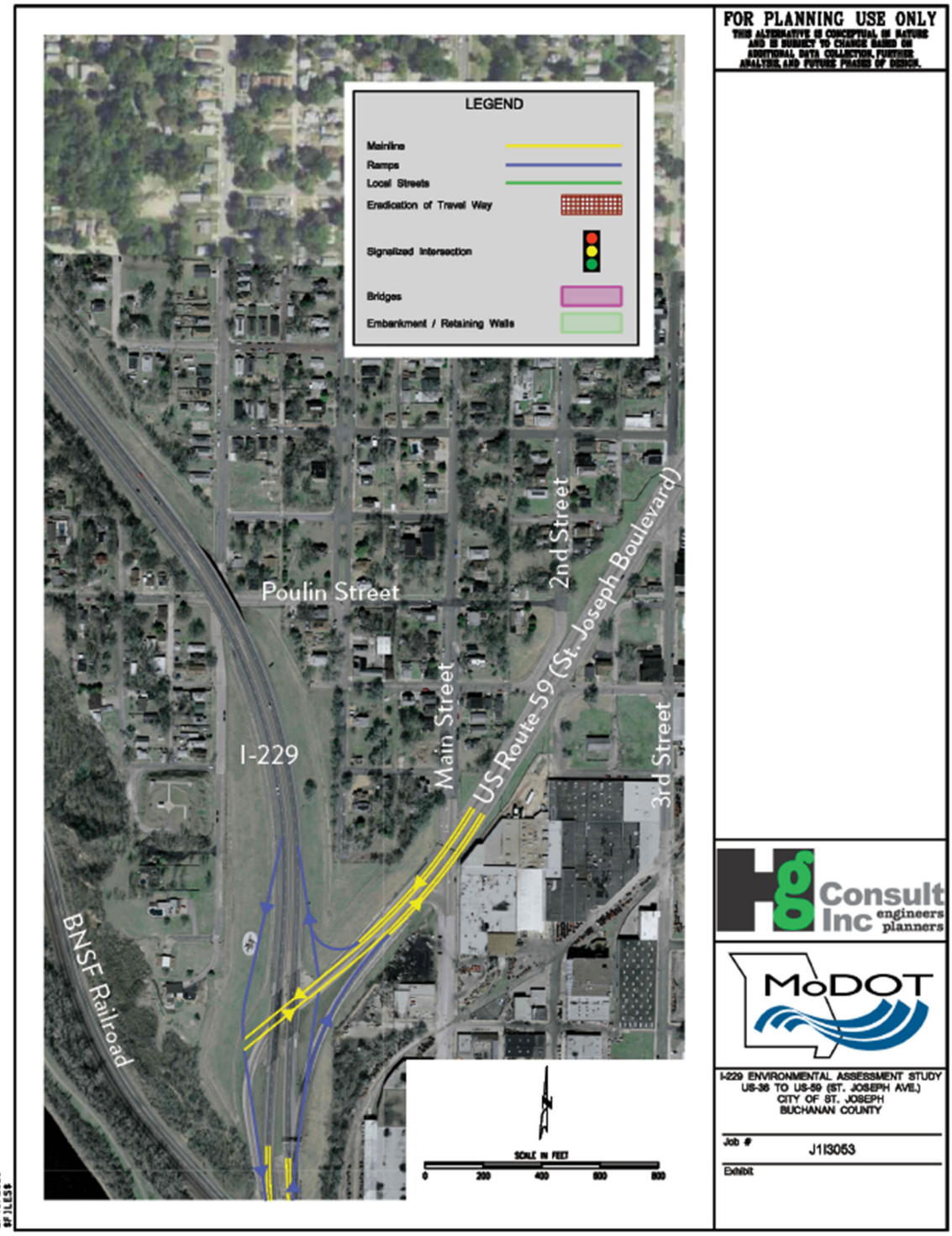



Figure 2-8
Recommended Preferred Alternative
(Page 3 of 3)



## 2.4 Recommended Preferred Alternative Delivery

FHWA and MoDOT are considering using the Design-Build process, rather than the more traditional Design-Bid-Build process, to design and construct the I-229 Recommended Preferred Alternative. Design–Build is a project delivery system used in the construction industry whereby design and construction services are contracted by a single entity known as the design–builder or design–build contractor. This contrasts with the more traditional design–bid–build project delivery approach where the successful contractor provides the best bid for a specific design developed by the design engineer.

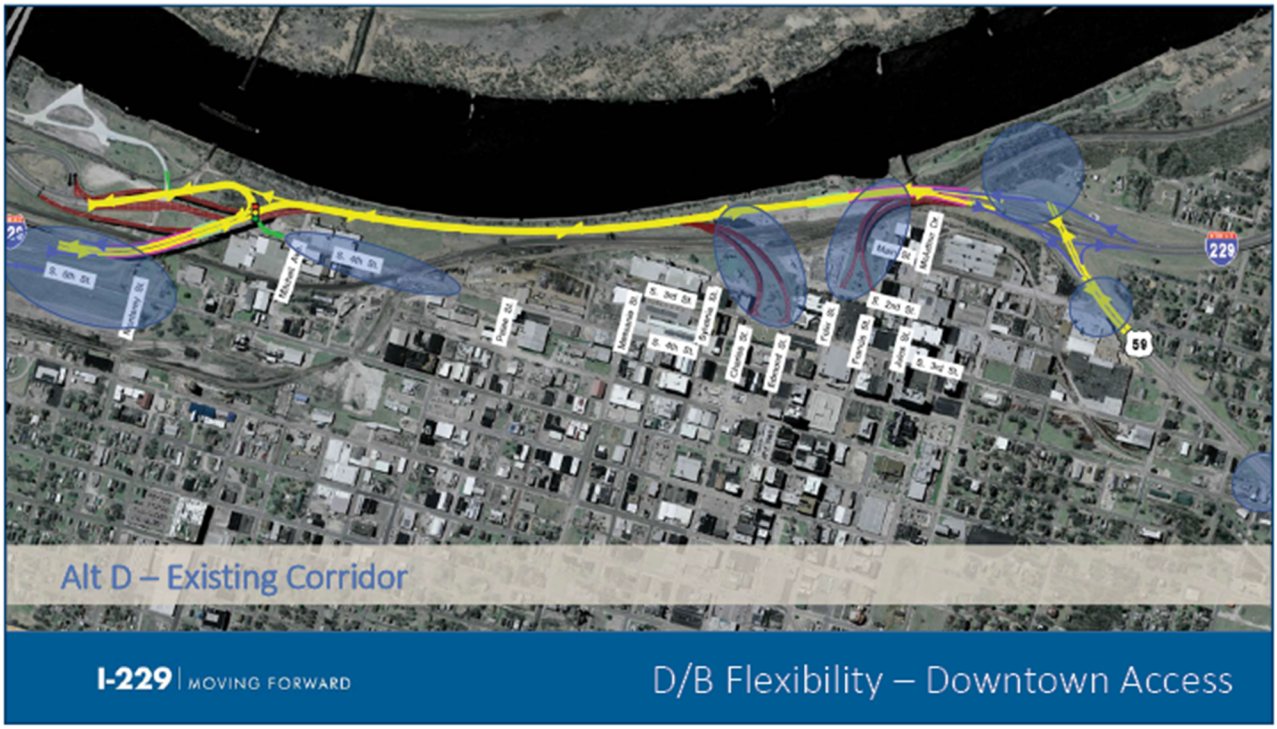
The typical MoDOT Design-Build process uses a fixed price, variable scope selection process. In other words, MoDOT sets the maximum price and allows the contractor teams to bring innovation to the project to maximize the benefit to the community and the travelling public. This process typically involves the development of a base package of improvements - in this case, the base package would be the improvements identified in the Recommended Preferred Alternative - along with additional enhancements that could be a variety of things from improved pedestrian/bicycle amenities, aesthetic improvements, enhanced intersections, etc. Any significant changes from the original base package will require an environmental re-evaluation.

### 2.4.1 Goal Development

With that understanding and assuming MoDOT decides to do a Design-Build procurement, the recommendation for this project includes working with the community through the TAC to help establish overall project goals for the contracting teams. From previous conversations with this group, there are already several potential goals that could be incorporated, including:

- **Pedestrian/Trail Accommodations** - Options to improve pedestrian/bicycle connectivity to the existing Riverwalk trail between the Nature Center to the north and downtown on the south, including potential extension of the trail network south toward US Route 36. Additional accommodations shall include replacement of the existing trailhead shelter and incorporation of interpretive signing/kiosks/wayfinding related to the Pony Express and California National Historic Trails.
- **Downtown Access** - Several options to improve access to downtown St. Joseph have been explored and have been included in Figure 2-9 on the next page: better access to 6th Street on the south; improved access at 4th Street including a potential grade separation at the railroad tracks; access across the railroad tracks at Charles/Edmonds Streets and/or at Felix/Francis Streets; intersection improvements along US Route 59 at Main Street and/or 3rd/4th Streets; or even extending US Route 59 west of I-229 to McArthur Drive. All these alternatives have been investigated and would not result in additional environmental impacts but would need to be further evaluated prior to or during the Design-Build procurement process if approved for construction.


Figure 2-9
Potential Downtown Access Improvements




*As the Recommended Preferred Alternative moves forward, assuming a Design-Build procurement process, it is recommended that MoDOT work with the Technical Advisory Committee in establishing project goals used in the selection process to encourage innovation and help address additional community goals for the project.*

- **Construction Staging and Maintenance of Traffic** - The community has expressed their concern, regardless of which alternative was chosen, regarding the potential impacts to the community and travelling public during construction. The recommendation was to work with the contractor team to minimize the total duration of construction, phase construct as applicable, and to communicate openly with the public about the timing and duration of any closure.
- **Aesthetic Considerations** - Work with the City and/or MPO to identify potential aesthetic improvements, potential cost-sharing opportunities, etc.
- **Engineering Considerations** - Identify opportunities for cost savings with innovative engineering considerations.

### 2.4.2 Environmental Commitment

As indicated, the potential environmental impacts of each of the potential additional enhancements discussed above has been evaluated within the NEPA context and the study team has determined that no additional environmental impacts are expected nor would including any of those options change the decision on the Recommended Preferred Alternative.

The one exception is the proposed extension of US Route 59 to the west of I-229 down to the McArthur Extension. That option would directly impact the southern end of Huston Wyeth Park. Because of this, those impacts have been incorporated into the Section 4(f) Statement and are assumed to be impacted by the project. See Section 3.13 for more details.

In addition to the park, MoDOT will commit to reviewing any additional potential environmental impacts of any contractor proposed enhancements prior to final construction of any of those options.

Chapter 3

# Affected Environment & Environmental Consequences

This Chapter describes the existing social, economic, and environmental conditions in the Study Area and the effects or impacts the proposed action would have upon them. Existing conditions serve as a baseline for evaluating the potential beneficial and adverse social, economic, and environmental effects of the No-Build and Recommended Preferred Alternative. The Recommended Preferred Alternative, as described in detail in Chapter 2 and illustrated in Figure 2-8, for the purposes of this section is Alternative D - Existing Corridor.

## 3.1 Land Use

Land uses in the Study Area are concentrated largely on industrial and commercial uses. These land uses are mixed from I-229 going to the east throughout the downtown area. There are also several railroad and utility properties located along I-229. There are some residential uses within the Study Area, which is mainly focused on the northern and eastern edges of the Study Area. The only residential properties along I-229 are in the space between McArthur Drive and I-229.

### 3.1.1 Riverfront Development

Proposed riverfront improvements have been described in the recently completed St. Joseph Riverfront Master Plan (SWT Design, et al 2019) with additional detail provided in Technical Memorandum 9 - Riverfront Development. The proposed reconfiguration of I-229 is generally limited to the area between US Route 36 and US Route 59. Therefore, potential impacts are for the most part limited to the southernmost area of the proposed riverfront improvements – referred to as Robidoux Landing (Section E) in the Master Plan document (Figure 3-1). The Robidoux Landing improvements include a Riverwalk trail, pedestrian bridge across the Missouri River, trail center, public plaza, urban beach, splash plaza, destination playground, and pedestrian bridge rail crossing (Figure 3-2). The study team has been working closely with the community and staff from the City of St. Joseph to assess the importance and the role the proposed Riverfront plan should have in the development and selection of a final Recommended Preferred Alternative. The recommendations in the final plan, supported by members of the community and city staff, prioritized Riverfront improvements north of the Study Area, near the casino and the Remington Nature Center. Improvements in the Study Area (Section E - Robidoux Landing) have been given the lowest priority because of the limited land available for

development, accessibility and safety issues with the current at-grade railroad crossing, lack of funding, and limited ability to connect with downtown improvements.

Figure 3-1

Proposed Riverfront Master Plan Areas

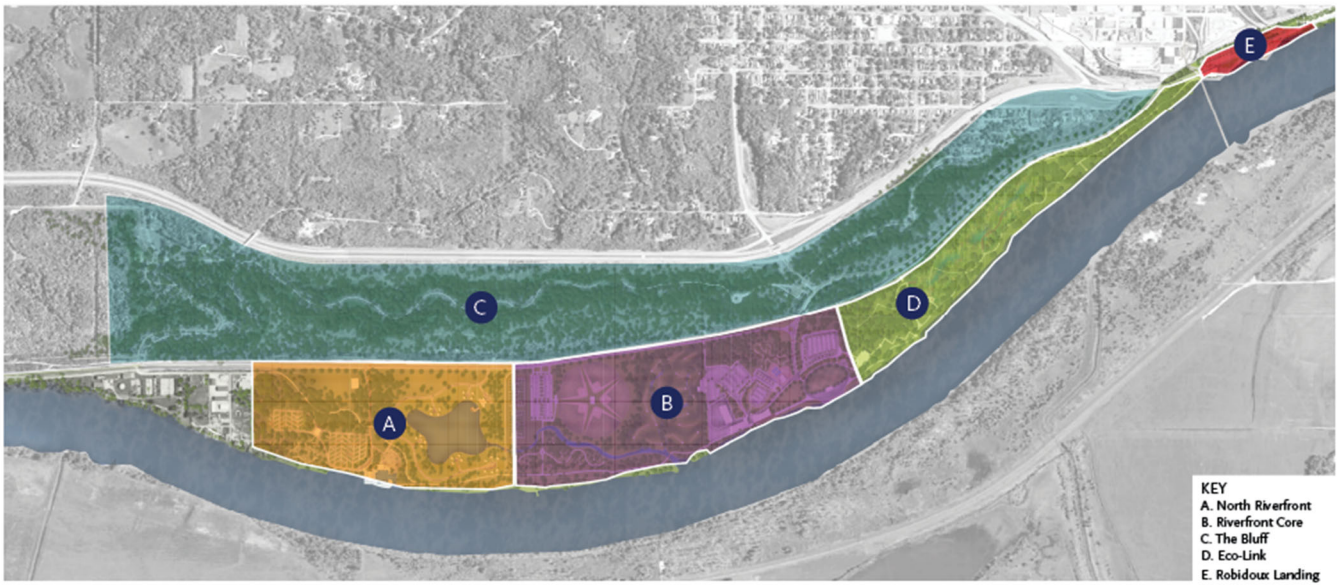



Figure 3-2

Proposed Riverfront Master Plan Improvements at Robidoux Landing

The proposed improvements in Section E - Robidoux Landing do have some support from various stakeholders in the community and there is a desire to make some of the proposed improvements. However, others in the community believe the at-grade rail crossing will be a permanent impediment to those plans and are hesitant to value impacts to that plan higher than other community goals related to downtown revitalization and the efficient movement of freight. To formalize that belief, the study team asked the Mayor and City Council to write a letter to that effect (Technical Memorandum 9 - Riverfront Development- Figure 3). Based on this letter and other discussions with the community, the decision was made to continue to use the potential impacts to the Riverfront Master Plan as one of the study's evaluation criteria, but at the same level as the other criteria, and not as high as others that were determined to be more important to the community - downtown revitalization and freight accessibility.

The No-Build and Build Alternatives would impact the Riverfront Development in the following ways:

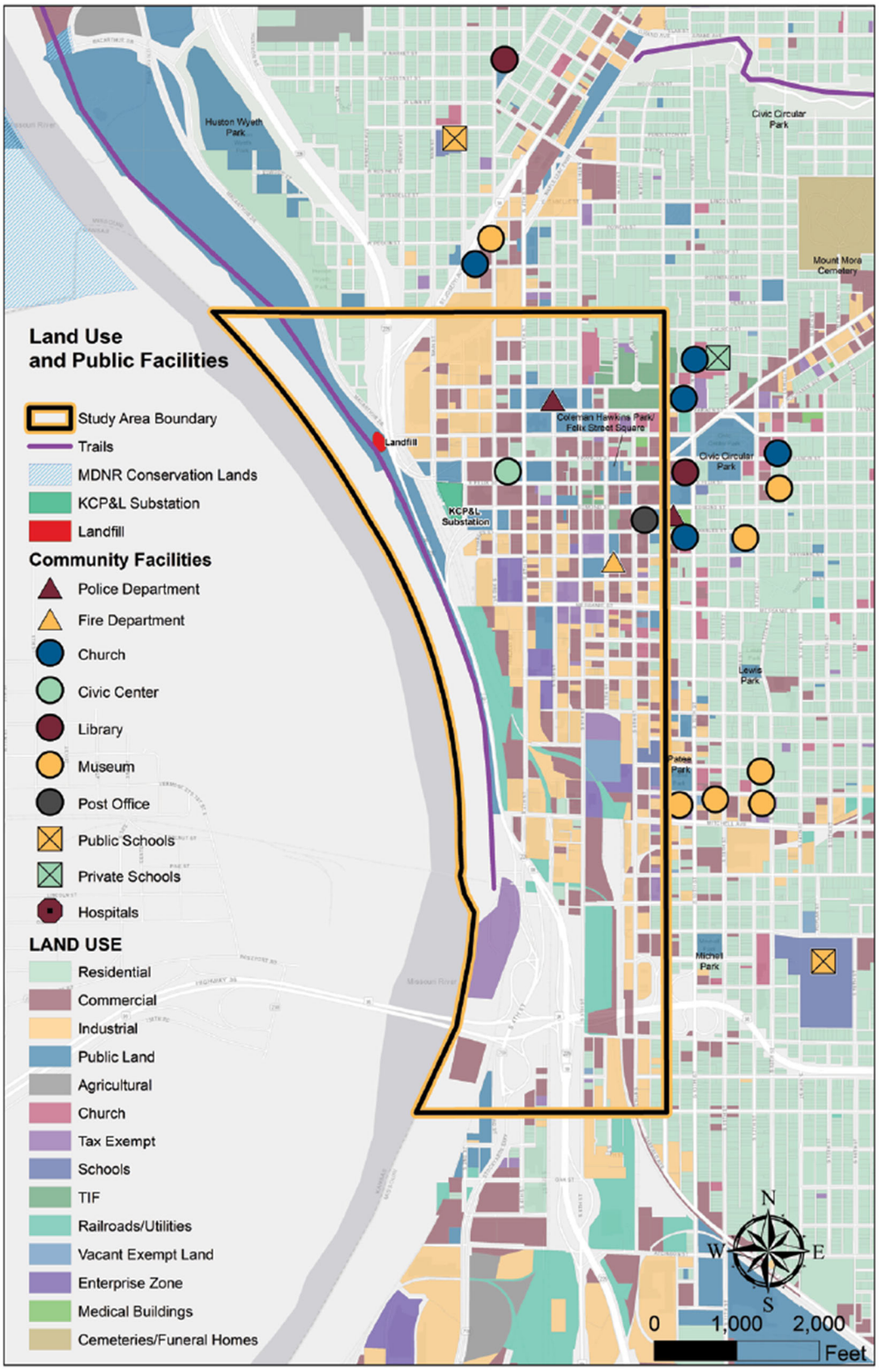
- **No-Build Alternative** - Currently, I-229 passes through the Riverfront Master Plan area as a double-decker elevated interstate highway. I-229's on- and off-ramps connect to downtown via Charles Street, Edmond Street, Felix Street, and Francis Street. The double-decker portion of the interstate is situated between the riverfront and the existing Burlington Northern Santa Fe (BNSF) railroad tracks; it passes directly over the parking lot, destination playground, and public space shown in the proposed Robidoux Landing improvements. The authors of the Master Plan document did not consider the presence of the I-229 bridge to be an impediment to the proposed riverfront improvements, stating that "Robidoux Landing has been programmed/designed in such a way that the key elements are capable of existing with or without the elevated highway." However, there would be some obvious drawbacks should it remain.
- **Recommended Preferred Alternative** - The Recommended Preferred Alternative proposes I-229 be reconstructed along its existing corridor at ground level where feasible. A bridge would be provided on the north just west of the railroad to provide a connection to I-229 to the north. Unlike the No-Build Alternative, the resultant space left by the removal of the double-decker bridge would not provide adequate space for the proposed construction of the Riverfront improvements in the Study Area (Section E). As indicated, this potential impact has been vetted with the city staff and at a public meeting and, based on the low probability of those improvements being made, was deemed an acceptable impact of the Recommended Preferred Alternative.

### 3.1.2 Community Facilities and Emergency Services

There are three public facilities within the Study Area (Figure 3-3). The St. Joseph Police Department Law Enforcement Center is located at 5th and Faraon Streets. The St. Joseph Fire Department Headquarters building is located on 7th Street within the Study Area. There is also a

Figure 3-3

## Land Use



community facility within the Study Area, and that is the St. Joseph Civic Arena, a 3,800-seat multipurpose arena. There are no schools or hospitals located within the Study Area.

- **No-Build & Recommended Preferred Alternatives** - No community facilities or services would be affected by either the No-Build or Recommended Preferred Alternative.

### 3.1.3 Bicycle and Pedestrian Systems

The St. Joseph Riverwalk, the only existing trail in the Study Area, is a 2.3-mile-long concrete trail that begins at Heritage Park, connects Riverfront Park and south to Robidoux Landing. The St. Joseph Riverwalk follows along the eastern bank of the Missouri River (Figure 3-4) and adjacent to I-229 between McArthur Drive and approximately Sylvanie Street. There is a covered trailhead shelter that serves as the south entrance to the trail just north of the old riverboat landing area. South of this trailhead there are trail remnants that have not been maintained and a dead-end south of the landing area at a chain link fence. No access is allowed south of this fencing.

In 2019, the St. Joseph Area Transportation Study Organization published their "2045 Metropolitan Transportation Plan" that outlined the communities non-motorized investment focus areas. That plan built upon the 1995 "St. Joseph Metropolitan Area - Bicycle & Pedestrian Masterplan". In the 2019 plan, the community identified a desire to better connect downtown to the Riverwalk Trail (p.53). Both plans also identified a desire to extend the Riverwalk Trail south of Blacksnake Creek (Figure 3-5) along the Missouri River to the western city limits.

The No-Build and Build Alternatives would impact the Riverwalk Trail in the following ways:

- **No-Build Alternative** - The current configuration of I-229, with its tangle of bridges and ramps, complicates pedestrian access to the existing Riverwalk Trail - an area that is already hard to get to because of the at-grade BNSF rail crossing. The current trail, in part resulting from the location of the double-decker bridge, south of the trailhead has essentially been abandoned and needs to be upgraded. Based on conversations with local downtown advocates, the presence of the bridge has been and will continue to be a deterrent to making needed improvements in this area. The No-Build alternative would also make it impossible to connect the existing trail to the south as planned because of the limited land available between the river, bridge, and railroad tracks.
- **Recommended Preferred Alternative** - The Recommended Preferred Alternative, as proposed, would potentially impact the segment of trail south of the trailhead shelter, past the old riverboat landing to the chain link fence. It also could potentially impact the existing trailhead shelter. The trail from the trailhead shelter north across Blacksnake Creek toward the Nature Center would not be impacted. In addition, future plans to

extend the existing trail south would likely not be an option because of the limited land available between the river, bridge and railroad tracks.

Figure 3-4

Existing Riverfront Trail

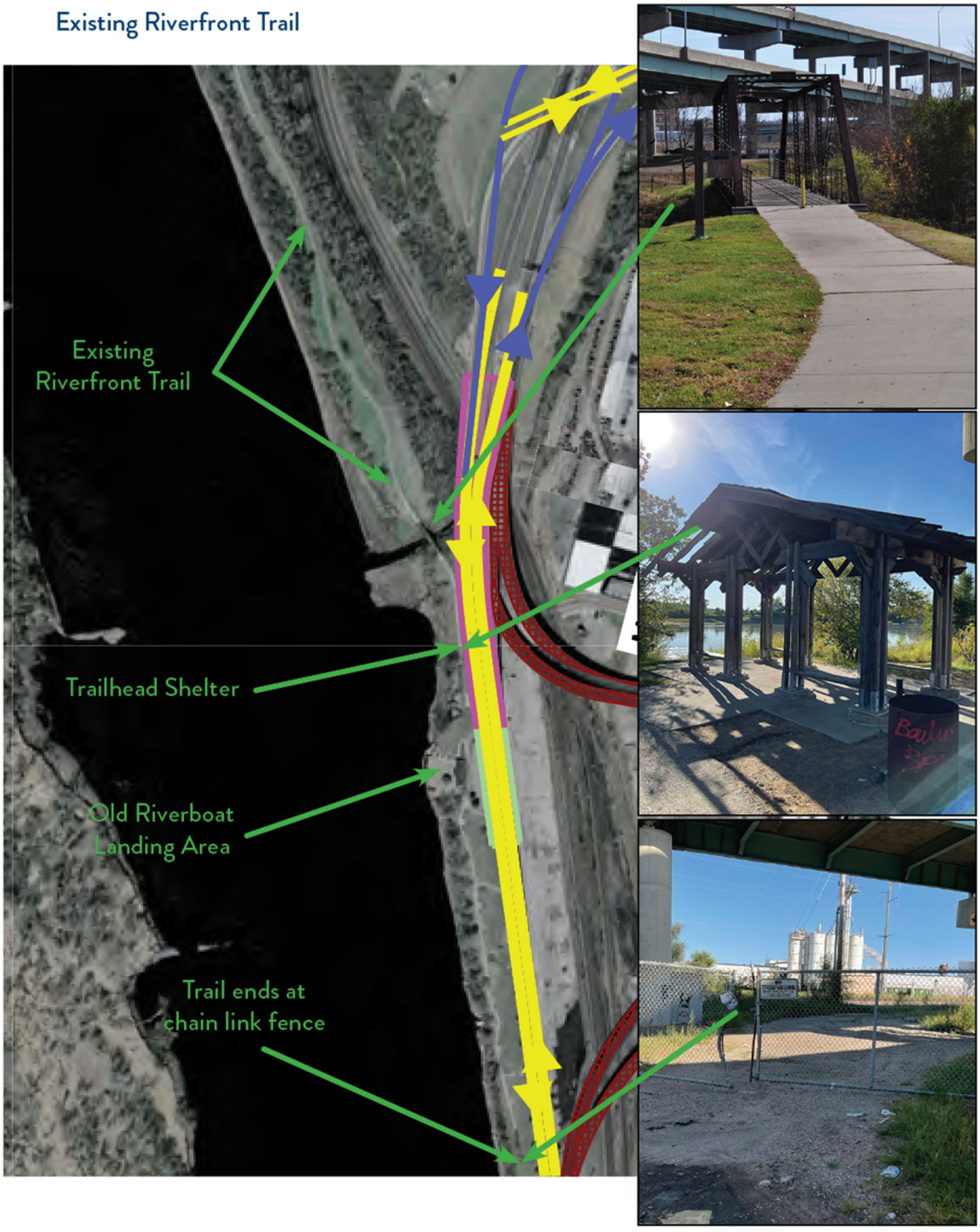
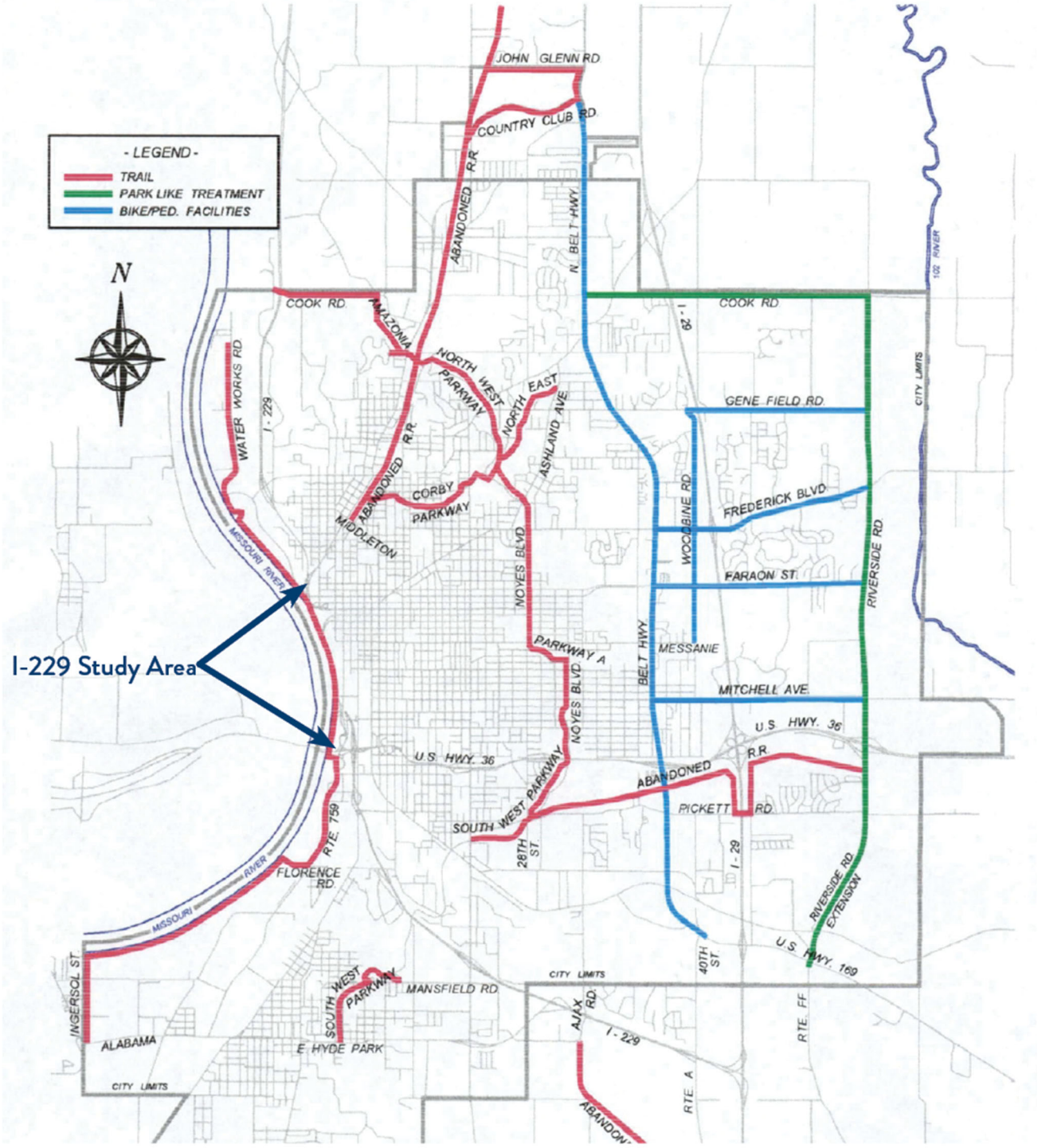


Figure 3-5

## Bicycle & Pedestrian Trail Masterplan




*St. Joseph Metropolitan Area - Bicycle & Pedestrian Masterplan*

- **MoDOT Commitment** - To mitigate the potential impact to the existing Riverwalk Trail, and potential expansion south, MoDOT is committed to including trail improvements if designed as a traditional design-bid-build project or including incentives and/or requirements to the design-build team if constructed using the design-build process. Those commitments would include:
    - Replacing the existing trailhead shelter with at least a compatible, if not improved structure.
    - Improving the pedestrian connection between Francis Street, across the BNSF tracks, to the southern trailhead.
    - Providing opportunities for parking in proximity to the trailhead.
    - Investigating options for upgrading the trail south of the existing trailhead to potentially connect south of its current termini.

*The Build Alternative will impact the existing Riverfront Trail south of Blacksnake Creek. Mitigation measures that have been incorporated into the project commitments include:*

- *Replacing the existing trailhead shelter with at least a compatable, if not improved structure.*
- *Improving the pedestrian connection between Francis Street, across the BNSF tracks, to the southern trailhead.*
- *Providing opportunities for parking in proximity to the trailhead.*
- *Investigating options for upgrading the trail south of the existing trailhead to potentially connect south of its current termini.*

## 3.2 Socioeconomic & Community Impacts

As discussed in Section 3.1, the existing bridge is in an area that is primarily industrial and commercial with pockets of residential within the north and east portions of the Study Area. Demographic data for the residential population within the greater project vicinity is presented below, including data on population, race and ethnicity, employment, and income.

Included in the Study Area are portions of Census Tracts 12, 30.01 and 30.02. Within these three Census Tracts, there are five block groups that fall within the Study Area.

### 3.2.1 Population Trends

In looking at population and demographic information, it is important to compare the project location to other geographies. For this project, that means looking at the State of Missouri, Buchanan County, and the city of St. Joseph. Census data is also broken down by census tracts and the Study Area includes Census Tract 12 and 30.

The rate of population growth within St. Joseph and Buchanan County was less than the statewide averages since 2000. Where Missouri's population grew at around seven percent between 2000 and 2010, and then an additional two percent between 2010 and 2020, Buchanan County and St. Joseph both experienced population loss of over one percent. The census tracts

within the Study Area experienced an increase between 2000 and 2020. The population in Census Tract 12 increased over eight percent from 2000 to 2010 and increased nearly eight percent again from 2010 to 2020. Census Tract 30 increased about three percent in population from 2000 to 2010, followed by a small increase of about one half of a percent from 2010 to 2019. For the 2020 Census, Census Tract 30 was divided into two tracts, so the population was only considered through 2019.

According to the St. Joseph Area 2045 MTP, the population of Buchanan County in 2045 is estimated to be 99,000. This reflects a more than 12 percent increase in population (Figure 3-6).

### 3.2.2 Race and Ethnicity

Table 3-1 presents socio-economic data related to race, poverty and elderly populations.

- **Minority Populations.** Buchanan County and St. Joseph have minority populations of 14 and 15 percent respectively. Tract 12 Block Group 1, Tract 12 Block Group 2, and Tract 30.02 Block Group 2 all have minority populations (Figure 3-7).
- **Low Income Populations.** Tract 30.02 has a population of persons below poverty around 33 percent, Tract 30.01 is at nearly 32 percent, while Tract 12 is at 25 percent. St. Joseph's population of persons below poverty is 17 percent, while the county and statewide populations are even lower (Figure 3-8).
- **Elderly Populations.** Tract 12 has an over 65 years of age population of 15 percent. This is consistent with city, county, and statewide populations. Tracts 30.01 and 30.02 are lower, at 12 percent and 10 percent respectively.

### 3.2.3 Income and Employment

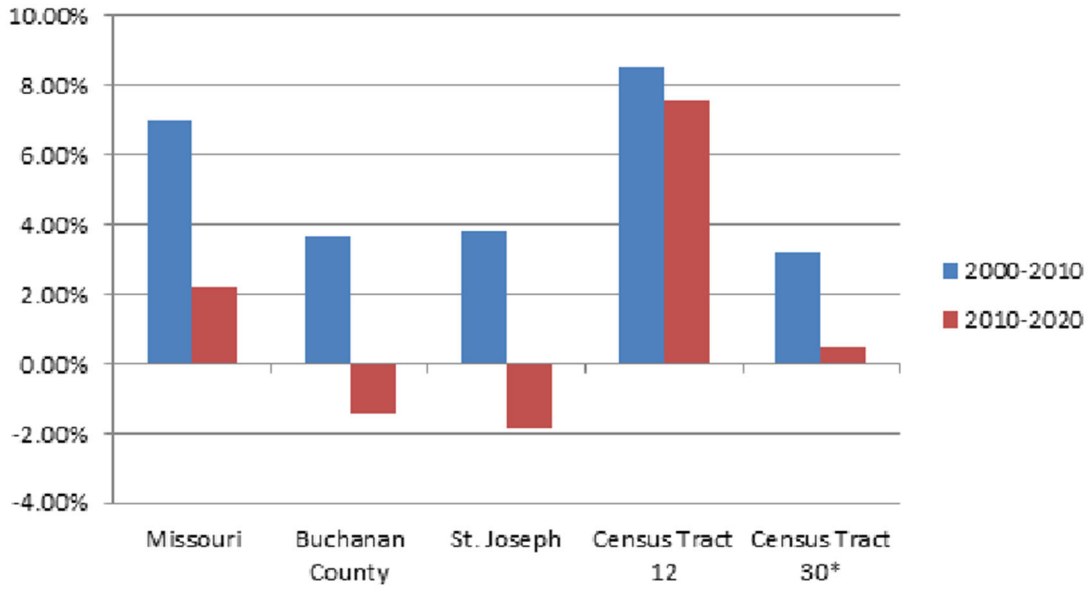
Based on the U.S. Census Bureau's 2016-2020 ACS 5-Year Estimates, the percent of the civilian labor force that is unemployed within the Study Area census tracts ranges from four percent to over 18 percent (Table 3-2). The highest percentage of unemployed workers is within Census Tract 30.01 which runs along the river through the Study Area. Census Tract 30.01 has a higher percentage of unemployed civilians than Missouri, Buchanan County and St. Joseph. In contrast, Census Tracts 12 and 30.02 have an equal to or less than percentage of unemployed civilians than Missouri, Buchanan County and St. Joseph. The population below the poverty level ranges from 25 to 33 percent and is higher than the state, county and city levels which range from 13 to 17 percent.

The most common employment categories within the Study Area census tracts include:

- Manufacturing
- Educational Services & Health Care & Social Assistance
- Retail Trade
- Arts Entertainment & Recreation & Accommodation & Food Services

Figure 3-6

## Population Trends




*Source: U.S. Census Bureau 2000, 2010, ACS Profile 2016-2020*

**Census Tract 30 only reflects population change through 2019. During the 2020 Census Tract 30 was divided into two census tracts.*

Table 3-1

## Population, Race and Poverty

| | Missouri | Buchanan County | St. Joseph | Tract 12 | Tract 30.01 | Tract 30.02 | Census Tract 12, Block Group 1 | Census Tract 12, Block Group2 | Census Tract 30.01, Block Group 1 | Census Tract 30.01, Block Group 2 | Census Tract 30.02, Block Group 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Population | 6,124,160 | 87,904 | 75,369 | 1,908 | 3,649 | 2,817 | 1,165 | 743 | 1,763 | 895 | 1,578 |
| White | 81.3% | 86.0% | 84.7% | 65.3% | 93.4% | 68.9% | 61.7% | 70.8% | 96.4% | 89.8% | 63.5% |
| Black or African American | 12.6% | 4.8% | 5.6% | 16.1% | 4.0% | 6.3% | 14.4% | 18.7% | 3.0% | 4.8% | 11.3% |
| Hispanic | 4.3% | 6.5% | 7.1% | 19.3% | 1.3% | 14.4% | 9.8% | 6.7% | 6.5% | 13.0% | 12.4% |
| American Indian/Alaskan Native | 0.4% | 0.4% | 0.4% | 1.5% | 0% | 0% | 3.8% | 0.3% | 0% | 0% | 0% |
| Asian | 2.0% | 1.3% | 1.5% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Native Hawaiian | 0.1% | 0.6% | 0.7% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Two or More Races | 3.5% | 4.8% | 4.9% | 3.1% | 2.6% | 17.5% | 6.7% | 3.2% | 0.6% | 5.4% | 12.4% |
| Persons Below Poverty | 13.0% | 15.7% | 16.9% | 25.3% | 31.8% | 33.4% | 11.5% | 38.6% | 19.5% | 28.4% | 24.7% |
| 65 Years and Over | 16.9% | 16.2% | 15.9% | 15.4% | 12.2% | 10.2% | 14.8% | 16.2% | 7.5% | 11.1% | 9.8% |

*Source: ACS Profile 2016-2020*

Figure 3-7

## Minority Populations

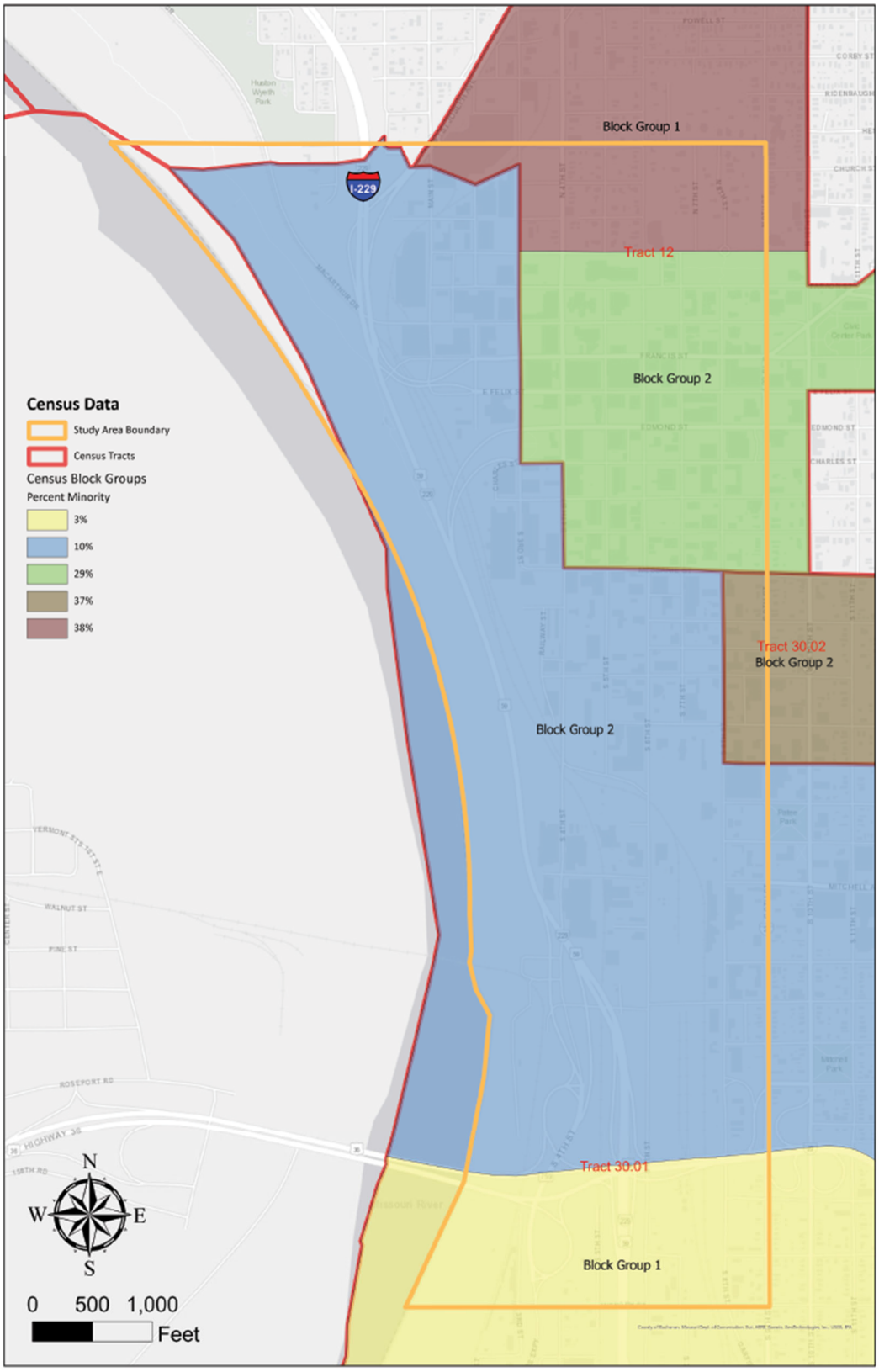


Figure 3-8

## Low-Income Populations

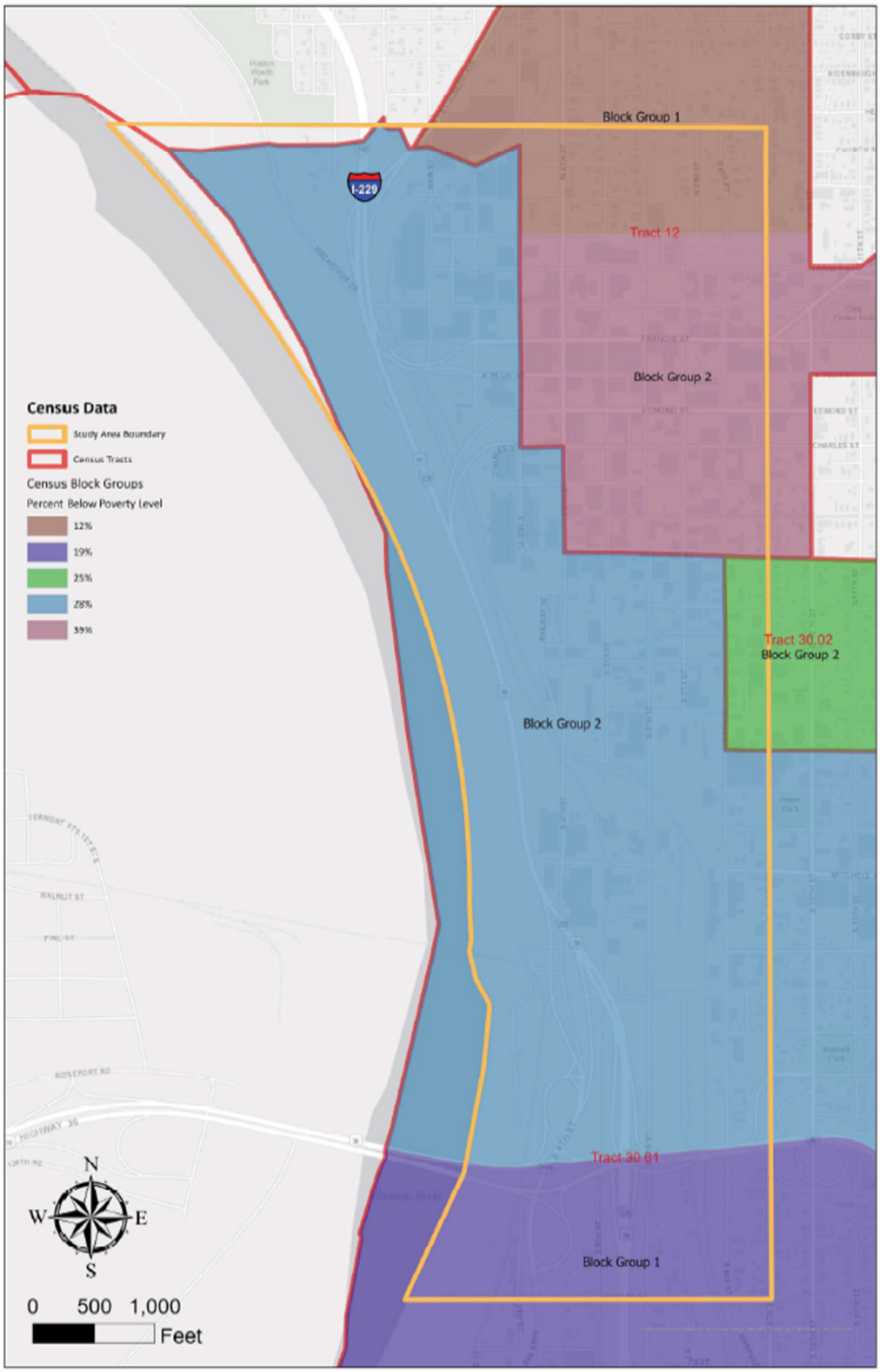


Table 3-2

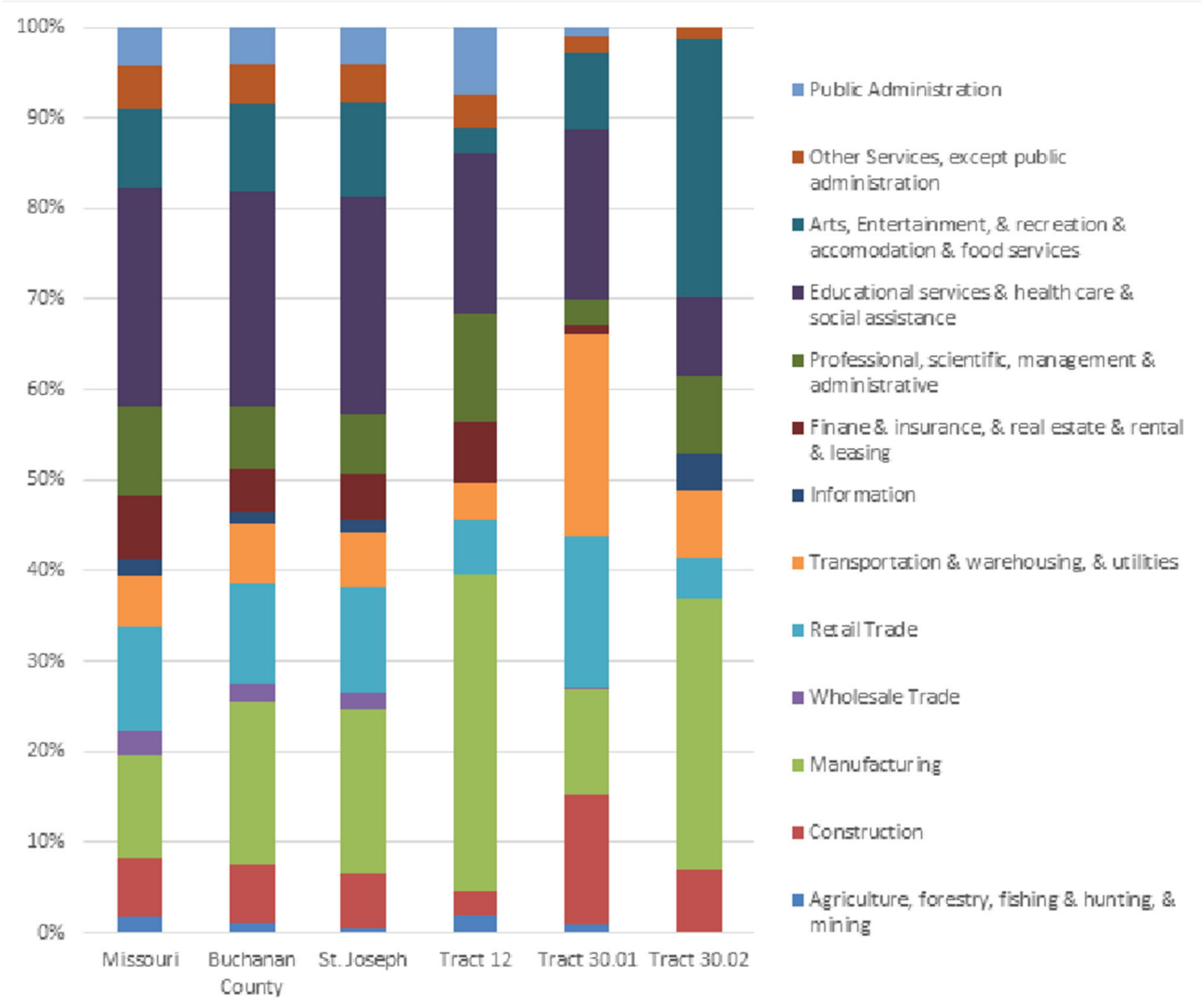
## Economic Indicators (2020)

| | Civilian Labor Force | Percent Civilian Unemployed | Median Household Income | Percent of Population Below Poverty |
|---|---|---|---|---|
| Missouri | 3,071,591 | 4.5% | $57,290 | 13.0% |
| Buchanan County | 42,476 | 4.9% | $51,933 | 15.7% |
| St. Joseph | 36,133 | 5.1% | $48,716 | 16.9% |
| Tract 12 | 890 | 4.5% | $29,128 | 25.3% |
| Tract 30.01 | 1,522 | 18.6% | $29,056 | 26.4% |
| Tract 30.02 | 1,332 | 4.3% | $31,692 | 33.4% |

*Source: ACS Profile 2016-2020*

Figure 3-9

## Employment by Classification and by Geography



These categories also rank high at the state, county, and city levels. Also of note, manufacturing has a higher percentage of employment within the Study Area census tracts than at the state, county, and city levels. In opposition to that category, employment in Wholesale Trade is not an area of employment for those in the Study Area census tracts.

### 3.2.4 Economic Growth and Development

St. Joseph has a robust economy that is fueled by a variety of factors, including a diversified employment base, a superb Midwest location boasting convenient access to multi-dimensional transportation resources, a quality workforce, and a diverse range of business clusters that is unique to a city of St. Joseph's size. Figure 3-9 (previous page) shows the breakdown of employment by classification and by geography. More details on the St. Joseph economy can be found in Technical Memorandum 7 - Business Inventory and Technical Memorandum 8 - Economics & Freight.

The city's largest employers include Mosaic Life Care, Triumph Foods, St. Joseph School District, the 139th Airlift Wing of the Missouri Air National Guard, Boehringer Ingelheim Vetmedica, American Family Insurance, Missouri Western State University, Wal-Mart, City of St. Joseph, and Tyson Foods, some of which are found within St. Joseph's business clusters. These business clusters are predominantly located outside of the Study Area. It was found during analysis of these business clusters that total employment of the largest businesses within them exceeds an estimated 15,000 workers who help drive the regional economy.

Within the Study Area are hundreds of businesses that also support St. Joseph's economy. The focus of the analysis was on the major employers within the Study Area, which are found in industries such as manufacturing, construction, transportation and warehousing, and wholesale trade.

A few of the largest employers in the Study Area include News Press and Gazette Co; Hillyard, Inc.; IHP Industrial, Inc.; and RS Electric Corporation. Total employment of these and other major employers in the Study Area is estimated at more than 1,300 workers, with total annual sales estimated between $130 million and $310 million.

### 3.2.5 Right of Way Acquisition

Among the various impacts of the construction of a highway or other major transportation improvement projects is the acquisition of real property, including residences and businesses. In an effort to make the property acquisition process as equitable as possible, regulations including the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. 4601) and the MoDOT's relocation program and relocation advisory assistance program which satisfies the requirements of Title VI of the Civil Rights Act of 1964,

have been developed to ensure adequate consideration and compensation for the persons whose property is required for the project.

The right of way acquisition impacts include land that is acquired for highway construction and operation purposes. Right of way impacts include both total acquisition (i.e. the entire tract, parcel or lot is acquired for right of way) and partial acquisition (i.e. only a portion of the tract, parcel or lot is acquired for right of way). With a partial acquisition, a habitable residence or viable commercial business would remain, and the primary structure is not acquired.

### 3.2.6 Environmental Justice & Title VI Considerations

Executive Order 12898, entitled Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, issued in 1994, directs Federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of Federal projects on the health or environment of minority and low- income populations to the greatest extent practicable and permitted by law.

FHWA Order 6640.23A, issued June 14, 2012, defines a minority or low-income population as any readily identifiable group of minority or low-income persons who live in close geographic proximity to the proposed action. The FHWA Order defines “minority” as a person who is Black, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, or Hispanic or Latino. The FHWA Order defines “low-income’ as a person whose median household income is at or below the Department of Health and Human Services poverty guidelines.

### 3.2.7 Community Cohesion

Community cohesion considers likely changes to neighborhoods or community social groups. It also includes considerations of proposed impacts to school districts, recreation areas, churches and businesses. The construction of the original double-decker structure along the Riverwalk disrupted the connection of St. Joseph with the Missouri River.

### 3.2.8 Socioeconomic or Community Impacts

Neither the No-Build nor Recommended Preferred Alternative will result in the displacement of any business or residential building and, therefore, neither alternative is expected to have significant impacts. There will be either partial or full property takings with the Recommended Preferred Alternative but generally limited to property between the BNSF railroad and the Missouri River, none of which has existing buildings.

In addition, neither the No-Build nor Recommended Preferred Alternative will impact any minority, low income or elderly population and, therefore, would not have any Environmental Justice or Title VI implications.

More specifically, the No-Build and Recommended Preferred Alternatives would have the following socioeconomic and community impacts:

- **No-Build Alternative** - There are limited to no anticipated socioeconomic or community impacts from the No-Build Alternative. The existing I-229 users will change their routes when I-229 eventually deteriorates to the point of closure. The daily commuters will likely use the local street network to commute to and from work. The existing Study Area through traffic will use the local street network through downtown or travel to I-29 to continue their route.
- **Recommended Preferred Alternative** - The Recommended Preferred Alternative, because it generally follows the existing I-229 alignment, will result in limited to no socioeconomic or community impacts. There will be some partial right of way takings between the BNSF railroad and the Missouri River that potentially includes reviewing/updating existing access and air rights agreements with the BNSF.

  Community impacts would be limited to construction-related activities that would temporarily impact local businesses because of noise, dust/air quality, traffic detours, or vehicle emissions. These impacts have the potential to temporarily reduce economic activity near the construction area. The Recommended Preferred Alternative is not expected to have any new severances or disruptions to existing neighborhoods.

  There are identifiable areas of minority and low-income persons in the Study Area. There have been multiple public meetings held adjacent to the Study Area over the course of the development of the purpose and need and alternatives. The public meetings have been advertised in the local newspaper, social media announcements, and emails to the project contact list.

  As stated above, there are no residential populations being displaced by the Recommended Preferred Alternative. No established low-income units or other housing complexes associated with government assistance would be displaced. No minority neighborhoods, business districts, or business clusters catering to any group or minority population would be displaced. Based on the above discussion, analysis, and public involvement, the Recommended Preferred Alternative will not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of E.O. 12898 and FHWA Order 6640.23A. No further environmental justice analysis is required.
- **MoDOT Commitment -** MoDOT shall acquire all properties needed for this project in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 as amended (Uniform Act; 42 USC 4601), and other regulations and policies as appropriate.

## 3.3 Air Quality

The Clean Air Act (CAA) requires adoption of air quality standards, quality control regions and state implementation plans. The federal government established the National Ambient Air Quality Standards (NAAQS), to protect public health, safety and welfare from known or anticipated effects of sulfur dioxide, particulate matter, carbon monoxide, nitrogen dioxide, ozone, and lead. The State of Missouri established additional criteria for hydrogen sulfide and sulfuric acid. Transportation can contribute to four of the six NAAQS pollutants: ozone, carbon monoxide, particulate matter, and nitrogen dioxide.

**Transportation Conformity** - Transportation conformity with the NAAQS, as required by the CAA, ensures that federally funded or approved transportation plans, programs and projects conform to the air quality objectives established in State Implementation Plans (SIPs). The project is in an area currently in attainment indicating that current air quality conditions are in compliance with the NAAQS for the aforementioned pollutants. Therefore, the conformity requirements of 40 CFR Part 93 do not apply to this project and no further action is needed. In addition, the project will be included in MoDOT's State Transportation Improvement Program (FY 24-29), thereby meeting the requirements of 40 CFR Part 93 for transportation conformity.

**Mobile Source Air Toxics** – USEPA also regulates air toxics, Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the CAA. The MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted into the air when the fuel evaporates or passes through the engine unburned. Other toxins are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

An investigation for MSATs is required for any project that has sensitive land uses within 500 feet of the project area and the project involves adding capacity, adding a new interchange, constructing a new road alignment, or expanding an intermodal center. FHWA's Interim Guidance Update on MSAT analysis identified that for projects that are categorically excluded under 23 CFR 771.117(c), those that are exempt from conformity requirements under the CAA pursuant to 40 CFR 93.126, or other projects with no meaningful impacts on traffic volumes or vehicle mix, no analysis or discussion of MSATs is necessary.

The purpose of this project is to determine the most efficient long-term option for I-229, between US Route 59 and US Route 36, while addressing mobility, accessibility, and safety. This project has been determined to generate minimal air quality impacts for CAA criteria pollutants and has not been linked with any special MSAT concerns. This project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in MSAT impacts of the project from that of the No-Build Alternative.

USEPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with USEPA's MOVES3 model forecasts a combined reduction of over 76 percent in the total annual emissions rate for priority MSAT from 2020 to 2060 while vehicle-miles of travel are projected to increase by 31 percent[1]. This will reduce the background level of MSAT as well as the possibility of even minor MSAT emissions for this project. **Particulate Matter (PM) Hot-Spot Conformity Determination** - Within the particulate matter non-attainment or maintenance areas, a transportation project sponsor must determine if a proposed major transportation project would be considered a "project of air quality concern." A project of air quality concern usually involves either large traffic volumes and/or significant diesel traffic (i.e., bridge, bus, or rail terminals). If a project were deemed a project of concern, such a major transportation facility would require a project-level PM hot-spot conformity determination.

However, since the project is in an area of attainment, a determination of a project air quality concern or a PM hot-spot conformity determination is not necessary.

## 3.4 Noise

MoDOT's Noise Policy is derived from the FHWA noise policy. These policies require that potential noise effects be considered for Type I projects. Type I projects involve construction of new highways or new alignments, lane additions, or significant changes in vertical or horizontal alignments of existing facilities.

The FHWA has determined Noise Abatement Criteria (NAC) for different land uses (Table 3-3). The Study Area is predominantly commercial or industrial, with a sparse residential area and parkland (parkland is located between I-229 and the Missouri River) near the northern terminus. Since the project has a small number of receptors and is in a mostly urban land use only one Noise Sensitive Area (NSA) was identified which encompasses the entire Study Area. The land uses associated with NAC Activity Categories within the NSA include B and C. Only receivers within 500 feet of the proposed roadway were included, as sufficient evidence indicates the Traffic Noise Model (TNM) software is not reliable beyond this distance.

A change in vertical or horizontal alignment, which would be part of the Recommended Preferred Alternative, is considered significant if it causes a highway noise increase of at least three decibels, roughly the threshold at which the human ear can perceive a change in noise levels. Normally halving the distance between a noise source (i.e., the roadway) and a noise receiver (i.e., a residence) causes a three-decibel increase in noise level.

[1] Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, January 18, 2023

Table 3-3

## Noise Activity Categories

| Activity Category | Activity Criteria (dBA)a | | Evaluation Location | Activity Description |
|---|---|---|---|---|
| | Leq(h)b | L10(h) | | |
| A | 57 | 60 | Exterior | Lands on which serenity and quiet are extraordinary significance and serve an important public need and where the prevention of those qualities is essential if the area is to continue to serve its intended purpose |
| B | 67 | 70 | Exterior | Residential |
| C | 67 | 70 | Exterior | Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails and trail crossings |
| D | 52 | 55 | Interior | Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and televisions studios |
| E | 72 | 75 | Exterior | Hotels, motels, offices, restaurants, and other developed lands, properties or activities not included in A through D or F |
| F | -- | -- | -- | Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical) and warehousing |
| G | -- | -- | -- | Undeveloped lands that are not permitted for development |

*(a) dBA = A-weighted decibels, Leq(h) = the hourly equivalent steady-state sound level, L10(h) = the hourly sound level exceeded 10 percent of the time*
*(b) Within this study, the Leq(h) will be analyzed.*
*Source: MoDOT Noise Policy 2016*

Because the project meets the established criteria above (construction of new highway, proximity to a park/trail, and change in vertical alignment), a noise analysis was included and detailed in Technical Memorandum 14 - Noise. Based on that analysis, the No-Build and Recommended Preferred Alternatives would impact noise in the following ways:

- **No-Build Alternative** - The current configuration of I-229 would not result in a change in vertical geometry and not increase traffic using I-229 and, therefore, would not result in an increase in noise along the corridor. If the facility was eventually closed, then that traffic would be diverted to nearby city streets and could result in additional noise impacts to noise receptors in the downtown.
- **Recommended Preferred Alternative** - A total of 38 receivers were identified within the Study Area (including the three validation points) and were evaluated for noise impacts. Two receivers had sound level impacts. No receivers were found to have an increase of 15 dBA over existing noise levels. Noise abatement was not considered feasible because, per MoDOT noise policy, at least a 5 dBA insertion loss for a minimum of two first-row impacted receivers is required for noise abatement to be considered feasible. The two impacted receptors are separated by the highway and are not in the same residential cluster. Therefore, since the two receptors are separated, they would not meet MoDOT noise policy to assess for a barrier.
- **Construction Noise** - As required by 23 CFR 772.19, the temporary increase in noise levels due to construction was also considered. These noise impacts will take place in the

immediate vicinity of the construction activities and generally be limited to working hours. MoDOT construction specifications require all construction equipment to be in good working order. Mufflers are required to help reduce and address construction noise impacts. Interference with speech communication for those passing by, working, or living near the construction sites is to be expected. Because of the distance of the construction areas to the NSA and the hours of equipment use, noise impacts due to construction are expected to be minor and to occur infrequently.

- **MoDOT Commitment –** MoDOT will ensure that if during the Design-Build process, changes are made that would require a new analysis of the need for noise abatement, the MoDOT Noise Policy will be used to address any noise impacts. For locations where noise walls are feasible and reasonable, MoDOT will discuss noise wall locations and provide benefited residents an opportunity to vote on whether they would like a noise wall.

## 3.5 Water Quality

### 3.5.1 Surface Water

Water quality is defined for a particular body of water by comparing the physical, chemical, and biological characteristics of the water with a set of standards. The EPA set water quality standards based on water usage. Under Section 303(d) of the federal Clean Water Act, each state is required to identify waters not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole-body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock, and wildlife. The Missouri River is listed on the EPA-approved Missouri 2018 303(d) List as an impaired water body. The portion classified as impaired extends for 184.50 miles from Atchison to Jackson County. The pollutant of concern in this stretch of the Missouri River is Escherichia coli (E-coli) which affects river use for secondary contact and whole-body contact recreation.

Section 402 of the Clean Water Act provides for the regulation of pollutant discharges into waters of the U.S. The EPA has authorized states to issue permits under the National Pollution Discharge Elimination System (NPDES) program provided under Section 402. For this project, the Missouri Department of Natural Resources (MDNR) has primary responsibility for regulating pollution discharges resulting from construction activities within the Study Area through the issuance of NPDES permits. Water quality is also regulated at the state level under Section 401 of the Clean Water Act. Water quality certifications are issued in conjunction with Section 404 permits issued by the U.S. Army Corps of Engineers (USACE) for the placement of dredged or fill materials in wetlands and/or waters of the U.S., as described in Section 3.7.

### 3.5.2 Groundwater

The Study Area crosses an unconfined alluvial aquifer located along the Missouri River. The Missouri River floodplain is underlain by deposits of clay, silt, sand, gravel, cobbles, and boulders. These deposits lie atop shale, limestone, and sandstone bedrock that form the alluvial aquifer. Within the Study Area and project vicinity, groundwater generally flows towards the Missouri River. Many Missouri municipalities (including St. Joseph) depend on the alluvial aquifers found along the Missouri River for their drinking water supply. There are no public water supply wells within or adjacent to the Study Area.

### 3.5.3 Water Quality Impacts

The No-Build and Recommended Preferred Alternative would have the following water quality impacts:

- **No-Build Alternative** - Existing water quality conditions would continue under the No-Build Alternative. Road and bridge maintenance would continue, resulting in periodic and short-term decreases in local surface water quality as the result of paving or surface grinding activities and application of roadway deicing compounds during severe winter weather. These pollutants would be carried in stormwater runoff from the bridge and adjacent roadway network resulting in a potential short-term increase in pollutant load to nearby water resources. Continued use of the existing bridge and roadway network would not change the potential for traffic incidents that could result in the accidental release of chemicals or petroleum products that would affect water quality.
- **Recommended Preferred Alternative** - The Recommended Preferred Alternative would result in the removal of the double-decker bridges, piers, and abutments, and construction of new roadway and bridge improvements. Construction related impacts to water quality would be primarily the result of stormwater runoff. Water quality impacts resulting from construction of the new project and removal of the existing bridges would be relatively short-term due to the nature of the construction process.

  Bridge construction at the river's edge makes it possible for soil to wash into the Missouri River. Over time, increased amounts of sediment can damage the river ecosystem by lowering oxygen levels and covering food sources and fish spawning areas. Without on-site pollution controls, sediment-laden runoff from construction sites could flow directly to the river and degrade water quality. In addition, stormwater could pick up other pollutants such as concrete washout, paint, used oil, pesticides, solvents, or other debris potentially harming or killing fish and wildlife, degrading aquatic habitat, and affecting drinking water quality.

  The Recommended Preferred Alternative would essentially result in the same amount of stormwater runoff after construction as under the current conditions. There would be no

change in the methods or compounds used to de-ice the bridge and roadway surfaces in the Study Area once the project is completed. Use of these chemicals takes place primarily during wet seasons when the precipitation acts to reduce their concentration.

No groundwater contamination is anticipated because of construction activities. Accidental spills of fuels or hazardous chemicals could occur during construction. The contractor will be required to minimize the potential for spills and accidental releases through development and implementation of spill prevention plans and responding quickly to spills when they occur. The Recommended Preferred Alternative is not expected to cause further E-coli impairment of the Missouri River.

- **MoDOT Commitment** - To protect water quality and reduce impacts during and after completion, construction of the new roadway and bridge shall be completed in conformance with Missouri State Operating Permit (MOR100). MoDOT will require the contractor to implement Best Management Practices (BMPs) to prevent erosion and provide sediment and stormwater management during construction. These measures are described in Section 3.16.
- **MoDOT Commitment** - MoDOT shall ensure in accordance with the requirements of the NPDES program, the contractor will be required to develop a project-specific Stormwater Pollution Prevention Plan (SWPPP) to describe the BMPs to be implemented during construction. The SWPPP would include MDNR approved components to reduce suspended solids, turbidity, and downstream sedimentation that may degrade water quality and adversely impact aquatic life.
- **MoDOT Commitment -** MoDOT shall adhere to the municipal TS4 permit and consideration of permanent BMPs, applicable at the time of construction.

## 3.6 Wetlands & Waters of the US

Wetlands serve a variety of beneficial uses such as floodwater retention, groundwater recharge, and providing essential fish and wildlife habitat. Executive Order (EO) 11990, Wetlands Protection, established a “no net loss policy” requiring federal agencies to avoid destruction or modification of wetlands unless there are not practicable alternatives, and all practicable measures to minimize harm to wetlands have been implemented. Missouri’s EO 96-03 calls for similar wetland protection at the state level. An Only Practicable Alternative Finding in response to EO 11990 would be included in the decision document published by FHWA.

Section 404 of the Clean Water Act authorizes the USACE to regulate impacts to wetlands and waters of the U.S. through a permitting process. Waters of the U.S. is an inclusive term that covers streams, rivers, wetlands, and other aquatic sites that are under the USACE’s jurisdiction. If permanent impacts to wetlands are greater than one-tenth of an acre, mitigation is generally required as a part of a Section 404 permit.

On January 18, 2023, the USEPA published the final "Revised Definition of Waters of the United States" rule in the Federal Register. Following the May 2023 Supreme Court decision in the case of *Sackett vs. the Environmental Protection Agency* (Sackett), the USEPA and Department of the Army issued a final rule to amend the January 2023 rule. This rule, issued on August 29, 2023, amended key aspects of the January 2023 rule to conform with the Sackett decision and is, therefore, commonly referred to as the "conforming rule." The conforming rule, which reconciled inconsistencies between the January 2023 rule and the Sackett decision, was published in the Federal Register and became effective on September 8, 2023.

Currently, 23 states are following the conforming rule; however, Missouri is one of 27 states in which this rule is inoperative due to pending litigation. As such, Missouri, along with other states with ongoing litigation, is interpreting the definition of "waters of the United States" in line with the pre-2015 regulatory regime and the Supreme Court's decision in the Sackett case.

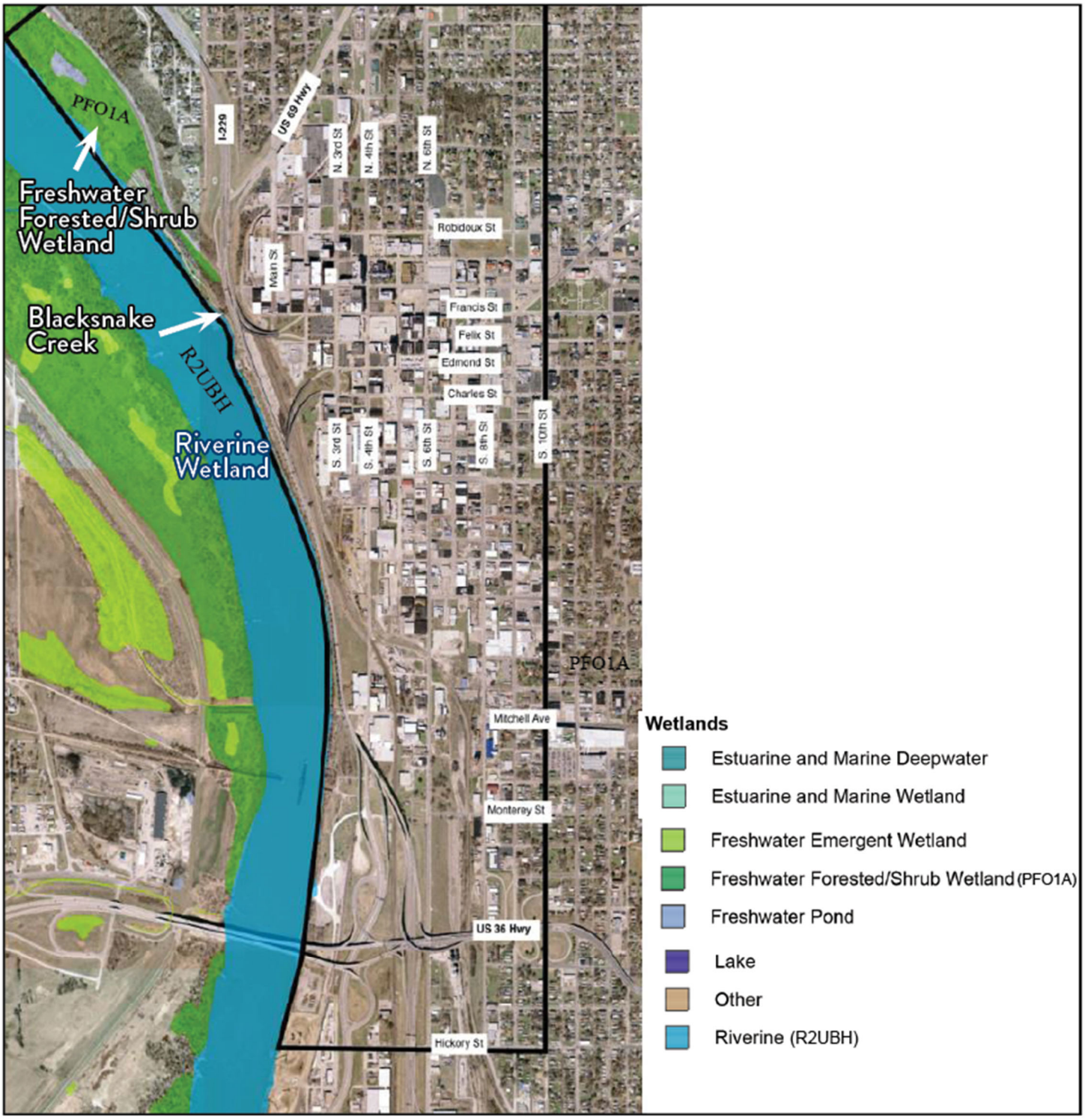
### 3.6.1 Existing Wetlands & Waters of the US

A review of information included National Wetland Inventory (NWI) maps (U.S. Fish and Wildlife Service (USFWS) – Wetland Mapper), and soil maps (NRCS Web Soil Survey). In addition, the NRCS Soil Survey was reviewed for hydric soils and, finally, staff from the study team conducted two site visits to verify the presence of any identified wetlands and/or other potential waters of the US. More details can be found in Technical Memorandum 12 - Ecological Assessment.

- **NWI Identified Wetlands.** Review of USFWS NWI mapping of the Study Area (Figure 3-10) indicates the potential presence of a riverine wetland (R2UBH), the Missouri River, and a forested/shrub wetland (PF01A). The Missouri River flows north to south along the western edge of the Study Area. The forested/shrub wetland is in the northwestern corner of the Study Area with a small finger of the mapped wetland located adjacent to the southern end of McArthur Drive, west of I-229. Blacksnake Creek is predominantly a piped stream channel within the Study Area and is called the Blacksnake Creek Tunnel. The outfall for the tunnel is located within the Study Area north of the railroad crossing on Francis St. at the northwestern end of the downtown. The outfall channel is not mapped as a wetland or stream in the NWI. There are highway bridge piers adjacent to Blacksnake Creek and, even though the creek has not been determined to be a wetland, the creek should be protected and/or avoided during construction.
- **Hydric Soils.** The NRCS Web Soil Survey was reviewed to determine the potential existence of hydric soils. Over 95 percent of the Study Area is not hydric soil. The remaining five percent is rated a 9 on a scale of 0 to 100 for hydric soils. (Figure 3-11).

Figure 3-10

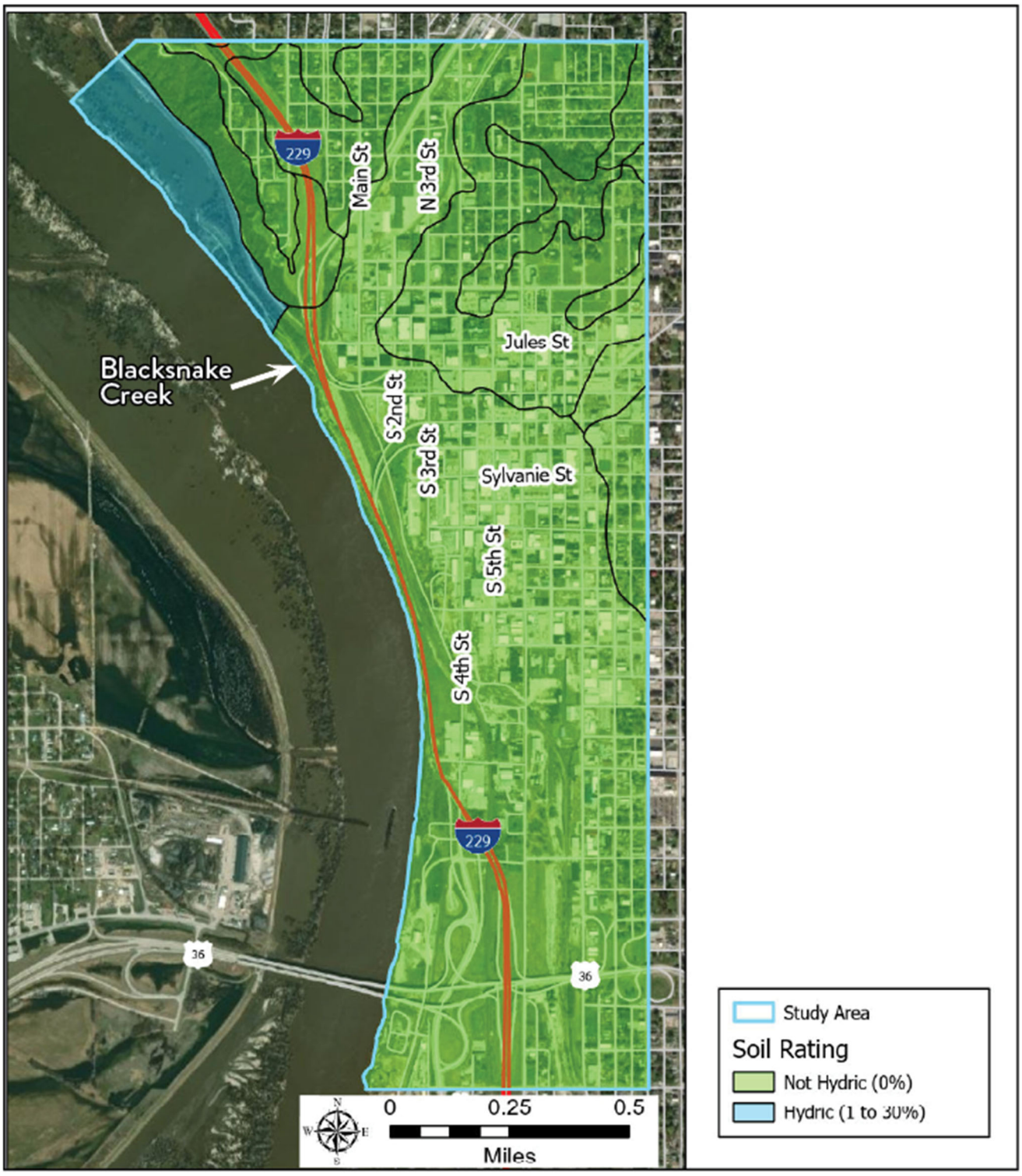
## National Wetland Inventory




*Source: USFWS, National Wetland Inventory, 2019*

Figure 3-11

## Hydric Soils




Source: NRCS, Web Soil Survey, 2019.

- **Site Visit.** A site visit was conducted on June 13, 2019, to assess existing conditions and the potential presence of wetlands and other waters of the US within the Study Area. The 2019 spring was unusually wet and resulted in an extended period of flooding along the Missouri River and other major tributaries that feed into the river. Flooding along with construction of the Blacksnake Creek tunnel precluded staff from gaining access to the area along McArthur Drive where the NWI indicates the potential existence of a forested/shrub wetland. Flow within the remnant Blacksnake Creek stream channel west of the tunnel is the result of water discharge from the tunnel and/or backwater from the Missouri River during high flow events. The Missouri River was the only waters of the US directly observed within the Study Area at that time.

  A follow up site visit was conducted on October 21, 2022, to assess the area previously inaccessible due to Missouri River flooding. The NWI mapped area is a long finger that runs along the southern side of the dual line of BNSF railroad tracks. This mapped area is a ditch likely created by the railroad to assist with drainage along the railroad tracks. The ditch is relatively shallow with no vegetation present in the bottom. Vegetation adjacent to the ditch is dominated by shrub honeysuckle (*Lonicera maackii*), Siberian elm (*Ulmus pumila*), and red mulberry (*Morus rubra*). Much of the area is blanketed by raccoon grape (*Ampelopsis cordata*), which is also inhibiting vegetative growth in the understory. The vegetative species present are all upland species. Soils within the area are Urban land, which have a hydric rating of 0. While it is evident that the ditch does carry water as indicated by the absence of vegetation and drainage patterns in the dirt bottom, no water was present at the time of the site visit. When present, water in the ditch would be conveyed to the northwest away from the roadway and the Missouri River. Based on the absence of two (soils and vegetation) out of three of the required wetland indicators, the ditch is not a wetland.

### 3.6.2 Wetlands & Waters of the US Impacts

The No-Build and Recommended Preferred Alternative would have the following wetland and other Waters of the US impacts:

- **No-Build Alternative** - The No-Build Alternative would have no direct or indirect effects on wetlands or other waters of the US. This is not likely to change due to ongoing maintenance of the bridge structure.
- **Recommended Preferred Alternative** - The Recommended Preferred Alternative would, for the most part, be constructed within the existing roadway footprint and would modify existing road structures on the northern end close to the potential forested/shrub wetland. Based on the October 2022 field visit, the area of the potential wetland that could be impacted by the proposed improvement is not a wetland and, therefore, the Recommended Preferred Alternative would not have a direct or indirect effect on

wetlands or other waters of the US. As previously discussed, protection measures will be employed during demolition and construction to avoid impacts to the Missouri River.

- **MoDOT Commitment** - To Coordinate with the USACE during project design to obtain concurrence on the status of wetland and other waters of the US within the Study Area in regard to jurisdictional status and proposed protection/avoidance measures.
- **MoDOT Commitment -** MoDOT shall ensure that, should impacts to streams or wetlands occur with this project, the proper Section 404 Permit be acquired prior to construction.

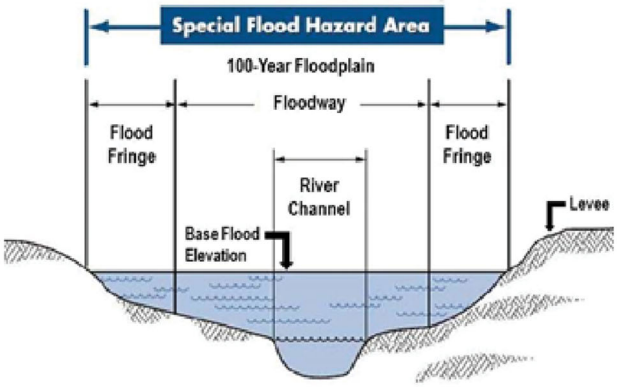
## 3.7 Floodplains, Floodways & FEMA Buyout Properties

A floodplain is any land that is susceptible to being inundated by floodwaters of any source such as rivers, streams, and other water courses as illustrated in Figure 3-12. FEMA and FHWA guidelines (23 CFR 650) define the 100-year flood as a flood which has a 1-percent chance of being equaled or exceeded in magnitude in any given year. The 1-percent annual chance flood is also referred to as the special flood hazard area (SFHA), the base flood or 100-year flood. The 100-year floodplain is any area that would be covered by water during a 100-year flood event. The 500-year floodplain designates the area that would be inundated by a flood that has a 0.2-percent-annual-chance of being equaled or exceeded in a given year. The Federal Emergency Management Agency (FEMA) under their National Flood Insurance Program (NFIP) prepares Flood Insurance Rate Maps (FIRM) for areas prone to flooding. These maps are used to identify special flood hazardous areas and to determine the limits of the 100-year floodplain and the extent of possible floodplain encroachment.

A regulatory floodway is defined as the channel of a river or other watercourse and the adjacent land areas that must be reserved and free of encroachment to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. The floodway fringe is the portion of floodplain outside the regulatory floodway usually containing slow-moving or standing water. Floodway fringe is treated as 100-year floodplain. FEMA mandates

Figure 3-12

Diagram of a Floodplain



that developments cause “no rise” in the flow within the regulatory floodway, and no more than a one-foot cumulative rise of the flood elevation within the 100-year floodplain.

The Missouri State Emergency Management Agency (SEMA) issues floodplain development permits for projects involving state-owned developments located within a special flood hazard area. The permit requires preparation of a “No-Rise” certification by a licensed engineer if any development is proposed in the regulatory floodway. It must certify that a project would cause no rise in the regulatory floodway of a given flooding source.

Based on MODOT’s review of the FEMA FIRMs, the base or 100-year flood elevation within the Study Area is 818 feet on the north end where Blacksnake Creek is the flooding source, and 815 feet at the south end at the US Route 36 Bridge where the Missouri River is the flooding source. There are no FEMA flood buyout properties in the Study Area.

Executive Order (EO) 11988, Floodplain Management, directs federal agencies to take action to reduce the risk of flood loss, minimize the impact of floods on human safety, health and welfare, and restore and preserve the natural and beneficial values served by floodplains. Federal agencies are to provide public notice of proposed actions in floodplains and make a finding that there is no practicable alternative before taking action that would encroach on a 100-year floodplain. U.S. Department of Transportation (DOT) Order 5650.2, Floodplain Management and Protection, outlines the DOT policies and procedures for implementing EO 11988. An Only Practicable Alternative Finding in response to EO 11988 would be included in the decision document published by FHWA.

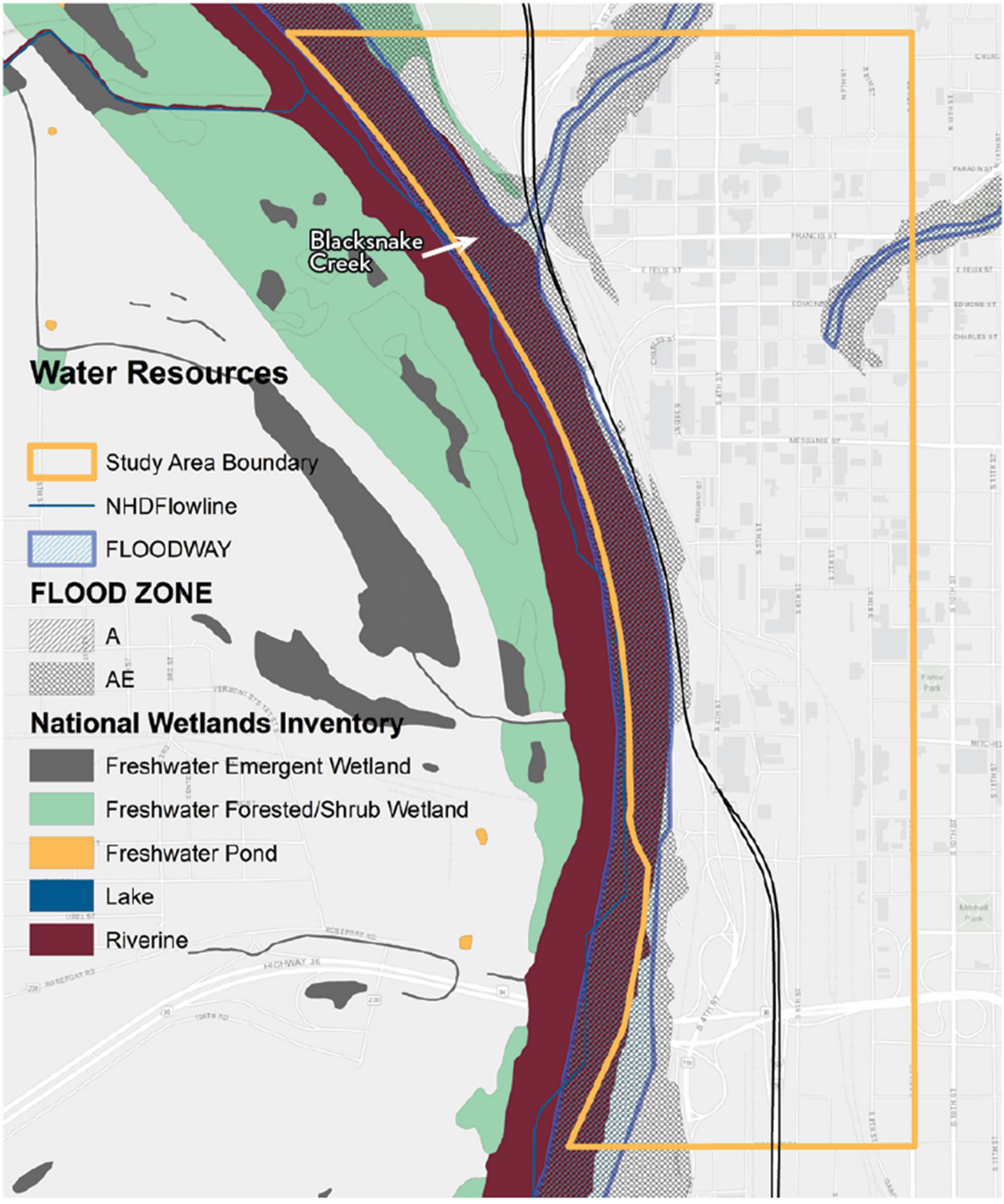
The FHWA’s floodplain encroachment policy requires avoidance of longitudinal encroachments where practicable. If longitudinal floodplain encroachments cannot be avoided, the degree of encroachment should be minimized to the extent practicable. Generally, any increase in the 100-year water-surface elevation produced by a longitudinal encroachment as identified on a NFIP-mapped floodplain should not exceed the one foot allowed by federal standards.

### 3.7.1 Floodplains & Floodway

Figure 3-13 illustrates the floodway and floodplain boundaries within the Study Area. The floodway is essentially the edge of the Missouri River channel, and the associated floodplains are in proximity to Blacksnake Creek and near the bank of the Missouri River. The study team estimated the total acreage of both regulatory floodway and 100-year floodplain that would be impacted by both the No-Build and Recommended Preferred Alternative. Based on identification of 100-year floodplain and regulatory floodway in the Study Area, floodplain permitting and compliance with 23 CFR Section 650 Subpart A are required for this project. More detailed information is located in Technical Memorandum 16 – Floodplains.

Figure 3-13

Floodplain & Floodway Boundaries



Following are the conclusions from MoDOT's review of FEMA maps regarding potential floodplain impacts from the No-Build Alternative and the Recommended Preferred Alternative:

- **No-Build Alternative** - The No-Build Alternative would have no impact on the mapped floodplain and regulatory floodway as it does not alter the structures currently in those SFHAs. The No-Build Alternative would have no effect on the natural and beneficial floodplain values and would not support incompatible floodplain development.
- **Recommended Preferred Alternative** - A ROW width of eighty feet (80') was used to estimate the required width of the Recommended Preferred Alternative. The Recommended Preferred Alternative would have minimal impact on the existing floodplain and regulatory floodways. The measurement used to evaluate the potential impacts were "acres" of disturbed floodplain. "Floodplain" did not differentiate between floodway and floodway fringe. The Recommended Preferred Alternative would affect 3.9 acres of 100-year floodplain and 0.4 acres of floodway. It is assumed three-to-five feet of fill would be placed throughout the entire affected area to elevate the roadway above the base flood elevation.

  The Recommended Preferred Alternative would have minor encroachments on the regulatory floodway. Permanent roadway embankment would be constructed in the 100-year floodplain and floodway. It is assumed the schematic horizontal alignments could be adjusted to eliminate floodway encroachments; therefore, impacting only the floodway fringe. However, the final horizontal alignment would need to be finalized and the ROW width finalized during the design phase to ensure there would be no encroachments on the regulatory floodway.
- **MoDOT Commitment:** MoDOT will restrict development within the regulatory floodway and "demonstrate through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge". If MoDOT is unable to avoid the regulatory floodway with the final alignments, MoDOT would conduct a hydraulic analysis during final design to document that the new improvements would result in "no rise" in the flow within the regulatory floodway.
- **MoDOT Commitment:** MoDOT will conduct an engineering analysis for the Recommended Preferred Alternative prior to submission of the floodplain development permit application to SEMA. The contractor shall obtain a floodplain development permit and "no-rise" certification.

- **MoDOT Commitment:** MoDOT will minimize the size and duration of temporary obstructions within the floodplains and regulatory floodway during construction by effective construction sequencing and construction methodology.
- **MoDOT Commimtment:** MoDOT will employ sediment and erosion control management best practices during construction and re-seed disturbed areas following construction.

## 3.8 Biological Resources & Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973 (16 USC 1531 et seq.) ensures that proposed activities do not jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of species habitat. As provided in the ESA, the Fish and Wildlife Coordination Act, as amended, also applies to projects that may affect water resources. The USFWS administers both acts.

### 3.8.1 Threatened & Endangered Species

Information was obtained from the Missouri Department of Conservation (MDC) Natural Heritage Review and the USFWS Information for Planning and Consultation (IPaC) tool. Reports and species lists were updated in July 2023, January 2024, and April 2024 to ensure current species and habitat information. The information from the April 2024 report is included here. The Natural Heritage Review included the Study Area boundary and 1-mile project boundary buffer. The review indicated that there are records for species listed under the Federal Endangered Species Act, and possibly records for species listed as Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the defined project area. More details can be found in Technical Memorandum 12 - Ecological Assessment.

- **USFW IPaC Species** - The April 29, 2024, USFWS IPaC report (Project Code 2023-0105552) provides an official species list for the Study Area that includes a total of four federal-listed endangered species and one candidate species. The four endangered species include: Indiana (*Myotis sodalis*) and Northern long-eared (*Myotis septentrionalis*) bats, Tricolored (*Perimyotis subflavus*) bat, and Pallid Sturgeon (*Scaphirhynchus albus*). The Tricolored bat is currently listed as “Proposed Endangered”. The Monarch Butterfly (*Danaus plexippus*) is the lone candidate species. The IPaC report also notes that there are no critical habitats within the Study Area under the jurisdiction of the USFWS, and that there are no refuge lands or fish hatcheries within the Study Area. The IPaC report is in Appendix 12-1 at the end of Technical Memorandum 12 – Ecological Assessment.
- **Heritage Review Species** - Indiana bats (federal- and state-listed endangered), and Northern long-eared bats (federal-listed endangered) are both species noted in the Heritage Review (April 29, 2024) that may occur near the Study Area. The Heritage

Review does not include a listing for the Tricolored bat. The Heritage Review noted that the Study Area is within the geographic range of nesting bald eagles (*Haliaeetus leucocephalus*) in Missouri. It also noted that the Study Area is adjacent to the Missouri River, which has the federal- and state-listed endangered Pallid Sturgeon. The MDC Heritage Review is in Appendix 12-2 at the end of Technical Memorandum 12 – Ecological Assessment.

Indiana and Northern long-eared bats roost in caves and mines in the winter and roost in forest and woodland habitat the rest of the year (April 1 through October 15). Suitable roost trees include trees greater than 3-inch diameter breast height (dbh) that have exfoliating bark, cracks, crevices, and/or hollows. Tree species include but are not limited to shagbark and shellbark hickory, white oak, cottonwood, and maple. The IPaC report notes that unsuitable habitat for these species includes:

- Individual trees that are greater than 1,000 feet from forested or wooded areas; and
- Trees found in highly developed urban areas (e.g., street trees, downtown areas).

Most of the Study Area lies within the developed core of the city where there are limited trees. While there are a few larger trees present within the Study Area, most do not provide habitat for these species due to the lack of desirable characteristics noted above. Therefore, the project will not affect these two bat species.

Habitat requirements for Tricolored bats are much broader than those of Indiana and Northern long-eared bat species. This bat species can be found inhabiting open hardwood woodland and forest habitats with trees as small as 3 inches in diameter in the spring, summer, and fall. While they prefer mature deciduous hardwood forests, which provide greater structural diversity for roosting site, smaller trees present within the Study Area may potentially provide suitable habitat. Therefore, the project may affect this species but will not jeopardize the species.

The Study Area is adjacent to the Missouri River, which has the federal- and state-listed endangered pallid sturgeon. Bridge construction at the river's edge makes it possible for soil to wash into the Missouri River. Over time, increased amounts of sediment can damage the river ecosystem by lowering oxygen levels and covering food sources and fish spawning areas. The Recommended Preferred Alternative would essentially result in the same amount of stormwater runoff after construction as under the current conditions. The Recommended Preferred Alternative is not expected to result in increased pollution of the Missouri River. Therefore, the project will have no effect on the pallid sturgeon.

The Heritage Review noted that the Study Area is within the geographic range of nesting bald eagles. Bald eagles may nest near streams or water bodies in a project area. Nests are large and easy to identify. No bald eagles or nests were noted. Therefore, the project will have no effect on the bald eagle.

During a site visit on June 13, 2019, consultant staff evaluated vegetated areas throughout the Study Area to determine the presence of wildlife species, especially bats. There is a narrow band of trees and shrubs along the edge of the Missouri River throughout most of the Study Area. No bald eagles or nests were noted within this vegetated area. Additionally, no bats nor evidence of the presence of bats (guano deposits or stains) were noted in or around the double-decker bridge structure. Consultant staff did find cliff swallows (*Petrochelidon pyrrhonota*) nesting along the undersides of both decks of the I-229 bridge, especially along the west-central portion facing the Missouri River. These birds are protected under the Migratory Bird Treaty Act (MBTA). Restrictions for Migratory Birds NJSP-16-06A provides direction for addressing migratory bird nests when present on bridge structures. If the use of avoidance measures is not possible, options include removal of inactive nests by MoDOT staff with on-going maintenance until project Notice to Proceed, or removal of inactive or partially constructed nests by March 15 (outside of the general nesting season of April 1 to July 31) by the project contractor. A nest free condition must be maintained by the contractor until bridge work is complete. The NJSP-16-06A is in Appendix 12-3 at the end of Technical Memorandum 12 – Ecological Assessment.

### 3.8.2 Threatened & Endangered Species Impacts

The No-Build and Recommended Preferred Alternative would have the following effect on threatened and endangered species (Table 3-4):

- **No-Build Alternative** - Under the No-Build Alternative, the existing double-decker bridge would be left in place. Only routine maintenance and repair of the existing bridge would occur. The No-Build alternative would have no direct or indirect effects on federal or state-listed wildlife species. This is not likely to change due to ongoing maintenance of the bridge structure.
- **Recommended Preferred Alternative** - The Recommended Preferred Alternative is not likely to have direct or indirect effects on federal- or state-listed wildlife species other than Tricolored bats. This alternative would generally be constructed within the existing roadway footprint.
- **MoDOT Commitment** - FHWA is the lead federal agency for this project. MoDOT is the designated non-federal representative for FHWA and is responsible for completing coordination for compliance with Section 7 of the ESA and with the Missouri Endangered Species Act. Consultation will be completed prior to construction or before any federal funds are obligated.
- **MoDOT Commitment** - MoDOT shall reevaluate the NEPA document to ensure that the Section 7 determinations remain valid should changes in the project footprint or scope, including potential additional improvements added as part of the Design-Build process (e.g. the McArthur Extension), occur that were not evaluated in this document.

- **MoDOT Commitment** - MoDOT shall conduct tree surveys prior to the start of construction to identify any trees over 3 inches in diameter that could serve as a maternity roost for Tricolored bats. If trees identified as suitable habitat are present within the construction zone, all trees will be removed between October 16 and March 31 to eliminate any potential impact to the three bat species during the non-hibernation period. The narrow band of trees along the river bank, which may provide some suitable habitat for the Tricolored bat, will not be removed for construction of the project. The Tree Clearing JSP is in Appendix 12-4 at the end of Technical Memorandum 12 – Ecological Assessment.
- **MoDOT Commitment** – MoDOT shall conduct surveys of bridges prior to the start of construction to identify any active bird nests on the structures. If the use of avoidance measures is not possible, options include removal of inactive nests by MoDOT staff with on-going maintenance until project Notice to Proceed, or removal of inactive or partially constructed nests by March 15 (outside of the general nesting season of April 1 to July 31) by the project contractor. A nest free condition must be maintained by the contractor until bridge work is complete.
- **MoDOT Commitment** - No known occupied caves exist in the Study Area. If any are identified, MoDOT will coordinate with the USFWS.

Table 3-4

**Potential Effects to Threatened and Endangered Species**

| Common Name | Scientific Name | Status | Potential Effects |
|---|---|---|---|
| Indiana bat | *Myotis sodalis* | Endangered | No effect |
| Northern long-eared bat | *Myotis septentrionalis* | Threatened | No effect |
| Tricolored bat | *Perimyotis subflavus* | Endangered | May have an effect, will not jeopardize species |
| Pallid Sturgeon | *Scaphirhynchus albus* | Endangered | No effect |
| Bald Eagle | *Haliaeetus leucocephalus* | Protected | No effect |

## 3.9 Farmland

The project is in a developed portion of Buchanan County, Missouri, along the Central Business District and Missouri River. Land areas are dominated by industrial, commercial and

transportation uses. None of the area is used for agricultural purposes. The Study Area, located within the city boundaries of St. Joseph is considered committed to development. Because no farmland is present, review of the project under the Farmland Protection Policy Act is not required.

## 3.10 Geology & Soils

The Study Area is located near and on the eastern bank of the Missouri River. Boring information from the existing bridge drawings was used to profile the geology of the Study Area. Details have been provided in Technical Memorandum 3 - Geotechnical Evaluation. Based on this information, there appears to be approximately 50 to 70-feet of sand and clay layers comprising the overburden. Below this, shale and limestone layers are present. In many borings, a layer of cobble/boulders was found just above the shale or limestone layer.

The No-Build and Recommended Preferred Alternative would have the following geologic impacts:

- **No-Build Alternative** - Under the No-Build Alternative, the existing double-decker bridge would be left in place and there would be little or no disturbance of surface or subsurface soils.
- **Recommended Preferred Alternative** - Construction of the Recommended Preferred Alternative including new bridge abutments/piers and roadway would disturb soils.
- **MoDOT Commitment** - Topsoil would be removed and stockpiled in an area while grading and other construction activities take place. The topsoil would be placed at finish grades near the end of the construction process. The existing bridge piers would be removed to just below grade and the foundations to bedrock would remain in place. New bridge foundations would be constructed on bedrock using drilled shafts or some other reasonable method. Short-term soil erosion would be managed through the implementation of BMPs, where feasible, as described in Section 3.16 Construction Impacts.

## 3.11 Hazardous Materials & Waste

A hazardous materials and waste evaluation was completed for the purpose of identifying sites that may require remediation that would result in additional costs and time for completion of the Recommended Preferred Alternative. The scope of the evaluation was limited to database searches for recorded site information, review of historical aerial photographs/Sanborn maps, followed by a “windshield” field reconnaissance survey of selected potentially hazardous waste sites. Electronic databases were used that queried federal and state agency databases. The evaluation did not include a complete site assessment per ASTM Standard E 1527, nor does it

constitute a hazardous waste remedial investigation. Additional details have been provided in Technical Memorandum 11 - Hazardous Materials.

### 3.11.1 Hazardous Materials & Waste Sites

The results of the database searches, historical reviews, and field reconnaissance were prioritized as to the likelihood of soil and/or groundwater contamination present on or in the Study Area. The priority assigned was either “None-to-Low”, “Low-to-Moderate”, or “Moderate-to-High” in accordance with the following definitions:

- **None-to-Low**" – After a review of available database information, there is no indication that the proposed project would impact the site. It is possible that potential contaminants could have been generated or handled on the site, however, all information indicates potential impact to a proposed alternative would be minimal. These sites include things such as Resource Conservation and Recovery Act (RCRA) small quantity generators or UST sites for which releases of hazardous constituents have not been documented.

- "**Low-to-Moderate**" – These sites include any former or current operations identified as large quantity hazardous waste generators. Also included in the category are locations where releases of hazardous materials or petroleum products have been reported, and remediation has been completed. These sites include leaking UST sites that have been listed in the database as closed following completion of remediation.

- "**Moderate-to-High**" – A review of available information indicates that known soil and/or groundwater contamination is present and that the site is either undergoing remediation or continued groundwater monitoring. Additional sites may include unmappable sites in proximity of the Study Area listed in the database search. Further assessment would be required if a “Moderate-to-High” priority site is affected by the selected alternative to determine the actual presence and/or levels of contamination, the contaminated medium and the need for mitigation/remediation. Actual physical assessment would not begin until the final selected alternative is defined.

Well over 200 different sites were identified within the Study Area and used to screen the initial alternatives and later the reasonable alternatives. A total of over 100 sites were identified during the government database searches as being potentially impacted by the reasonable alternatives, except for the No Build alternative, as depicted in (Figure 3-14).

A meeting was held with the MDNR, MoDOT and the consultant team on April 23, 2019, to discuss the status of several sites with known contamination (Moderate-to-High) issues. The “Moderate-to-High” ranked sites are listed with more detailed information in Table 3-5.

Figure 3-14

## Hazardous Material Sites

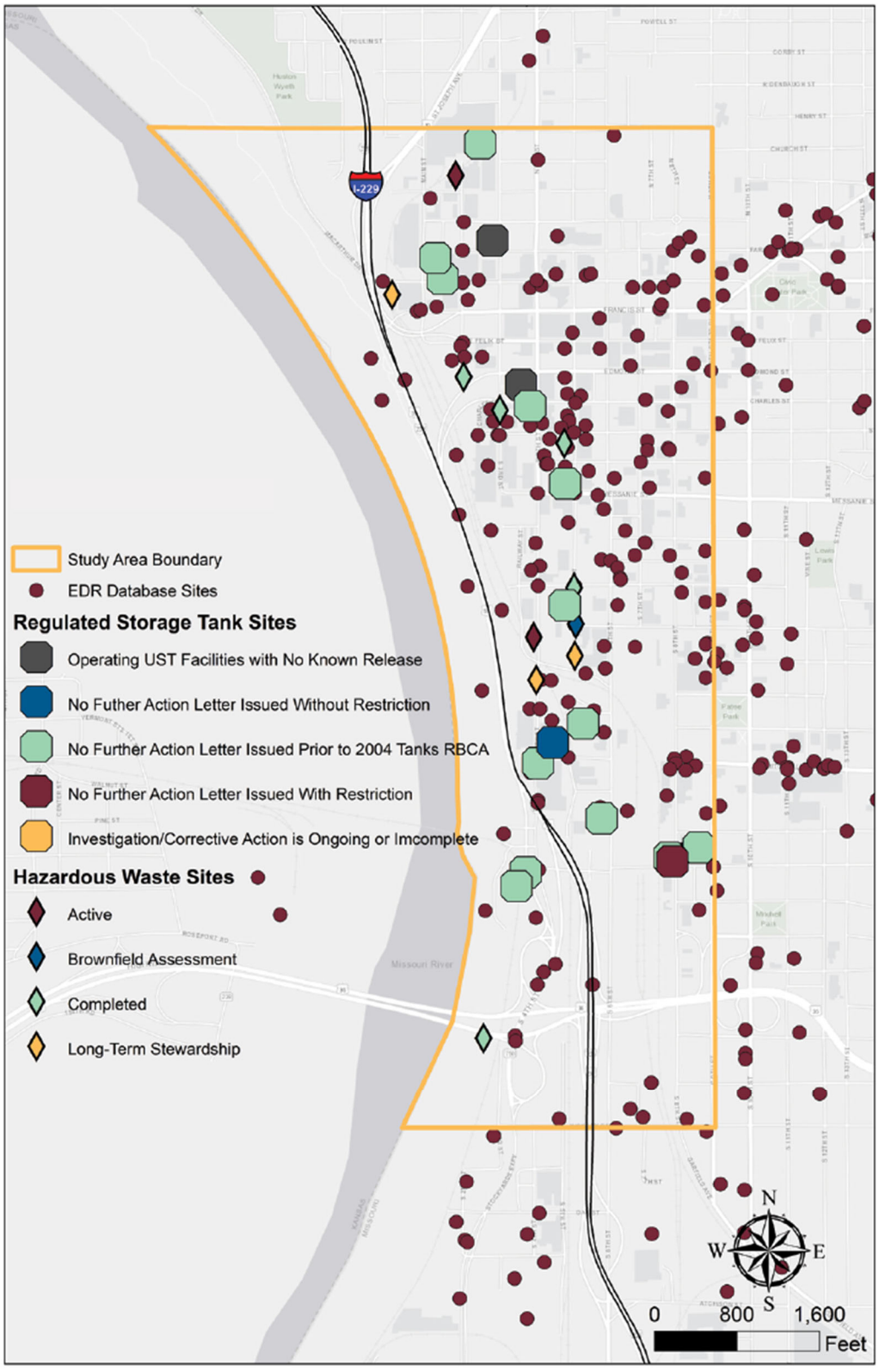


Table 3-5

## "Moderate to High" Ranked Potentially Hazarouds Waste Site Descriptions

| Site No. | Name | Address | Status - Federal or State Program List | Comments | Alt's Potentially Impacted |
|---|---|---|---|---|---|
| 1/E12 | Wire Co | 609 N. 2nd Street | Long-Term Stewardship, no drilling or use of grandwater; Former UST NFA Letter Issued Prior to 2004; BROWNFIELDS | This 30-acre Brownfield site was formerly owned by Wire-Co World and is the subject of an active hazardous waste investigation and remediation. In addition, Underground Storage Tanks were removed from the property prior to 2004 and the adoption of MDNR's Risk Based Corrective Action Guidance for Petroleum Storage Tanks. | A |
| 4/E10 | Artesian Ice & Cold Storage Plant A | 202-204 Main Street | Long-Term Stewardship/Activity & Use Limitation Area; VCP | This Voluntary Cleanup Program site is also a Long-Term Stewardship site with a long history of industrial use. Site investigations indicated fill/soil concentrations of arsenic and lead above non-residential risk based target levels. A Soil Management Plan has been developed to properly manage affected soils if encountered during future on-site activities | A, B, C, D |
| 10/E51 | Advantage Metals Recycling, LLC | 750 S. 4th Street | Brownfield Assessment; RCRA-CESQG | This active hazardous waste investigation site, a portion of which is also a Long-Term Stewardship site with a long history of metal yard operations. Environmental site assessments revealed metals, polycyclic aromatic hydrocarbon (PAH) and polychlorinated biphenyl (PCB) contamination in soil and arsenic and PAHs in groundwater. Only a portion of this site has been designated for Long-Term Stewardship. Reasonable Alternative C would directly impact this facility. Phase I ESA conducted in 2021 with RECs identified. | C |
| 11/E67/ E68/E90 | Farmland Industries Old Insecticide Pit | 4th and Seneca Streets | Long-Term Stewardship; ECHO; SEMS; US BROWNFIELDS | This is a Long-Term Stewardship site with a long history of former pesticide formulation. The site is owned by the BNSF Railroad and the land was leased to several companies throughout its history. Between 1950 and 1980, several companies occupied the site while formulating organochlorine pesticides. Buildings and associated facilities were removed in 1979-80 with a Capping Plan approved by the USEPA in 1989. BNSF submits an annual report based on a 1989 Consent Order. This site is listed on the MDNR's Registry of Confirmed Abandoned and Uncontrolled Hazardous Waste Sites in Missouri (i.e., the State's equivalent of Superfund). The use of property listed on the Registry may not change substantially without the written approval of the MDNR. Of all the "Moderate to High" sites identified in the course of this study this site above all should be avoided. Reasonable Alternative C would directly impact this facility | A, B, C, D |

Table 3-5 (Cont'd)

## "Moderate to High" Ranked Potentially Hazarouds Waste Site Descriptions

| Site No. | Name | Address | Status - Federal or State Program List | Comments | Alt's Potentially Impacted |
|---|---|---|---|---|---|
| 19 | Undocumented Landfill | Riverfront near north bank of Blacksnake Creek | Undocumented landfill | City officials report that during construction of Riverwalk trail a large amount of landfilled debris was encountered. | A,B,C,D |
| E43 | Lesco, Inc. (AKA HPI Products, Inc.) | 222B Sylvanie | RCRA NONGEN / NLR; Brownfield Assessment | This site is owned by HPI Products, Inc which has a long history of illegally storing and disposing of hazardous wastes. This particular site is the location of HPI's main manufac- turing operations and was used for the illegal storage and disposal of hazardous wastes. Over the last several years this site has been the subject of USEPA investigations and Con- sent Decree. On June 15, 2021, the USDOJ, USEPA state of Missouri, Missouri Attorney General and MDNR filed a motion to hold HPI and its owner in contempt for their on- going failure to comply with a 2011 settlement. Reasonable Alternative C would directly impact this facility. | C |

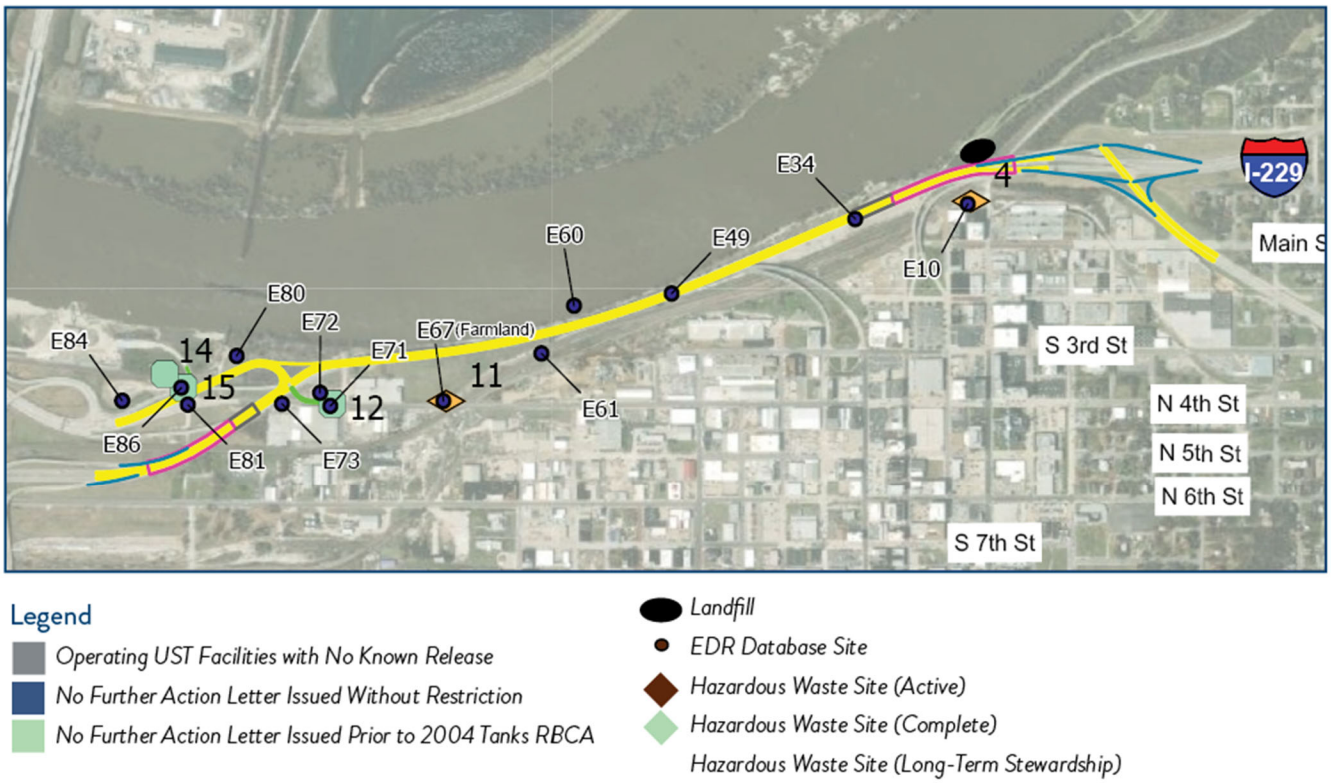
### 3.11.2 Hazardous Materials Impacts

The No-Build and Recommended Preferred Alternative would have the following hazardous materials impacts:

- **No-Build Alternative** - Under the No-Build alternative, the existing double-decker bridge would be left in place. Only routine maintenance and repair of the existing bridge would occur. There would be no widening of the bridge, no improvement of roadway or bridge profiles, no major rehabilitation, and no replacement of the existing bridge. The No-Build Alternative would not affect potentially hazardous waste sites.
- **Recommended Preferred Alternative** - Under the Recommended Preferred Alternative, the potential impact to identified hazardous materials sites has been mapped in Figure 3-15 and include:
    - **Total Sites** - In terms of total numbers of all sites combined (i.e., "Moderate-to-High", "Low-to-Moderate", and "None-to-Low" probability of contamination) the Recommended Preferred Alternative would potentially impact 13 sites.
    - **"Moderate to High Sites"** - The Recommended Preferred Alternative would potentially indirectly impact three sites (i.e., Artesian Ice, Farmland Industries Old Insecticide Pit, and undocumented landfilling along the banks of the Missouri River).

Figure 3-15

Hazardous Material Sites near Build Alternative




- **MoDOT Commitment** - MoDOT shall ensure that its construction inspector directs the contractor to cease work at the suspect site if regulated solid or hazardous wastes are found during construction. The construction inspector shall contact the appropriate environmental specialist to discuss options for remediation. The environmental specialist, the construction office, and the contractor shall develop a plan for sampling, remediation, and continuation of project construction. Independent consulting, analytical, and remediation services will be contracted if necessary. MDNR and USEPA shall be contacted for coordination and approval of required activities. More details have been provided in the next section - 3.11.3.
- **MoDOT Commitment -** MoDOT shall ensure that all needed demolition notices, abatement notices, and project notifications to MDNR will be submitted, prior to beginning demolition activities. Asbestos-containing material, lead based painted structures and demolition debris will be disposed of according to state and federal regulations.

### 3.11.3 Potential Hazardous Material Mitigation

An environmental contractor should be used to excavate areas of potential contamination that are within the project footprint. This process would allow any contamination encountered to be characterized, removed, treated, and buried or contained by trained professionals following applicable regulations prior to initiating roadway construction. The level of impact to a potentially contaminated site will depend on the type and amount of excavation and the final design of bridge footings and foundations and/or roadway embankment. The worst-case scenario would be where excavation takes place in areas of known contamination and/or where contamination is indicated by soil odor and/or color. Such excavated soil would need to be sampled and disposed of off-site. At this time, the type of construction and mitigation needed may be warranted in the future if it is determined that the project has negatively impacted any potential contamination. The type of remediation will be determined at that time.

If any additional regulated solid or hazardous wastes are found during construction activities, MoDOT will direct the contractor to cease work at the suspect site. MoDOT will contact the appropriate environmental specialist to discuss options for remediation. The environmental specialist, MoDOT, and the contractor will develop a plan for sampling, remediation, and continuation of project construction. Independent consulting, analytical and remediation services will be contracted if necessary. The MDNR and/or the USEPA will be contacted for coordination and approval of required activities.

Demolition of the existing bridge would require evaluation of the potential for the presence of lead-based paint and/or asbestos-containing materials prior to demolition of the bridge. Painted structures shall be tested prior to painting and demolition to determine proper disposal for the waste generated during the project. The inspection reports must be included in the construction bid proposal. MoDOT will ensure that asbestos-containing materials, depending on their condition and quantity, are removed and disposed of according to current regulations and procedures. No paint will be removed from the existing bridge prior to demolition.

All structures, including bridges that will be renovated or demolished will be inspected for asbestos. The reports from these hazardous material inspections must be included in the construction bid proposal. Demolition or renovation is a three-step process under the asbestos regulations. All structures that meet the criteria as described above must be inspected by an Asbestos Building Inspector. Following the inspection, regardless of whether asbestos is present or not, and Asbestos Demolition Notification shall be made to the MDNR no fewer than 10 working days prior to beginning the project. If regulated amounts of asbestos are present, an Asbestos Project Notification will also be submitted and an Asbestos Post-Notification will be filed after the work is completed. If abatement is necessary, a certified Contractor Supervisor will be present during the abatement and a licensed asbestos contractor will do the abatement.

## 3.12 Archaeological & Historic Resources

NEPA requires consideration of important historic, cultural, and natural aspects of our national heritage. Important aspects of our national heritage that may be present in the Study Area must also be considered under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the implementing regulations, 36 CFR 800. This act requires Federal agencies to take into account the effect that an undertaking would have on historic properties.

### 3.12.1 Archaeological & Historic Resources

The archaeological and historic resource studies followed a three-step process. The first step of the process included an archival review of documented archaeological sites, sites/structures documented as potentially eligible for the National Register of Historic Places (NRHP), and sites/structures/districts/buildings/objects documented as being on the NRHP. For the records review and literature search effort, the approximately 689.5-acre Study Area and one mile around, was assessed at the MDNR's, State Historic Preservation Office (SHPO) in Jefferson City, Missouri in late 2018. The search identified recorded archaeological sites, previously conducted cultural resources surveys for archaeological and architectural resources, NRHP properties and districts, and shipwrecks (Figure 3-16).

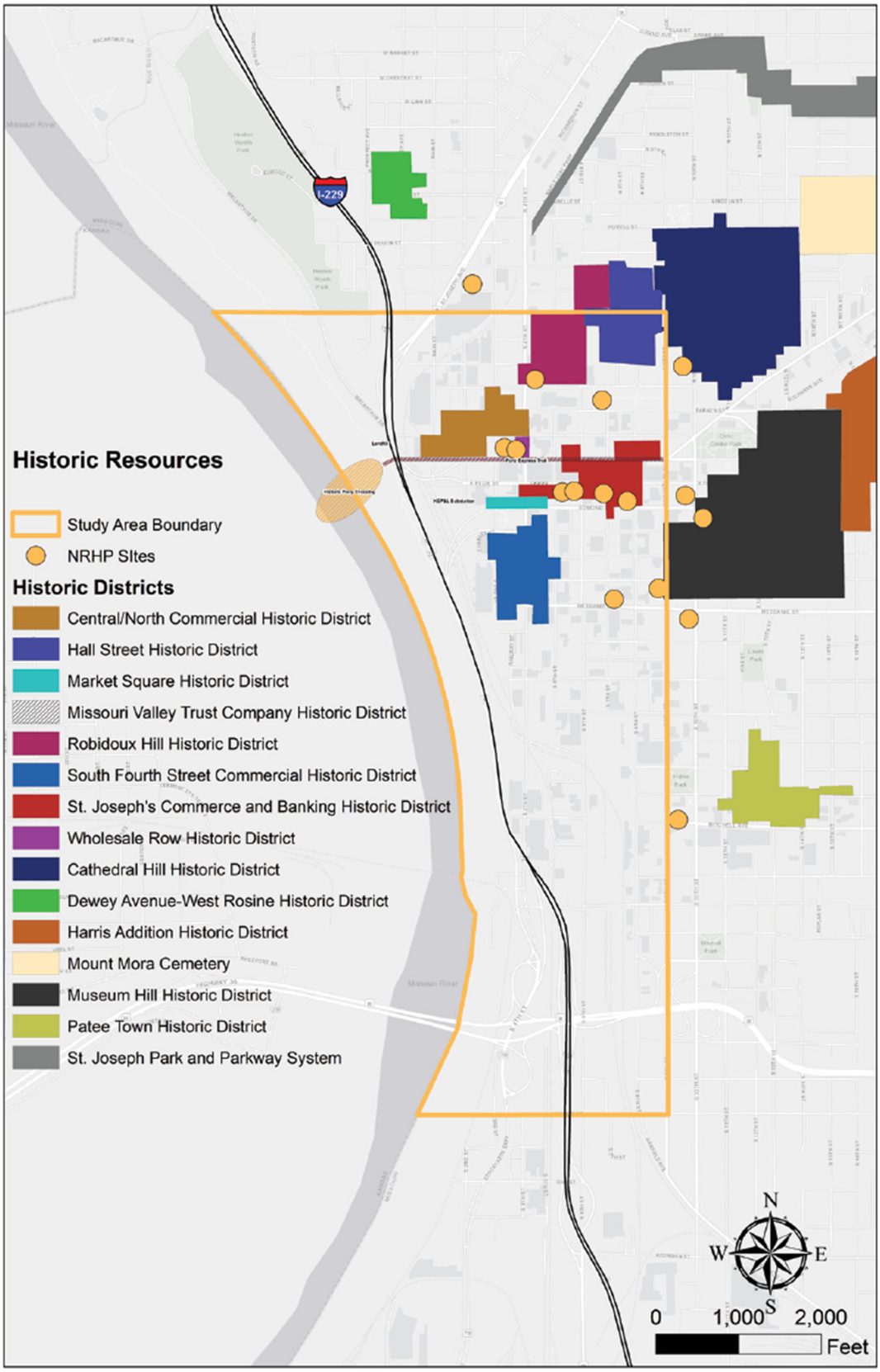
**National Registered Properties.** There are 25 NRHP properties within a mile of the Study Area. Sixteen of the NRHP properties are in the Study Area. Much of the Study Area has been examined by prior architectural studies resulting in 16 properties being placed on the NRHP and 11 NRHP historical districts identified. These include businesses, governmental, social institutions, and residential dwellings. Most of the buildings date to the late 1800s to early 1900s, but earlier ones could exist in the Study Area.

**Historic Bridges.** A list of bridges and culverts within the Study Area was provided by MoDOT. A total of 89 bridges and 22 culverts exists within the Study Area. The archival study revealed there are no bridges or culverts included in the NRHP. The bridges and culverts are exempt from Section 106 and Section 4(f) requirements by the Interstate Exemption (Federal Register 2005) and the Program Comment Exemption (Federal Register 2012).

**Archaeological Sites.** Previously recorded archaeological sites and the locations of previous archaeological investigations were reviewed. The previous survey data was evaluated in conjunction with analysis of previously recorded sites in the vicinity, soils data from NRCS Soil Survey Geographic Database (SSURGO database), and historic U.S. Geological Survey (USGS) topographic maps.

Figure 3-16

## Historic Resources



Additionally, the Study Area was evaluated for the potential to contain archaeological cultural resources. It has been determined that the Study Area has a high probability of intact archaeological cultural resources. Pre-Columbian sites could occur anywhere within the Study Area. Very early habitation sites would generally occur on ridge tops overlooking major waterways and on the high terrace at the foot of the bluff slopes. More permanent communities would have been established in the Late Archaic to Mississippian Periods. The floodplain would have been ideal for farming. The Missouri River would have also provided opportunities for travel, trade and communications. A site associated with the Kansas occupation of northwestern Missouri was identified less than two miles from the Study Area. Other Kansas or Osage villages could be within the Study Area.

The review identified four archaeological sites, 2 within the Study Area and 2 additional sites within one mile of the Study Area. One of the sites is the location of the Pony Express Stable which is also listed on the NRHP. Another one of the sites was the former fur trading post built by Joseph Robidoux III in 1827. Currently, much of this site is located beneath the elevated lanes of I-229. Although highway construction could have destroyed portions of the site, it is likely that other portions of the site remain intact.

### 3.12.2 Archaeological & Historic Resources Impacts

Information from this first step of investigation was used in screening the initial set of alternatives. In addition, on October 5, 2018, MoDOT invited the Missouri SHPO, local St. Joseph government officials, local historical societies, Native American tribes, and historic preservation interests early in the process to participate in consultation. These groups known as consulting parties, have discussed the eligibility of buildings to be listed on the NRHP along with project impacts to known resources. FHWA again consulted with the Native American tribes on a government-to-government basis on August 30, 2021. Responses from the Native American tribes are listed in Table 3-6.

The second step of the process involved a pedestrian survey for the Area of Potential Effect (APE) defined as 50 feet outside the footprint of all the Reasonable Alternatives to verify the presence/absence/condition of documented NRHP sites or districts and to identify additional properties potentially eligible for the NRHP. The results of this investigation were presented to the consulting parties and final determinations of eligibility for the NRHP made by the Missouri SHPO. The preliminary findings of this investigation were used in screening the Reasonable Alternatives and arrive at the Recommended Preferred Alternative (Note: Due to the sensitive nature of the location of archaeological sites the Archival Review and Architectural Survey of Cultural Resources Report has not been included in this report but is available upon request).

Table 3-6

## Tribal Consultation

| Tribe | Response |
|---|---|
| Iowa Tribe of Kansas and Nebraska | Would like to sign the Programmatic Agreement (PA) |
| Iowa Tribe of Oklahoma | None |
| Kaw Indian Nation of Oklahoma | None |
| Omaha Tribe of Nebraska and Iowa | None |
| Osage Nation | None |
| Otoe-Missouria Tribe of Indians | No objection to the proposed project but requests all cultural reports due to site being of interest to the Otoe-Missouri Tribe with direct ancestral lands of the tribe (responded September 8, 2021) |
| Pawnee Nation of Oklahoma | Concerns about cultural landscapes near the project that are of a concern to the Pawnee Nation; Robidoux Trading Post could be affected. Many in the Tribe are descendants of Joseph or Antoine Robidoux so alternatives that avoid the Trading Post are preferred; please notify them of any previously undiscovered properties (responded October 4, 2021). |
| Ponca Tribe of Nebraska | None |
| Ponca Tribe of Oklahome | None |
| Sac and Fox Nation of the Missouri in Kansas and Nebraska | None |
| Sac and Fox Tribe of the Mississippi in Iowa | None |
| Sac and Fox Nation of Oklahoma | None |

The third step in the process included an assessment of the direct and indirect impacts that the Recommended Preferred Alternative may have upon archaeological or historic resources and whether those impacts would constitute an adverse impact. While a preliminary assessment of potential impacts for the initially preferred alternative is presented here, the process is ongoing

and coordination with the consulting parties will continue and be finalized at the time a preferred alternative is selected.

A Phase II archaeological survey of the preferred alternative will also be conducted upon selection of the preferred alternative. Excavations associated with the proposed I-229 improvements could impact archaeological remains associated with the Pre-Contact cultures or the early historical use of the City of St. Joseph. These remains cannot be found by a standard archaeological survey but must be found as part of Phase II testing of the preferred alignment by excavating trenches using a backhoe.

MoDOT in consultation with FHWA and SHPO developed a project specific PA to guide further archaeological survey work, including identifying parcels requiring future survey and testing, and mitigation measures if sites cannot be avoided during the project. Efforts to avoid, minimize, or mitigate adverse effects were addressed through consultation for the development of the Programmatic Agreement (PA), which includes continuing consultation to ensure stipulations in the PA are accomplished. The PA will guide the Phase II testing, and address data recovery for sites determined as eligible for listing in the NRHP. For projects using the Design-Build process, the effects of the project on historic properties are re-evaluated as the project design is developed through consistent communication between the Design-Build contractor and MoDOT Historic Preservation staff.

On November 25, 2019, FHWA notified the Advisory Council on Historic Preservation (ACHP), inviting the ACHP to consult on the development of the PA. The ACHP has chosen not to participate in consultation (December 6, 2019).

MoDOT submitted a draft PA to the SHPO for legal review and to FHWA for approval. MoDOT distributed the PA to the Missouri Highways and Transportation Commission, the SHPO, and FHWA for signatures. MoDOT will adhere to all stipulations of the executed Section 106 PA for the I-229 Moving Forward project. The PA is located in Technical Memorandum 15 – Cultural Resources.

The No-Build and Recommended Preferred Alternative would have the following impacts to archaeological and historic resources:

- **No-Build Alternative** - The No-Build Alternative would have no direct effect on the eligible cultural resources identified within the Study Area. No construction would occur on or in proximity to the properties that would directly affect the resources.
- **Recommended Preferred Alternative** – The Recommended Preferred Alternative will have the following impacts on architectural resources, historic bridges, and archaeological sites:
    - **Architectural Resources** - In a letter dated February 28, 2023, SHPO concurred "that the undertaking will have no adverse effect on historic properties and have

no objection to the initiation of project activities." The SHPO letter is located in Technical Memorandum 15 – Cultural Resources.

  - **Historic Bridges** – There are no impacts to NRHP eligible bridges or culverts and the existing bridges that will be removed are exempt from Section 106 and Section 4(f) requirements by the Interstate Exemption.
  - **Archaeological Sites** – In keeping with MoDOT policy, archaeological field surveys are only conducted on the Recommended Preferred Alternative. MoDOT will conduct additional archaeological investigations when right of access is received for affected properties within the Recommended Preferred Alternative environmental footprint.
- **MoDOT Commitment** - MoDOT shall conduct additional archaeological investigations when a final alignment is selected and right of access is received. Any additional archaeological sites that might be affected by the project will be addressed in accordance with regulations (36 CFR 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470). Identified cultural resources will be evaluated according to the Department of Interior's "Standards and Guidelines for Archaeology and Historic Preservation".
- **MoDOT Commitment –** MoDOT will adhere to all stipulations of the executed Section 106 PA located in Technical Memorandum 15 – Cultural Resources.

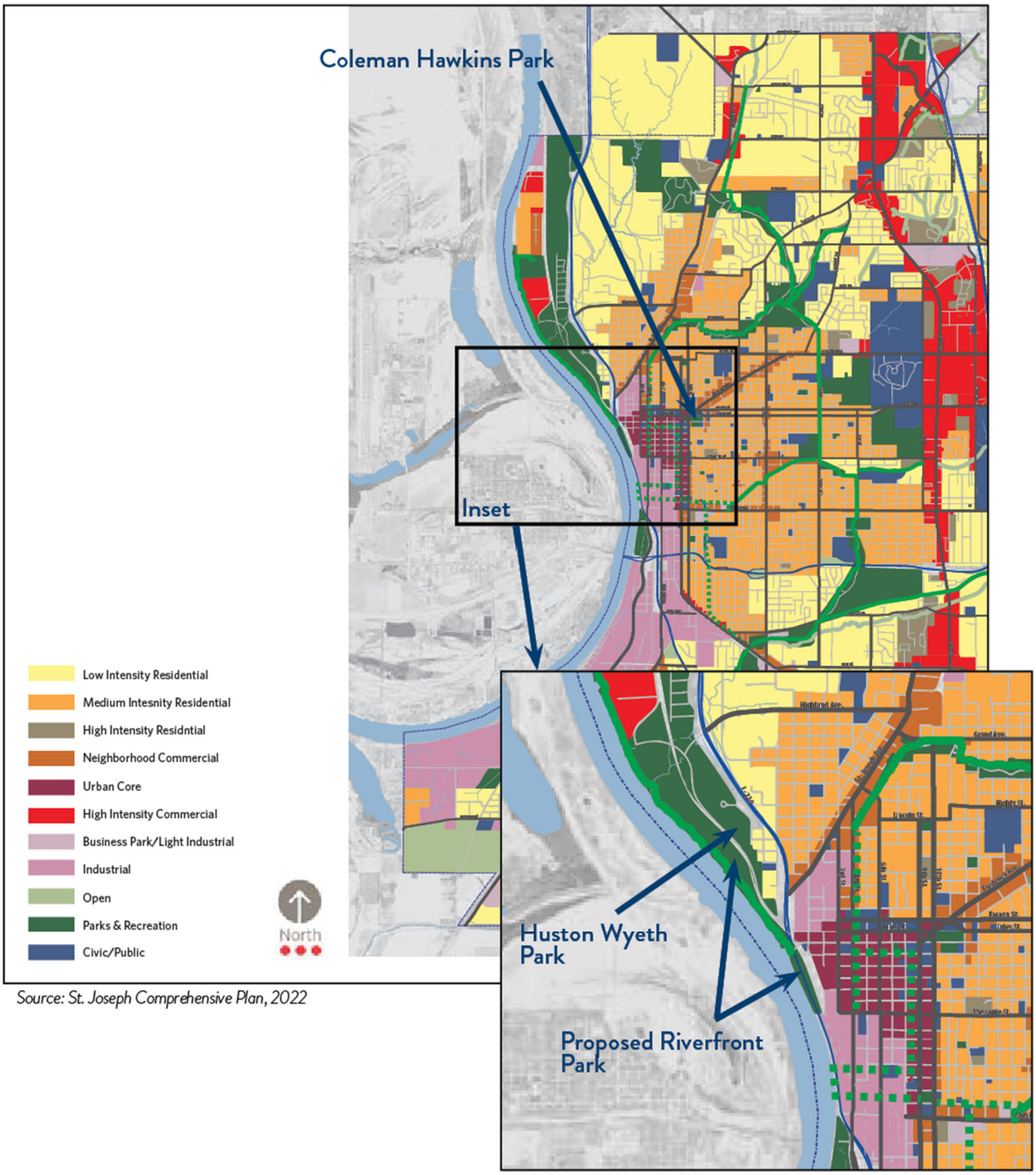
## 3.13 Parks and Recreation

There are three parks within the maintained parks system of St. Joseph that are located within the Study Area (Figure 3-17). These three parks include Huston Wyeth Park, Coleman Hawkins Park/Felix Street Square, and Riverfront Park.

- **Huston Wyeth Park** - Huston Wyeth Park is located at the northwest edge of the Study Area along McArthur Drive. The portion of the park that borders the Study Area does not contain any facilities. This park should not be impacted by the Recommended Preferred Alternative but could potentially be impacted by one of the potential enhancement options. See Chapter 2 - Section 2.4 for additional details.
- **Coleman Hawkins Park/Felix Street Square** - This park occupies three corners of the block along Felix Street between 7th and 8th Streets. The park contains a gazebo and is utilized for local concerts and community festivals. This park will not be affected by the Recommended Preferred Alternative.
- **Riverfront Park** - The 2022 "St. Joseph Comprehensive Plan" and the "St. Joseph Riverfront Master Plan" both show a future park along the riverfront from the Nature Center to the parking area and old riverboat landing area adjacent to I-229. That proposed park, referred to as Riverfront Park, currently includes the Riverwalk Trail, the trailhead

Figure 3-17

Existing and Proposed Parks




*Source: St. Joseph Comprehensive Plan, 2022*

shelter at the southern end of the Riverwalk Trail, as well as unmaintained segments associated with the old riverboat landing, including the landing area, interpretive signing,

lighting (removed), park benches, and remnants of the walking path. Many of these facilities have become obsolete and would require substantial repair or replacement to function as fully intended. The Riverfront Masterplan identifies a plan to improve this section as detailed in Technical Memorandum 9 - Riverfront Development. This proposed park would be impacted by the Recommended Preferred Alternative.

### 3.13.1 Section 4(f) Resources

Section 4(f) of the DOT Act of 1966 was designed to preserve the natural beauty of the countryside, public park and recreation lands, wildlife and waterfowl refuges, and historic sites. A Section 4(f) eligible property must be publicly owned, except for historic sites, which could be either public or privately owned. Federally funded DOT actions cannot impact Section 4(f) properties unless there is no feasible and prudent alternative. Both the Huston Wyeth Park and the proposed Riverfront Park would be considered Section 4(f) resources and, therefore, any impacts to those parks require a Section 4(f) Statement documenting the impacts to the park resources, as well as documenting the proposed mitigation measures/commitments. There is little or no potential for the presence of archaeological resources that have value for preservation in place and any subsequent Section 4(f) compliance requirements would be identified through the processes established in an executed Section 106 Programmatic Agreement. A more detailed analysis of that process, along with a draft of the Section 4(f) Statement has been provided in Technical Memorandum 13 - Section 4(f)/6(f).

*Land and Water Conservation Fund monies were used to improve the area in and around the old riverboat casino landing in the late 1980s and early 1990s. As illustrated in these pictures, those improvements have been allowed to degrade and currently are not used for recreational purposes.*

The No-Build and Recommended Preferred Alternative would have the following impacts to Section 4(f) resources:

- **No-Build Alternative** - The No-Build Alternative would not affect any Section 4(f) resources.
- **Recommended Preferred Alternative** - The Recommended Preferred Alternative is expected to require the acquisition/use of the proposed Riverfront Park and could potentially result in impacting the southern end of Huston Wyeth Park. The Recommended Preferred Alternative would not impact any recreation lands or wildlife or waterfowl refuges.
- **MoDOT Commitment** - MoDOT is currently working with the National Parks Service (NPS) and the St. Joseph Parks, Recreation, and Civic Facilities Department to determine appropriate mitigation measures for impacts to both the proposed Riverfront Park and the Huston Wyeth Parks. Those commitments will include approval of a "Determination of Section 4(f) De Minimis Use" document.

### 3.13.2 Section 6(f) Resources

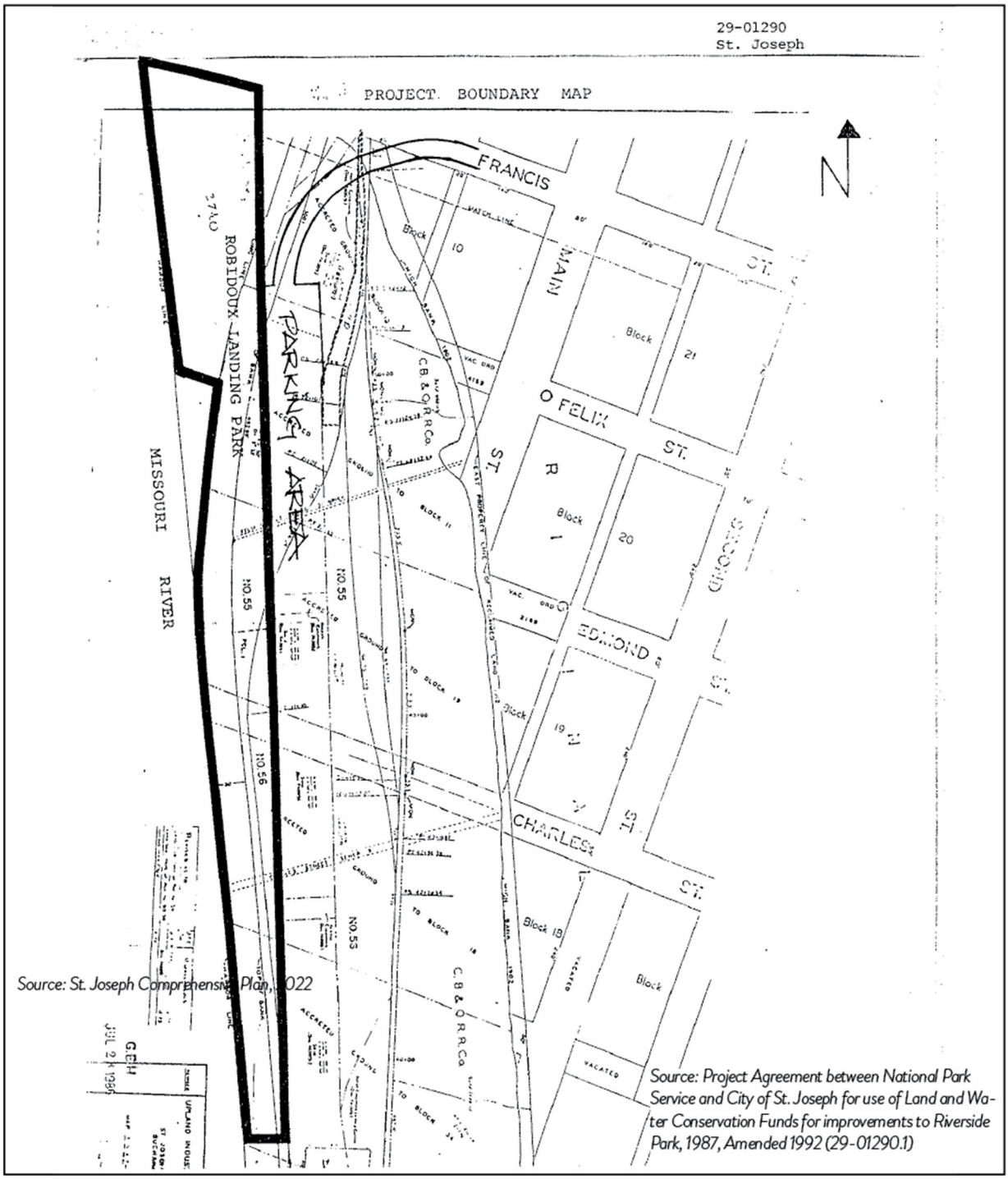
According to reviews of the Land and Water Conservation Fund database, the City of St. Joseph used Land and Water Conservation Fund monies to acquire property and/or develop recreational improvements within the proposed Riverfront Park. A more detailed analysis of that investment, along with details of the Section 6(f) process has been provided in Technical Memorandum 13 - Section 4(f)/6(f).

**Riverside Park Project Agreement.** In 1987, amended in 1989, the City of St. Joseph obtained roughly $54,000 from the NPS through their Land and Water Conservation Fund to "develop +/- 5 acres of land located in the central portion of the city, as further defined in the project proposal. The land will be developed exclusively for public outdoor recreation purposes. Development will include a trail and support facilities." The property improved (Figure 3-18) was roughly between the Missouri River and the I-229 double-decker bridge from the Blacksnake Creek south to the existing location of the chain link fence (approximately Sylvanie Street). The agreement in question is vaguely related to the recreational improvements completed but based on conversations with city staff, it is assumed that the improvements went toward trail improvements, lighting, park benches and some interpretive signing. The improvements do not include the landing area where the riverboat casino used to dock. As illustrated in the pictures on the previous page, those improvements have not been maintained over the years and are currently in a degraded condition and not currently being used for recreational purposes.

**Coordination with National Park Service.** Since the Recommended Preferred Alternative will impact the area where Land and Water Conservation Funds were used, the study team has begun coordination with the NPS. As documented in Technical Memorandum 13 - Section 4(f)/6(f), MoDOT will enter into an agreement with the NPS to mitigate the impacts to this Section 6(f) resource. Per that agreement, MoDOT, in coordination with the City of St. Joseph, has agreed to

Figure 3-18

## Project Boundary Map from Section 6(f) Agreement with National Park Service




Source: St. Joseph Comprehensive Plan, 2022

unencumber the existing Riverside Park and to encumber a new proposed park at the corner of St. Joseph Avenue and Northwest Parkway in northern St. Joseph across from Krug Park. Additional details of that agreement include:

- MoDOT has paid for and received the required appraisal, per NPS requirements, of the existing Riverside Park.
- The City of St. Joseph has agreed to transfer the "encumbrance" from Riverside Park to the proposed new park.
- MoDOT has agreed, sometime prior to construction, to complete the required appraisal, per NPS requirements, for the new replacement park.
- MoDOT has also agreed to ensure that the new park has a "recreational value" per Section 6(f) requirements.
- MoDOT also agrees to comply with any additional requirements, not specifically mentioned here, spelled out in the agreement with NPS
- MoDOT has received a letter from the MDNR indicating agreement with the proposed plan of action.

### 3.13.3 National Historic Trails (NHT)

In November 2018, the NPS conducted a charette related to the California and Pony Express National Historic Trails (NHTs). The charette provided information on the location of the project area, trail history, planning, design, and interpretive concepts. The goal was to develop conceptual level design and interpretive concepts for St. Joseph, focused on places and stories associated with the California and Pony Express NHTs. Based on pre-charette feedback, the project team generated design and interpretive concepts focused on visitor use, circulation, visitor experience, facility design, and site development. David Kocour, Environmental Lead for the I-229 EA, attended the charette.

St. Joseph is a key location on both the California and Pony Express NHTs (Figure 3-19). The project area identified at the charette, consisted of the City of St. Joseph between the Missouri River on the west, US 36 on the south, Remington Nature Center in the northwest, and Ashland Cemetery in the northeast, with a special focus on the parts of the city that existed prior to the end of the Pony Express in 1861 (Figure 3-20).

Opportunities and constraints were identified during the charrette for the site. Those listed here are pertinent to the I-229 project study corridor.

**Opportunities:**

- There is an opportunity to connect the existing trails in St. Joseph to historic sites throughout the city.

Figure 3-19

## California and Pony Express National Historic Trails

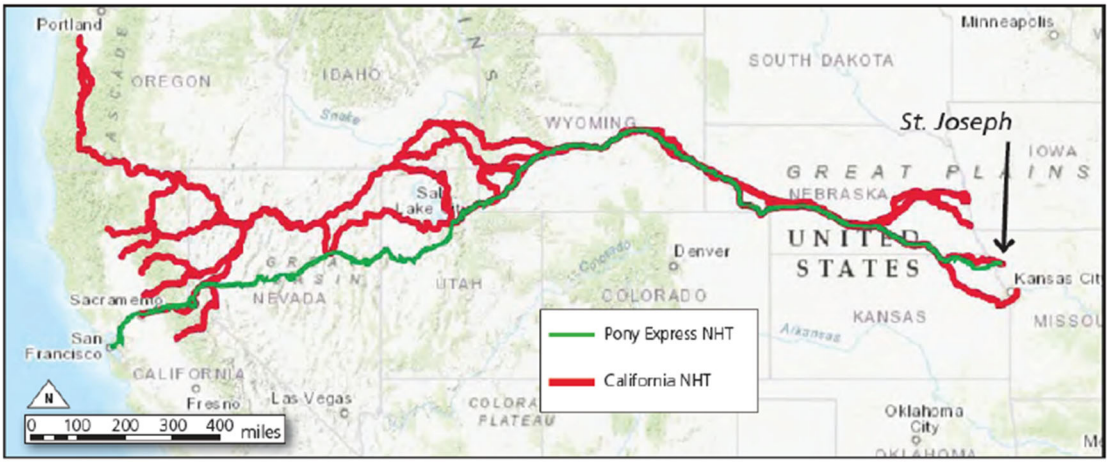
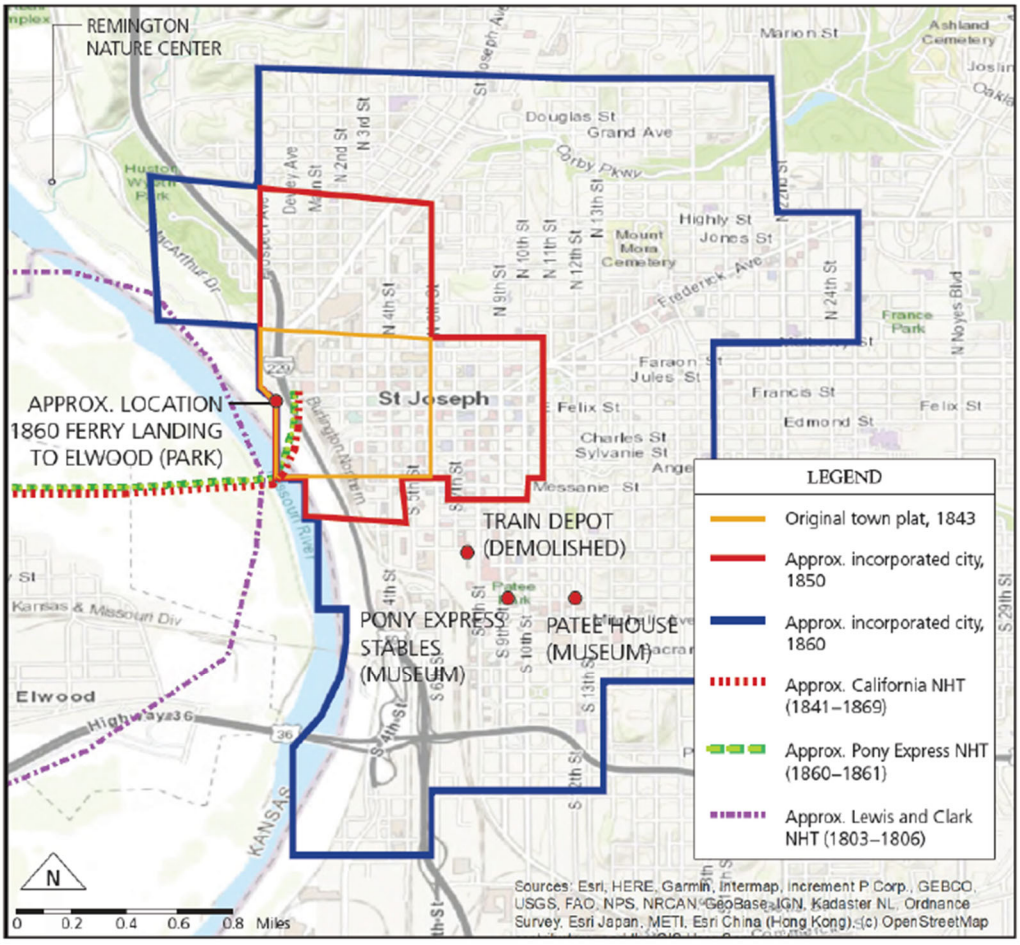



Figure 3-20

## California and Pony Express National Historic Trails | Project Location



- There is an opportunity to redevelop Robidoux Landing Riverfront Park to highlight the historic trails and create a more safe, accessible, and iconic space for visitors.

**Constraints:**

- The riverfront park is underutilized and can feel unsafe to visitors.
- The BNSF separates downtown from the river, park, and existing trail system, and poses a safety risk for pedestrians and bikers.
- The I-229 double-decker bridge is a physical obstruction and causes significant noise pollution to the current riverfront park.

**Proposal for NHTs in St. Joseph**

- **Pony Express NHT Retracement Trail** - The proposal is a linear walking/biking experience with sites connected by a specific "retracement trail." The alignment would connect the Patee House and the Robidoux Landing Riverfront Park/ferry landing site. Along the trail would be interpreted historic places associated with the trail (Figure 3-21).
- **California NHT Sites and Tour** -The California NHT would have two visitor experiences available to the public. One experience would overlap with a portion of the Pony Express trail from the Robidoux Landing Riverfront Park to Coleman Hawkins Park / Felix Street Square (Figure 3-21). This would include scattered historic and interpretive sites connected to California Trail experiences linked by digital and print media, and self-guided tours. The second experience would be a driving tour.
- **Robidoux Landing Riverfront Park** - This would be the trailhead and beginning/ending/connecting point for both Pony Express and California Trail experiences. Also connects to the Riverwalk trail, Lewis and Clark interpretation, and Remington Nature Center (Figure 3-21).

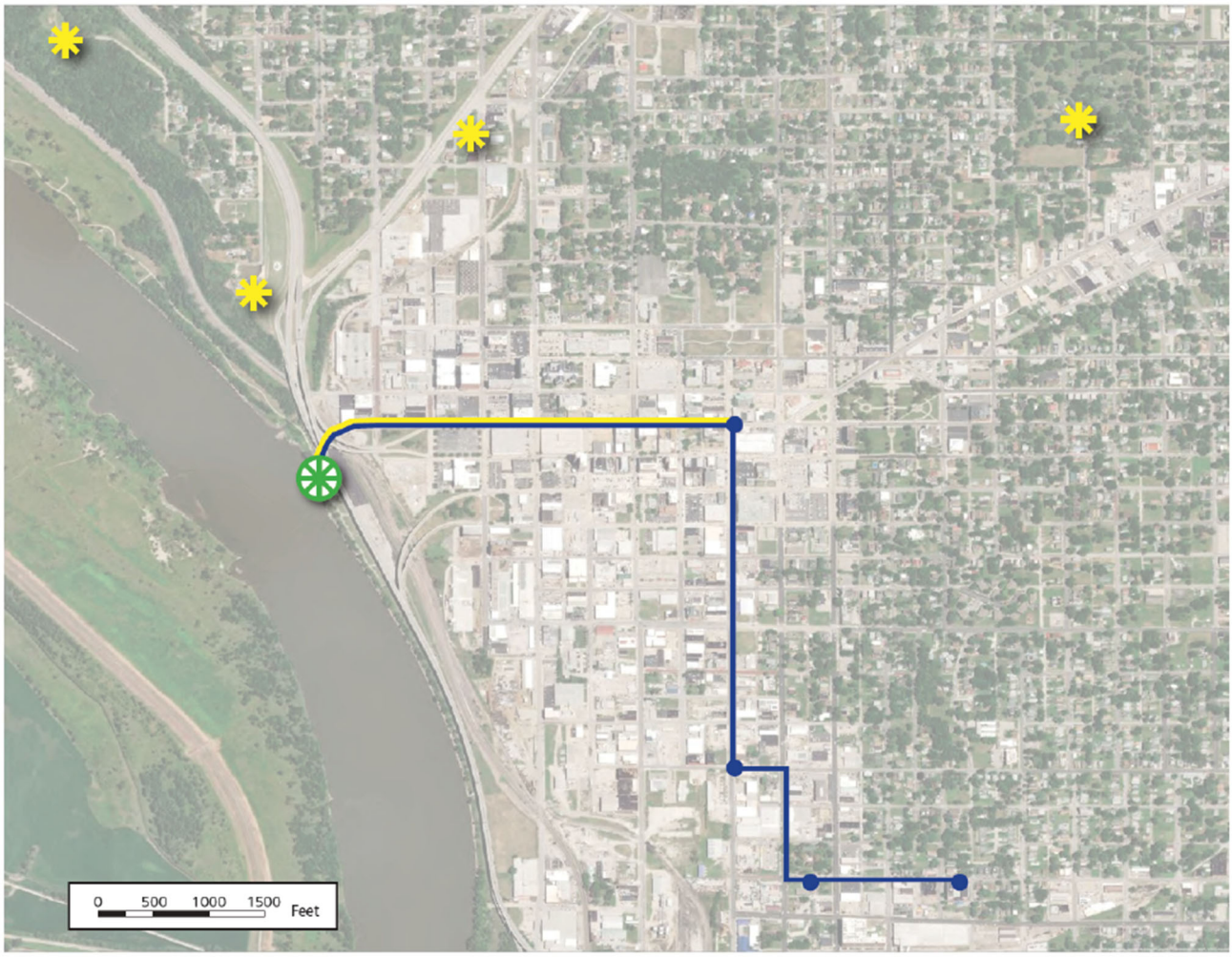
**Implementation**

The charette acknowledged that many of the parts of the project cannot be implemented immediately for many reasons, including funding, linked infrastructure projects, and other City of St. Joseph and community priorities. The timing also could not be identified for individual projects. Short term projects are relatively low cost and may be funded locally with minor NPS assistance, not contingent on changes or upgrades to existing street or park infrastructure, and/or can be completed independent of other NHT projects identified. Long term projects are high cost and will likely require federal transportation funding or major institutional support, require additional coordination or infrastructure development, and/or cannot be started until significant other city or transportation planning decisions are made.

It should be noted that funding has not been identified for any of the proposed projects.

Figure 3-21

## Proposed NHT Improvements



**Recommended Preferred Alternative Impacts**

The Recommended Preferred Alternative (Alternative D – Existing Corridor) consists of the double-decker bridge being removed and replaced with a new four-lane arterial road constructed at-grade (elevated as necessary for compliance with floodplain and stormwater requirements) in generally the same location as the existing double-decker bridge between the railroad tracks and the Missouri River. Access to downtown would only be provided at 4th Street and a new interchange at US Route 59.

*The Build Alternative will impact the proposed, but still unfunded, plans for interpretive concepts for both the Pony Express and California National Historic Trails. Mitigation measures that have been incorporated into the project commitments include:*

- *Replacing the existing trailhead shelter and providing the opportunity for an interpretive pavilion at the trailhead for the existing Riverfront Trail.*
- *Improving the pedestrian connection between Francis Street, across the BNSF tracks, to the southern trailhead to provide requested access to the St. Joseph downtown and proposed access to other regional NHT amenities, such as the Pony Express Museum.*
- *Providing opportunities for parking in proximity to the trailhead.*

The potential impacts to the NHT's proposal by the Recommended Preferred Alternative include:

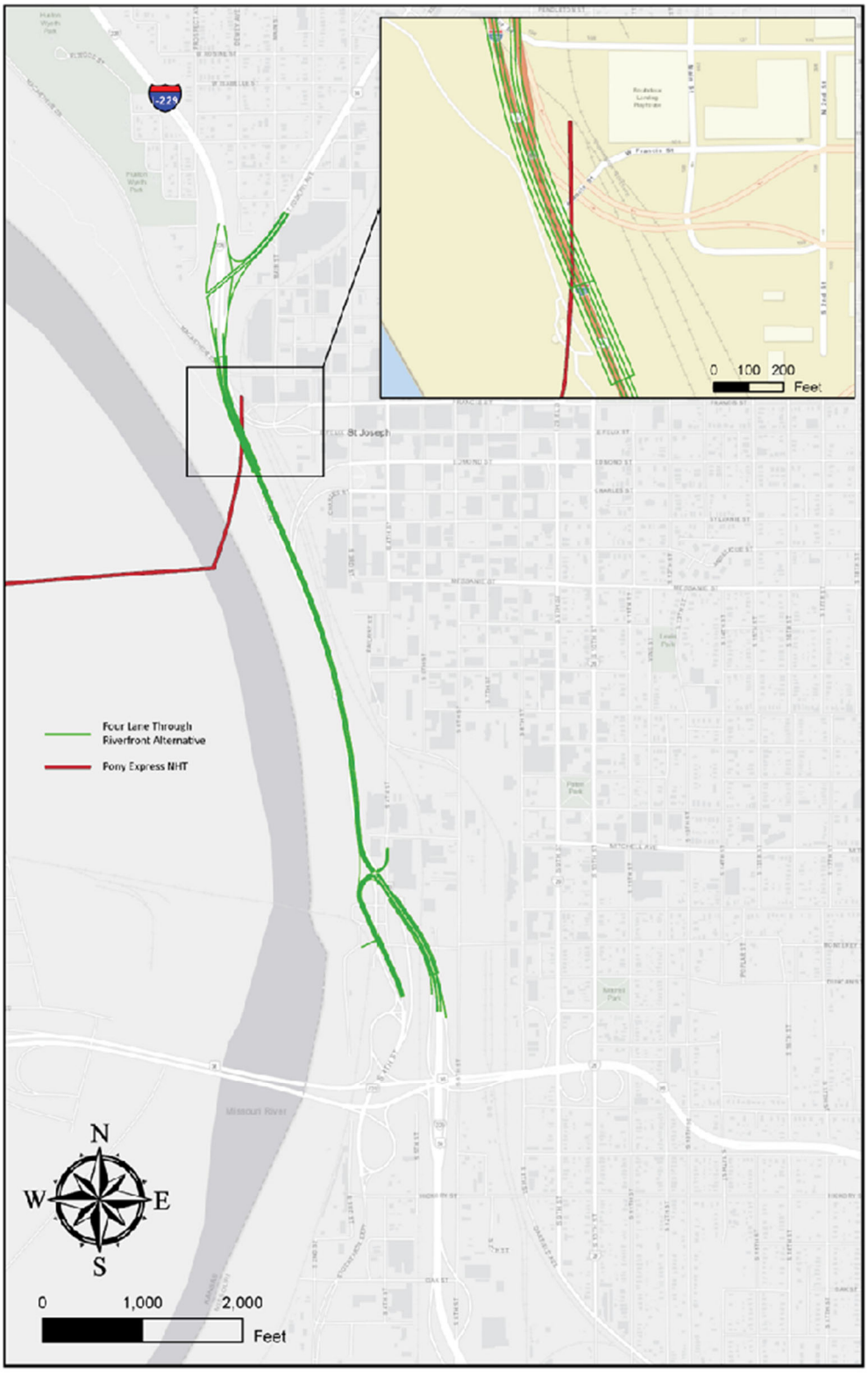
- **Reduced Park Space.** The reduced space available with the removal of the existing Riverfront Park would provide a further obstacle to the Pony Express NHT Retracement Trail and the overlapping California NHT alignment.
- **Maintaining Trail Connectivity.** The preferred alignment would not restrict the ability to connect the Robidoux Landing Riverwalk Trail into St. Joseph's downtown and then further on to other related sites. This connectivity provides access to the river desired by the NHT charrette recommendations.
- **Additional Connections.** No additional impact to the desire to provide interpretation throughout the area to share the history and identify key sites would be expected. In addition, the Recommended Preferred Alternative would not change the barrier that exists due to the railroad crossing.

Figure 3-22 identifies the Recommended Preferred Alternative and current alignment of the NHTs.

**MoDOT Commitment** - MoDOT shall complete all the requirements spelled out in the agreement with the National Park Service related to shifting Section 6(f) "encumbrance" from Riverside Park to the proposed East Side Park during construction.

Figure 3-22

## Recommended Preferred Alternative in Relation to the NHTs



## 3.14 Visual Resources

FHWA's Technical Advisory T6640.8A (TA) indicates whenever the potential for visual impacts exists from a proposed transportation project, the environmental study should identify the potential visual impacts to the adjacent land uses as well as measures to avoid, minimize, or mitigate these potential visual impacts.

The visual assessment process consists of four components. These include:

- Determining the Area of Visual Effect
- Analyzing the Landscape Character and Experience
- Predicting Baseline Impacts
- Identifying Mitigation Options

The visual assessment process provides an analysis of the landscape character for the Study Area. It is also used to determine the type and degree of visual impact for various viewers, such as the interstate user, the recreational tourist, and the local resident.

The visual and aesthetics analysis is based on the FHWA Guidelines for the Visual Impact Assessment of Highway Projects (January 2015). The visual analysis assesses the visual character and visual quality of the landscape, and then considers how typical viewers may respond to what they see around them. This assessment uses a professional observational approach that involves using projections about the visual preferences of viewers from certain locations. These assumptions are listed when the affected population is described within the landscape units identified and discussed in the section below.

Visual quality addresses aesthetics, which is the study of perceptual experiences that are pleasing to people. Visual quality is, therefore, the experience of having pleasing visual perceptions. Although background and former experiences make everyone's experience of visual quality unique, human perception of what constitutes a pleasing landscape is remarkably consistent, not only within society but across cultures.

A viewer observing an existing scene has a range of available responses that are inherent to all human beings. The FHWA Visual Impact Assessment Guidelines recognize three types of visual perception, corresponding to the three types of visual resources:

- **Natural environment**: viewers inherently evaluate the natural harmony of the existing scene, determining if the composition is harmonious or inharmonious.
- **Cultural environment**: viewers evaluate the scene's cultural order, determining if the composition is orderly or disorderly.
- **Project environment**: viewers evaluate the coherence of the project components, determining if the project's composition is coherent or incoherent.

The project impacts were identified by considering these elements. This visual assessment describes the existing conditions and the impacts of the alternatives in the foreground view within approximately 0.25 mile and the middle ground view (three to five miles). The background views are generally blocked by the existing built environment. Additional details have been provided in Technical Memorandum 10 - Visual Resources.

### 3.14.1 Visual Resources Impacts

The No-Build and Recommended Preferred Alternative would have the following impacts to visual resources:

- **No-Build Alternative** - Under the No-Build Alternative, the existing double-decker bridge would be left in place. Due to its deteriorated condition, the I-229 double-decker bridge would fall into a significant state of disrepair causing the bridge to eventually be load posted and ultimately closed - potentially within the next few years. From a visual perspective, the No-Build Alternative would have no significant changes from compatibility, sensitivity or degree perspectives. If the bridge is eventually closed, then the No-Build Alternative would have significant negative visual impacts related to the closure and deteriorated condition of the structure.
- **Recommended Preferred Alternative** - Under this alternative the double-decker bridge would be removed, and a 4-lane arterial constructed. The new arterial would be constructed generally at-grade and primarily on the west side of the BNSF tracks between tracks and the river - generally located along the existing alignment. The new arterial would have two bridges over the BNSF with one on the north end of the study corridor and one on the south end. On the south, a signalized intersection is proposed connecting the Stockyards Expressway and I-229 south of the study corridor to the new arterial. From a visual perspective, the Recommended Preferred Alternative would rate accordingly:
    - **Compatibility** - The existing built environment can absorb the changes to the surrounding environment because of the Recommended Preferred Alternative while maintaining a compatible visual character. The Recommended Preferred Alternative is considered compatible with the surrounding environment.
    - **Sensitivity** - The viewers will not experience a changed setting across most of the Recommended Preferred Alternative. Open views of the river will be a positive feature of this alternative, especially with the new bridge on the south end. Therefore, the Recommended Preferred Alternative is considered a neutral impact to sensitivity.
    - **Degree of Impact** - This alternative will maintain the existing views which have positive impacts. The Recommended Preferred Alternative is considered to have a neutral change to visual quality.

- **Aesthetic Improvements** - Understanding the importance of this new facility to downtown St. Joseph and as expressed from the city staff and public, MoDOT will work with the city to consider including appropriate aesthetic improvements (e.g. lighting, railings, and signage) in the design and construction process. This would be contingent on project funding availability and/or financial support from the local community.

*The Build Alternative will potentially result in substantial disruption during construction, including the demolition of the existing structure and the construction of the new improvement. Concern about the construction impacts, including the time required to complete, has been a concern heard at the public meetings, during conversations with local stakeholders, as well in conversations with city and MPO staff. MoDOT is committed to:*

- *Include the community, through an Advisory Group, in decision making related to construction sequencing, construction timing, etc.*
- *If the project follows the traditional design-bid-build process, MoDOT will include incentives/ disincentives for the contractor to minimize the amount of time under construction.*
- *If the project follows the design-build process, MoDOT will include goals related to minimizing construction impacts in the scoring for the selected design-build team.*

## 3.15 Construction Impacts

The Recommended Preferred Alternative would result in short-term and temporary impacts due to construction activities. These would include increases in noise, dust, and pollutants discharged by construction equipment. It would also include impacts to motorized and non-motorized traffic, and to businesses in the area in terms of circulation and temporary impacts caused by access modifications and detours.

### 3.15.1 Traffic Control/Detours

Constructing a new roadway and bridge would have some impact on local traffic in the immediate area as the contractor's personnel work around the project site. Additional traffic would be generated by delivery of materials to the project site. Vehicles bringing materials in and out would add to the existing traffic. A Traffic Management Plan (TMP) would be developed as part of the final design activities during project design. A TMP defines a set of coordinated traffic management strategies to manage the work zone impacts.

As outlined in the TMP, proposed strategies for managing traffic on this project might include staging construction to impact traffic as little as possible, conducting active public information and outreach, scheduling high impact work for hours of off-peak traffic, installing temporary traffic control devices, and possibly enlisting the help of law enforcement for additional traffic control, if necessary.

Temporary detours and local roadway closures would likely be necessary to facilitate construction. Because there are a number of alternate routes in the vicinity of the project, maintaining access during construction could be accommodated with minimal disruption.

MoDOT deploys proactive communications to the public through a variety of tools including web-based applications, intelligent transportation systems applications, and other conventional media outlets. MoDOT also publishes construction-related news releases and information on its website at www.modot.org for those who have internet access. Work zone impacts and issues would vary through the different stages of construction, making these timely announcements a valuable part of the TMP.

### 3.15.2 Air Quality

Air quality concerns associated with roadway and bridge construction typically arise from the operation of construction equipment such as cranes, bulldozers, haul trucks, and pavers. All of these types of equipment use diesel engines that put out exhaust gases similar to those from commercial over the road trucks. The level of contaminants in the exhaust can vary greatly depending on the condition of the equipment, thus making it important to keep equipment in good operating condition. 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 (except materials to be retained) would be removed from the project site and disposed of by a licensed contractor at a construction landfill. No open burning of trees, brush, or other waste would be permitted. The contractor may attempt to harvest any marketable timber, use mulched timber for erosion control, and compost excess mulch. Man-made waste must be hauled to a licensed landfill.

Under dry conditions, heavy traffic or strong winds can cause dust from the soil itself to become airborne (fugitive dust), resulting in air quality impacts. Contractors are required to control this fugitive dust to keep it from leaving the project limits. Watering the ground or using dust-retarding chemicals and washing vehicles prior to leaving the construction site may be used to reduce the generation and transport of fugitive dust. All methods must comply with applicable federal, state, and local laws and regulations.

### 3.15.3 Noise

Noise can be expected from the operation of equipment such as cranes, bulldozers, front-end loaders, scrapers, and other typical earth-moving equipment. To reduce noise impacts of construction noise, MoDOT would include special provisions in the construction contract requiring that all contractors comply with all applicable local, state, and federal regulations relating to noise levels permissible within and adjacent to the project construction site.

Construction equipment would be required to have noise-reducing mufflers in accordance with the equipment manufacturer's specifications.

Use of explosives could be expected for demolition of the trusses and bridge piers. These blasts would be expected to be limited in number and would be scheduled for daytime occurrence to avoid disrupting residential night-time quiet.

### 3.16.4 Water Quality

The MDNR regulates the control of runoff from land disturbance and issues a permit for the work to MoDOT, not the contractor. Erosion control measures must be put in place before land clearing begins. As discussed earlier in Section 3.5, MoDOT's Pollution Prevention Plan provides for temporary erosion and sediment control measures that would be included within construction contract specifications. Careful refueling practices would limit spills of gasoline and diesel fuels. Oil spills can be minimized by frequent checks of construction equipment. At a minimum, the following measures would be included in the SWPPP:

- Locate and protect all temporary storage facilities for petroleum products, other fuels, and chemicals to prevent accidental spills from entering streams within the project vicinity. Clean-up any such spills that occur within 1,640 feet of any stream within 24 hours of the spill to prevent the possibility of pollution due to runoff.
- Avoid disposing of cement sweeping, washings, concrete wash water from concrete trucks, and other concrete mixing equipment, treatment chemicals, or grouting and bonding materials into streams, wetlands, or into any location where water runoff will wash pollutants into streams or wetlands.
- Reseed all areas within the project limits denuded of vegetation because of construction activities.
- Immediately remove and properly dispose of all debris during every phase of the project in order to prevent the accumulation of unsightly, deleterious, and toxic material in or near area water bodies.
- Avoid disposing of any construction debris or waste material below the OHWM of any water body or at any location where the material could be introduced into the water because of run-off, flood, wind, or other natural forces.

### 3.15.5 Visual Effects

During construction of the Recommended Preferred Alternative views would be temporarily degraded due to the construction activities such as earth moving, roadway and bridge demolition, and roadway and bridge construction. The length of duration and the severity of these impacts would vary depending on the stage of construction.

### 3.15.6 Railroad Coordination

The BNSF Railroad passes under the existing and proposed bridges. MoDOT would coordinate with the railroad to work around their train schedule. Construction of bridge piers nearby would require flaggers during construction operations. All flagging costs would be borne by MoDOT. To avoid interrupting train traffic, the contractor would coordinate with the railroad to schedule setting girders and handling other materials over the railroad tracks. It is not anticipated that rail traffic would be affected by construction, although railroad company flagmen would be on-site whenever there is active construction on railroad right-of-way.

### 3.15.7 Utilities

MoDOT will ensure that details of utility disposition are determined during project design. Agreements with utilities will be negotiated and executed prior to seeking project federal authorization for construction. MoDOT's utility engineers and representatives of the various utilities shall plan the details of individual utility adjustments on a case-by-case basis.

### 3.15.8 Borrow and Waste Sites

All suitable materials removed during excavation shall be used as far as practicable in the formation of embankments, subgrade, shoulders, and other locations requiring fill as directed on the construction plans. No excavated materials shall be wasted without permission, and when such material is to be wasted, it shall be so placed that it would present a neat appearance and not be injurious to abutting property. The construction plans may designate certain materials to be excavated and stockpiled for a specific purpose for future use. It is the Contractor's responsibility to make use of all available suitable excavation material within the limits of the project.

All waste and borrow areas will be identified by the Contractor. The use of borrow pits or waste areas, other than shown on the construction plans or designated by the Field Engineer, may be approved, provided the material and area is satisfactory. The Contractor shall furnish the Field Engineer a copy of the agreement with the landowner for use of the property as a borrow or waste area. The agreement shall contain stipulations about temporary seeding and water pollution control to be implemented during construction. Approval of borrow or waste sites is also contingent upon receiving appropriate wildlife and/or archaeological clearances.

In the event the Contractor's excavation operation encounters remains of a prehistoric site or artifacts of historical and/or archaeological significance, all construction activities shall be temporarily discontinued. The Field Engineer will contact the MoDOT Design Division Environmental Section to determine the disposition of the discovered artifacts. When directed by the Field Engineer, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and the archaeologist or his/her representative shall remove the artifacts for delivery to the custody of the proper state authority.

### 3.15.9 Construction Commitments

- **MoDOT Commitment** - MoDOT shall include the community, through an Advisory Group, in decision making related to construction sequencing, construction timing, etc.
- **MoDOT Commitment -** MoDOT shall include incentives/disincentives for the contractor to minimize the amount of time under construction if the project follows the traditional design-bid-build process.
- Should MoDOT select design-build as the preferred project delivery method, MoDOT shall include goals related to minimizing construction impacts in the scoring for the selected design-build team.
- **MoDOT Commitment -** MoDOT shall ensure that details of utility disposition are determined during project design. Agreements with utilities shall be negotiated and executed prior to seeking project federal authorization for construction. MoDOT's utility engineers and representatives of the various utilities shall plan the details of individual utility adjustments on a case-by-case basis.
- **MoDOT Commitment -** MoDOT shall ensure that contractors make efforts to capture fugitive dust to prevent it from migrating off the limits of the project corridor.
- **MoDOT Commitment -** MoDOT shall include standard specifications in the construction contract requiring all contractors to comply with every applicable local, state, and federal laws and regulations relating to noise levels permissible within and adjacent to the project construction site.
- **MoDOT Commitment -** MoDOT shall ensure that careful refueling practices are employed to limit spills of gasoline and diesel fuels.
- **MoDOT Commitment -** MoDOT will ensure a TMP is included in the construction contract to respond to temporary disruptions in travel patterns and travel time. Once developed, 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, MoDOT's environmental section will review these impacts prior to implementing the TMP.

## 3.16 Indirect & Cumulative Impacts

Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable (e.g., changes to surface water flow, or development of a new gas station near a new interchange, etc.). The Council on Environmental Quality defines cumulative effects (40 CFR 1508.1) as "effects on the environment that result from the incremental effects of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions."

### 3.16.1 Indirect Impacts

The proposed project would be consistent with the current comprehensive plan of the City of St. Joseph, the 2045 MTP and 2050 MTP (currently in progress), the Riverfront Master Plan, Imagine St. Joseph 2040 Plan, and National Park Service Historic Trails Plan (currently in progress). The proposed improvements would support the community's desire to better connect the riverfront and the CBD.

Research and empirical evidence support the theory that economic development follows significant transportation and access improvements. Comprehensive plans and any future planning and zoning ordinances would continue to serve as the appropriate mechanisms to guide land use and development.

There would be both immediate and long-term potential economic impacts around the Study Area. Immediate, positive economic impacts would occur during the time required for property acquisition and design and construction of the roadway. These would be generated by the work and incomes provided by construction. In addition to the jobs supported by the direct infusion of construction dollars into the local economy, there would be secondary effects of those dollars in the economy and the increase in tax monies received.

### 3.16.2 Cumulative Impacts

MoDOT has a Pollution Prevention Plan, which describes erosion control practices that will be implemented for the project. Given the existing Missouri River natural sediment load and contributions from agricultural runoff, river dredging, and other developments, the sediment contribution from the project is expected to be minimal. MoDOT will implement BMPs to minimize off-site transport of sediment. The implementation of these practices should afford adequate protection to sensitive aquatic resources in the Missouri River and minimize this project's contribution to any potentially negative cumulative impacts associated with sedimentation.

Overall, no significant cumulative effects are anticipated because of the implementation of the proposed project.

Chapter 4

# I-229 De-Designation

Since the Federal-Aid Highway Act of 1956, America has spent billions to create the Interstate Highway System. As part of that program, almost every major metropolitan area used the Interstate Highway Program to provide improved accessibility to their central business district via a new interstate highway. In a similar fashion, St. Joseph, MO constructed a new interstate highway, Interstate 229 (I-229), to connect the new I-29 to downtown St. Joseph.

Today, much of this infrastructure is reaching the end of its initial design life and cities and states are poised to invest their dollars in community revitalization projects in neighborhoods previously bifurcated by these transportation facilities. The goal of these investments in downtowns and riverfronts is to encourage better health and economic outcomes.

I-229 has several of the features of other successful interstate de-designations, such as the interstate is underutilized with relatively low traffic volumes; the facility has reached the end of its useful design life; the function or purpose has changed over time; and the facility acts as a barrier to desired downtown development plans.

Subsequently, as part of the I-229 alternatives evaluation process, MoDOT is recommending de-designating I-229 as an interstate highway from its northern terminus at I-29 to its southern terminus at I-29, a distance of 15 miles through St Joseph. The De-Designation request would occur prior to demolition and construction of the Proposed Action. De-designation of an interstate is considered a separate federal action apart from the alternatives developed to address the double-decker bridge. As such, this chapter discusses the de-designation process, potential impacts to doing so, and public outreach related to the de-designation process.

In addition to satisfying the requirements of NEPA regulations, this chapter was prepared following FHWA Guidance on the Withdrawal or De-designation of Segments of the Interstate Highway System and 23 CFR Section 658.11(d).

## 4.1 Proposed Action and Federal Action

### 4.1.1 Proposed Action

The Proposed Action, sponsored by FHWA and MoDOT, is to provide the most effective improvement alternative to the I-229 double-decker bridge and de-designation of I-229 that satisfies current and future area transportation needs while minimizing impacts to the human and natural environment.

### 4.1.2 Federal Action

FHWA has the authority to withdraw segments of the Interstate System from a State DOT at that State's request. In this case, MoDOT will submit an interstate withdrawal request in accordance with 23 CFR 658.11(d) to FHWA that includes:

- A description of the revision (location and limits), refer to Technical Memorandum 6 - Interstate De-Designation.
- An explanation of how the Interstate System (i.e., I-29) will function with the segment removed.
- A justification for the interstate withdrawal (i.e., low traffic volumes, primarily used by local traffic, and did not attract growth or redevelopment of the downtown area).
- An explanation of how the withdrawn highway segment will be used.
- A documented coordination process between affected MPOs and local entities.
- A documented compliance with the NEPA process for the interstate withdrawal (i.e., this EA).
- A proposed route numbering plan, if necessary.
- A request and justification for withdrawing the roadway from the National Network.
- An explanation on how the current and future highway will affect safety, mobility, and access.

The withdrawn segment will remain on the National Highway System (NHS) unless the state requests the segment's removal from the NHS network, or the segment is no longer functionally classified as a principal arterial. The National Network differs in extent and purpose from the NHS, which was created more than a decade later by the National Highway System Designation Act of 1995. Both are about the same length, roughly 200,000 miles, but the National Network includes approximately 65,000 miles of highways beyond the NHS, and the NHS includes about 50,000 miles of highways not on the National Network. The National Network supports interstate commerce by regulating the size of trucks, while the NHS supports interstate commerce by focusing federal investments.

There is no obligation to repay federal funds, however the federal share of the proceeds from the disposal of any ROW for non-highway uses must be used on projects eligible for funding under 23 CFR 620.203. Also, any future federal funding distributions based on the number of interstate miles in Missouri would be affected. Disposal involves the transfer of ownership and rights to real property for non-transportation uses which differs from relinquishment which involves the transfer of highway property to another government agency for a continued transportation use.

FHWA will evaluate the interstate de-designation request against several regulatory acts and executive orders before de-designation approval is granted.

## 4.2 Resources Not Affected by De-Designation

Aside from the impacts discussed in Chapter 3 relative to the Recommended Preferred Alternative, de-designation of I-229 would occur within MoDOT existing ROW and does not include any additional action and would therefore have no adverse impact upon the following resources:

- **Economics** – De-designation of I-229 will occur within existing MoDOT ROW and there will be no acquisition of public or private property. The de-designation of the interstate highway and its conversion to a state highway would not substantially affect travel times for commuters, trucks, or other vehicular traffic through the area. Therefore, the de-designation will not adversely affect the regional or local economies. De-designation will maintain existing access along the existing route for cars and trucks and substantial increases in travel time are not anticipated. Furthermore, substantial traffic diversions are not expected since the travel time and distance will not be altered by the de-designation. Therefore, the de-designation will not result in adverse effects on business districts.
- **System-wide Traffic Congestion** – De-designation will not impact the geometry, the travel times, or the capacity of the existing facility. An increase in travel demand for specific roadway facilities or for that matter any change in travel patterns due to de-designation are not anticipated. Therefore, de-designation will not impact system-wide traffic congestion.
- **Air Quality** – The I-229 corridor is in an area currently in attainment indicating that current air quality conditions are in compliance with the NAAQS for the pollutants described in Section 3.3 of this document. Therefore, the conformity requirements of 40 CFR Part 93 do not apply to this project or de-designation and no further action is needed. Furthermore, since the project is exempt from the conformity requirements no MSAT analysis, determination of a project air quality concern or a PM hot-spot conformity determination are necessary.
- **Noise** – The de-designation will not involve any changes in capacity or alignment of the existing highway. FHWA's traffic noise regulation (23 CFR 772) defines a Type I Project as one of the following:
    - Construction of a highway on a new location
    - Substantial physical horizontal or vertical alteration of an existing highway
    - Addition of a through-traffic lane
    - Addition of an auxiliary lane except for turn lanes
    - Addition or relocation of interchange lanes or ramps to complete a partial interchange
    - Restriping existing pavement for the purpose of adding a through-traffic or auxiliary lane, or

- Addition of substantial alteration of a weight station, rest stop, ride-share lot or toll plaza.

De-designation does not involve any of the above, and therefore, is not a Type I noise project. De-designation does not require a traffic noise analysis.

- **Water Quality** – De-designation will not involve the construction of any structures within, above or adjacent to any water resources. Therefore, de-designation will not diminish water quality in nearby water bodies or streams. De-designation would not result in an increase in impervious surface and therefore, no increases in stormwater runoff would be expected.
- **Wetlands or Other Waters of the U.S.** – No work will occur in wetlands; therefore, Executive Order 11990 does not apply. De-designation will not involve excavation in or the discharge of dredged or fill materials into Waters of the U.S. Therefore, USACE surface water permits would not be required.
- **Floodplains** – No work will occur in floodplains; therefore, an encroachment does not exist and there would be no impacts on natural beneficial floodplain values.
- **Biological Resources or Threatened and Endangered Species** – Existing roadside vegetation consists primarily of maintained lawn areas. The lawn areas vary in width and topography. Trees in some locations are located beyond the clear zone. Other than routine mowing, de-designation would have no effect on existing vegetation. De-designation would not include any work in the existing ROW and would have "No Effect" on any state or federally listed threatened or endangered species or habitats.
- **Farmland** - There is no farmland within the existing I-229 right-of-way.
- **Geology or Soils** - Since there would be no construction activities involved with de-designation there would be no impact on the underlying geology or soils of the existing right-of-way.
- **Hazardous Material Sites** – There are no documented hazardous materials sites within the existing right-of-way and since there would be no construction activities involved with de-designation, there would be no impact on hazardous materials sites even those that might be adjacent to the ROW.
- **Archaeological or Historic Resources** – I-229 itself is exempt from the requirements of Section 106 of the National Historic Preservation Act under a nationwide exemption for the Interstate Highway System, issued by the Advisory Council on Historic Preservation on March 10, 2005. Therefore, de-designation would have "No Effect" on archaeological or historic resources.
- **Section 4(f)/6(f) Resources** – Except between US Route 36 and US Route 59 in the Study Area, there are no public facilities, conservation areas, parks or historic features within the existing I-229 ROW and I-229 is exempt from consideration as a historic

resource under Section 4(f) Section 6007 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU, Public Law 109-59, August 10, 2005. Therefore, a Section 4(f) evaluation is not required. De-designation will not convert parklands or facilities that have been partially or fully federally funded through the Land and Water Conservation Act (LWCF). Therefore, no further consideration under Section 6(f) of the LWCF Act is required.

- **Visual Resources** – No significant visual resources exist in the areas immediately surrounding the existing ROW and views of adjacent water bodies, parks and vegetation would be unaffected.
- **Construction Impacts** – Since no construction would occur in association with the de-designation, there would be no construction impacts other than those associated with routine maintenance.

## 4.3 Potential Positive De-Designation Effects

In general, interstate design standards are very prescriptive and place limitations on things like interchange spacing, interchange types, and access to name a few. Many resources could potentially benefit from the de-designation of I-229 and resulting secondary impacts. Those resources potentially benefitted are briefly described below:

- **Land Use** – De-designation of I-229 could allow for more local connections to the highway and open new areas for development/redevelopment. As an example, SJATSO, the local MPO, has identified in their last two long range transportation plans a desire to connect Cook Road to the highway. Furthermore, de-designation of the highway is more consistent with its surrounding land uses. Overall, the de-designation is consistent with existing land use plans and zoning.
- **Socioeconomics and Community Impacts** – De-designation of I-229 will not require the acquisition of occupied dwellings or businesses or displacement of residents, businesses, or employees. De-designation could allow for more local connections, accommodate multiple modes of transportation (e.g., walking/biking) better, re-connect low-income neighborhoods separated by the current I-229, and open new areas for development/redevelopment.

## 4.4 Public Outreach

Public outreach and stakeholder meetings were not only used to inform, but more importantly to solicit input from the public and stakeholders on what they wanted the future of St. Joseph and the Study Area to look like. As part of that outreach and meetings that were held the project team frequently asked the participants how important maintaining the existing facility as an interstate was to them. Most responses were that the interstate designation was not important to personal or

commercial travel. At the Location Public Hearing, a station specifically dealing with interstate de-designation will be provided. The Location Public Hearing will be held following the publication of this EA. For more information regarding public outreach activities refer to Technical Memorandum 17 - Public Meetings and Technical Memorandum 18 - Stakeholder Engagement.

Chapter 5

# Comments & Coordination

## 6.1 Introduction

A variety of methods were utilized to provide information and solicit feedback from the St. Joseph community, stakeholders, and agency partners throughout the process of preparing the I-229 EA. The preparation of the EA was initiated in June 2018. The outreach approach helped assess the needs and issues of the I-229 double-decker bridge, the community's needs, as well as the impacts and overall effectiveness of potential alternatives to address those needs. Stakeholder and public involvement were critical to this approach and helped build awareness and understanding. It also played an important role in providing input into an outcome that reflects the interdisciplinary, collaborative process and includes input from various people and groups with a stake in the EA. This chapter summarizes the various public outreach and resource agency approaches used over the course of the study. More detailed summaries have been provided in three TM:

- **Technical Memorandum 17 - Public Meetings** – Four public meetings were conducted including an initial visioning workshop, an Initial Alternatives meeting, a Reasonable Alternatives meeting, and a Recommended Preferred Alternative public hearing will be conducted between the publication of this EA and the final decision document.
- **Technical Memorandum 18 - Stakeholder Engagement** - A TAC comprised of representation from interested community stakeholder groups was formed and a series of meetings conducted at various stages during the study process. In addition, over 100 individual, one-on-one stakeholder meetings were conducted as needed and in alignment with various decisions (purpose & need, Initial Alternatives screening, Reasonable Alternatives screening, etc.)
- **Technical Memorandum 19 - Resource Agency Coordination** - The study included extensive coordination with FHWA and the various state and federal resource agencies with responsibility over the different environmental resources. The study began with an Agency Scoping meeting in November of 2018 and included extensive coordination throughout.

## 6.2 Public Meetings

The Study Team completed three public meetings and a public hearing during the course of the I-229 EA. Summaries of each of those meetings, along with public comments, are provided on the following pages.

The formal public meetings included:

- **Visioning Workshop -** An initial workshop was held in-person on October 9, 2018 to ask the community about the importance of the bridge and to explore future visions for downtown I-229.
- **Initial Alternatives Public Meeting** - An in-person Open House, along with a concurrent virtual web-based meeting, was held on April 19, 2019, to present the Initial Alternatives and to get feedback on the relative merits of each.
- **Reasonable Alternatives Public Meeting** - A second in-person Open House, along with a similar virtual web-based meeting, was held on September 1, 2022, to present the Reasonable Alternatives and to get feedback on their relative merits.
- **Public Hearing** - A final Public Hearing is planned for the Summer of 2024 following review and approval of the EA. Technical Memorandum 17 - Public Meetings will be updated with the Hearing details and public comments from that meeting.

Substantive public comments are included in Table 5-1.

Table 5-1: Public Comments and Responses

| Comment | Response |
|---|---|
| There was some support for rehabilitating the existing bridge related to convenience to accessing downtown and for trucks to access the stockyards. | There was also significant support for removing the bridge based on its hindrance to economic development, it being a general “eyesore”, and disruption to access to the riverfront. MoDOT’s response was to explain why rehabilitation was not a long-term option based on cost and the need to ultimately replace the bridge in the future. Criteria related to downtown access and trucks access to the stockyards were added to the screening matrix for each alternative. |
| Several comments were received for moving I-229 west of the Missouri River into Kansas. | MoDOT agreed to develop additional Kansas-side initial alternatives and subjected them to the same screening criteria as the other initial alternatives. It was ultimately determined that those alternatives performed poorly and were screened out. |
| Additional concerns were raised by the public related to convenient access to downtown and maintaining truck access into the stockyards area. | Criteria were added to the evaluation matrix to include each alternatives impact on both downtown and stockyards accessibility. |
| Some concerns were raised about the implications of removing the interstate designation, primarily related to potential lost funding. | Additional discussions were had with business owners in both the stockyards and downtown to determine if there was a potential impact from de-designation. The vast majority of business owners were not concerned about de-designation. MoDOT also helped explain that there would not be a loss of funding as a result. |

| | |
|---|---|
| Impacts to city streets and their ability to handle additional heavy trucks was identified as a concern. | Several alternatives would have resulted in additional heavy trucks on the local street networks. Those alternatives were screened out, in part, because of this concern. |
| City/MPO staff were interested in alternatives that helped clean up several hazardous waste sites on the west side of downtown. | Additional alternatives were developed along the east side of the railroad tracks on the west side of downtown to accommodate the city's interest. Those alternatives were screened out based on the criteria established. |
| There was interest in alternatives that helped open access to the Riverfront. | Based on conversations with the City Council, MPO and the Mayor, access to the Riverfront was a secondary goal and the city ultimately sent a letter of support for the recommended preferred alternative that did impact this goal. |

## 6.3 Stakeholder Engagement

In addition to the in-person and virtual public meetings that were open to everyone, the study team coordinated with additional smaller groups either through the TAC or through face-to-face meetings with dozens of community stakeholder groups.

### 6.3.1 Technical Advisory Committee

During the project initiation, a TAC was formed to help advise the study team, to help brainstorm options, review study materials, and to help make the final decision on a Recommended Preferred Alternative. The TAC met a total of three times during the study, typically at key milestones.

The TAC was comprised of the members of the following organizations:

- Bartlett Grain
- BNSF Railway
- Buchanan County Commission
- Downtown First
- Felix Street Gourmet/Room 108 Event Space
- Hillyard
- Mo-Kan Regional Planning Council
- Nor-Am Ice & Cold Storage
- Seaboard Foods
- St. Joseph Chamber of Commerce
- St. Joseph City Council
- St. Joseph Downtown Partnership
- St. Joseph Area Transportation Study Organization
- St. Joseph Planning & Community Development
- St. Joseph Public Works & Transportation

- Downtown Association
- Triumph Foods
- U.S. Army Corps of Engineers
- United Way

### 6.3.2 Community Stakeholder Meetings

Throughout the life of the study, the study team met with dozens of stakeholder groups, individual businesses, and potentially impacted property owners. In fact, the study team met over 100 times to discuss the project.

Every meeting was similar in format. The study team would provide a project update depending on which phase the project was in (Project Initiation, Initial Alternatives or Reasonable Alternatives) and then discuss the specific topics of concern, answer any questions, and brainstorm different ideas.

### 6.3.3 Social Media

In addition to in-person outreach, the study team provided several social media options for the community to engage in. The website provided a project overview, timely project updates, and an opportunity to provide feedback. The web page was also used for the virtual public meetings that happened in coordination with both the Initial Alternatives and Reasonable Alternatives Public Meetings that were held in-person.

The study team also maintained a project Facebook page and a Twitter account and posted to both frequently during the study.

*Representatives from various stakeholder groups comprising interested businesses, economic development organizations, city staff, etc. participated in the TAC to discuss the relative merits of the I-229 alternatives at each stage of development.*

## 6.4 Resource Agency Coordination

The I-229 EA included extensive coordination with FHWA and the various state and federal resource agencies with responsibility over the different environmental resources. The study began with an Agency Scoping meeting in November of 2018 and included extensive coordination throughout.

### 6.4.1 Resource Agency Coordination Plan

The Coordination Plan was developed to meet one of several requirements under Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) of 2005. All Environmental Impact Statements (EIS) for which the Notice of Intent (NOI) was published in the Federal Register after August 10, 2005, must follow SAFETEA-LU's requirements. Section 6002 of SAFETEA-LU requires preparation of a Coordination Plan for projects requiring an EIS as defined by the National Environmental Policy Act (NEPA). While not required for an EA, it was advantageous to use a coordination plan for an EA in case the EA may need to be elevated to an EIS.

### 6.4.2 Resource Agency Coordination

Numerous meetings were held during the study with the various resource agencies. A detailed discussion of each meeting has been provided in Technical Memorandum 19 - Resource Agency Coordination and are summarized here:

- **Agency Scoping Meeting** - The purpose of the Scoping Meeting was to ensure that Participating Agencies had a meaningful opportunity to provide input on the study. Participating Agencies, Local Agencies, and Non-Participating Agencies were all invited to attend an agency scoping meeting on November 1, 2018, at 10:30 am at the Remington Nature Center, 1502 MacArthur Drive, St. Joseph, MO. At the meeting, the study team provided an overview of the study process and key issues. There was time for the agencies to provide input on key concerns regarding potential environmental or socioeconomic impacts. Following the meeting, materials and notes were sent to agency representatives who are unable to attend. Alternatively, if Participating Agency members


*Approximately 20 representatives of the various resource agencies attended an initial scoping meeting for the I-229 Environmental Assessment.*

were unable to attend in person, they were able to attend via teleconference.

- **FHWA Coordination** - The Federal Highway Administration was an active participant in the I-229 EA and provided critical guidance throughout. In fact, representatives from FHWA participated in both the TAC and sat-in, as schedules dictated, on the study team's bi-weekly check-in calls. Several additional meetings with FHWA are documented in Technical Memorandum 19 - Resource Agency Coordination.
- **MDNR Hazardous Materials Meeting** - On April 23, 2019, the study team met with members of MDNR to discuss the potential impacts to several hazardous materials properties within the Study Area.
- **Section 106 Coordination** - Detailed results of the cultural resources investigations, including summaries of the Section 106 Consultation, have been provided in separate cultural resource reports. In summary, the Study Team participated in five Section 106 Consultation Meetings as summarized in Technical Memorandum 19 - Resource Agency Coordination.
- **Tribal Coordination** - Thirteen tribal nations were asked if they would like to participate and consult in the study process. None of the tribes agreed to formally participate, but Lance Foster, Vice Chair at the Iowa Tribe of Kansas and Nebraska, indicated that they should be informed if any ancestral artifacts are discovered during construction. In addition, Mr. Foster attended a number Section 106 coordination meetings.

Chapter 6

# Project Commitments

MoDOT shall implement all project and regulatory commitments, whether or not specifically delineated herein, after construction limits are determined. Federal authorization for construction shall not be granted until the necessary regulatory obligations have been satisfactorily completed.

1. If there are changes in the project scope, project limits, existing conditions, pertinent regulations, or environmental commitments, MoDOT must re-evaluate potential impacts prior to implementation. Environmental commitments are not subject to change without prior written approval from FHWA. (General – Section 3.0)
2. MoDOT shall replace the existing Riverwalk Trail trailhead shelter with at least a compatible, if not improved structure during construction. (Bicycle and Pedestrian Systems – Section 3.1.3)
3. MoDOT shall improve the pedestrian connection between Francis Street, across the BNSF tracts, to the southern trailhead during construction. (Bicycle and Pedestrian Systems – Section 3.1.3)
4. MoDOT shall provide opportunities for parking in proximity to the trailhead during the project design process and construction. (Bicycle and Pedestrian Systems – Section 3.1.3)
5. MoDOT shall investigate options for upgrading the Riverwalk Trail south of the existing trailhead to potentially connect south of its current termini during the project design process. (Bicycle and Pedestrian Systems – Section 3.1.3)
6. MoDOT shall acquire all properties needed for this project in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 as amended (Uniform Act; 42 USC 4601), and other regulations and policies as appropriate. (Right of Way – Section 3.2.5)
7. MoDOT will ensure that if during the Design-Build process, changes are made that would require a new analysis of the need for noise abatement, the MoDOT Noise Policy will be used to address any noise impacts. For locations where noise walls are feasible and reasonable, MoDOT will discuss noise wall locations and provide benefited residents an opportunity to vote on whether they would like a noise wall. (Noise – Section 3.4)

8. To protect water quality and reduce impacts during and after completion, construction of the new roadway and bridge shall be completed in conformance with Missouri State Operating Permit (MOR100). MoDOT will require the contractor to implement BMPs to prevent erosion and provide sediment and stormwater management during construction. (Water Quality – Section 3.5)
9. MoDOT shall ensure that in accordance with the requirements of the NPDES program, the contractor will be required to develop a project-specific SWPPP to describe the BMPs to be implemented during construction. The SWPPP would include MDNR approved components to reduce suspended solids, turbidity, and downstream sedimentation that may degrade water quality and adversely impact aquatic life. (Water Quality – Section 3.5)
10. MoDOT shall adhere to the municipal TS4 permit and consideration of permanent BMPs, applicable at the time of construction. (Water Quality – Section 3.5)
11. MoDOT will ensure coordination with the USACE during project design to obtain concurrence on the jurisdictional status of wetland and other waters of the US within the Study Area and proposed protection/avoidance measures. (Wetlands & Waters of the US – Section 3.6)
12. MoDOT shall ensure that, should impacts to waters of the US occur with this project, the proper Section 404 Permit be acquired prior to construction. (Wetlands & Waters of the US – Section 3.6)
13. MoDOT will restrict development within the regulatory floodway and "demonstrate through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge". If MoDOT is unable to avoid the regulatory floodway with the final alignments, MoDOT would conduct a hydraulic analysis during final design to document that the new improvements would result in "no rise" in the flow within the regulatory floodway. (Floodplains – 3.7)
14. MoDOT will conduct an engineering analysis for the Recommended Preferred Alternative prior to submission of the floodplain development permit application to SEMA. The contractor shall obtain a floodplain development permit and "no-rise" certification. (Floodplains – Section 3.7)
15. MoDOT will minimize the size and duration of temporary obstructions within the floodplains and regulatory floodway during construction by effective construction sequencing and construction methodology. (Floodplains – Section 3.7)

16. MoDOT will employ sediment and erosion control management best practices during construction and re-seed disturbed areas following construction. (Floodplains – Section 3.7)
17. FHWA is the lead federal agency for this project. MoDOT is the designated non-federal representative for FHWA and is responsible for completing coordination for compliance with Section 7 of the Endangered Species Act and with the Missouri Endangered Species Act. Consultation will be completed prior to construction or before any federal funds are obligated. (Endangered Species – Section 3.8)
18. MoDOT shall reevaluate the NEPA document to ensure that the Section 7 determinations remain valid should changes in the project footprint or scope, including potential additional improvements added as part of the Design-Build process (e.g. The McArthur Extension), occur that were not evaluated in this document. (Endangered Species – Section 3.8)
19. MoDOT shall conduct tree surveys prior to the start of construction to identify any trees over 3 inches in diameter that could serve as a maternity roost for Tricolored bats. If trees identified as suitable habitat are present within the construction zone, all trees will be removed between October 16 and March 31 to eliminate any potential impact to the three bat species during the non-hibernation period. The narrow band of trees along the river bank, which may provide some suitable habitat for the Tricolored bat, will not be removed for construction of the project. (Endangered Species – 3.8)
20. MoDOT shall conduct surveys of bridges prior to the start of construction to identify any active bird nests on the structures. If the use of avoidance measures is not possible, options include removal of inactive nests by MoDOT staff with on-going maintenance until project Notice to Proceed, or removal of inactive or partially constructed nests by March 15 (outside of the general nesting season of April 1 to July 31) by the project contractor. A nest free condition must be maintained by the contractor until bridge work is complete. (Endangered Species – 3.8)
21. No known occupied caves exist in the Study Area. If any are identified, MoDOT will coordinate with the USFWS. (Endangered Species – 3.8)
22. Topsoil would be removed and stockpiled in an area while grading and other construction activities take place. The topsoil would be placed at finish grades near the end of the construction process. The existing bridge piers would be removed to just below grade and the foundations to bedrock would remain in place. New bridge foundations would be constructed on bedrock using drilled shafts or some other reasonable method. Short-term soil erosion would be managed through the

implementation of Best Management Practices, where feasible (Geology and Soils – 3.10)

23. MoDOT shall ensure that its construction inspector directs the contractor to cease work at the suspect site if regulated solid or hazardous wastes are found during construction. The construction inspector shall contact the appropriate environmental specialist to discuss options for remediation. The environmental specialist, the construction office, and the contractor shall develop a plan for sampling, remediation, and continuation of project construction. Independent consulting, analytical, and remediation services will be contracted if necessary. MDNR and USEPA shall be contacted for coordination and approval of required activities. (Hazardous Materials – Section 3.11)
24. MoDOT shall ensure that all needed demolition notices, abatement notices, and project notifications to MDNR will be submitted, prior to beginning demolition activities. Asbestos-containing material, lead based painted structures and demolition debris will be disposed of according to state and federal regulations. (Hazardous Materials – Section 3.11)
25. MoDOT shall conduct additional archaeological investigations when a final alignment is selected and right of access is received. Any additional archaeological sites that might be affected by the project shall be addressed in accordance with the regulations (36 CFR 800) implementing Section 106 of the NHPA (16 USC 470). Identified cultural resources shall be evaluated according to the U.S. Department of the Interior's "Standards and Guidelines for Archaeology and Historic Preservation", in consultation with the Missouri SHPO. (Archaeological & Historic Resources – Section 3.12)
26. MoDOT will adhere to all stipulations of the executed Section 106 Programmatic Agreement. (Archaeological & Historic Resources – Section 3.12)
27. MoDOT is currently working with the National Parks Service (NPS) and the St. Joseph Parks, Recreation, and Civic Facilities Department to determine appropriate mitigation measures for impacts to both the proposed Riverfront Park and the Huston Wyeth Parks. Those commitments will include approval of a "Determination of Section 4(f) De Minimis Use" document. (Section 4(f) Resources - 3.13.1)
28. MoDOT shall complete all the requirements spelled out in the agreement with the National Park Service related to shifting Section 6(f) "encumbrance" from Riverside Park to the proposed East Side Park during construction. (Section 6(f) Resources - 3.13.2)

29. MoDOT shall include the community, through an Advisory Group, in decision making related to construction sequencing, construction timing, etc. (Construction – 3.16)
30. MoDOT shall include incentives/disincentives for the contractor to minimize the amount of time under construction if the project follows the traditional design-bid-build process. (Construction – 3.16)
31. Should MoDOT select design-build as the preferred project delivery method, MoDOT shall include goals related to minimizing construction impacts in the scoring for the selected design-build team. (Construction – 3.16)
32. MoDOT shall ensure that details of utility disposition are determined during project design. Agreements with utilities shall be negotiated and executed prior to seeking project federal authorization for construction. MoDOT's utility engineers and representatives of the various utilities shall plan the details of individual utility adjustments on a case-by-case basis. (Construction – 3.16)
33. MoDOT shall ensure that contractors make efforts to capture fugitive dust to prevent it from migrating off the limits of the project corridor. (Construction – 3.16)
34. MoDOT shall include standard specifications in the construction contract requiring all contractors to comply with every applicable local, state, and federal laws and regulations relating to noise levels permissible within and adjacent to the project construction site. (Construction – 3.16)
35. MoDOT shall ensure that careful refueling practices are employed to limit spills of gasoline and diesel fuels. (Construction – 3.16)
36. 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, 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, MoDOT's environmental section will review these impacts prior to implementing the TMP. (Construction – 3.16)