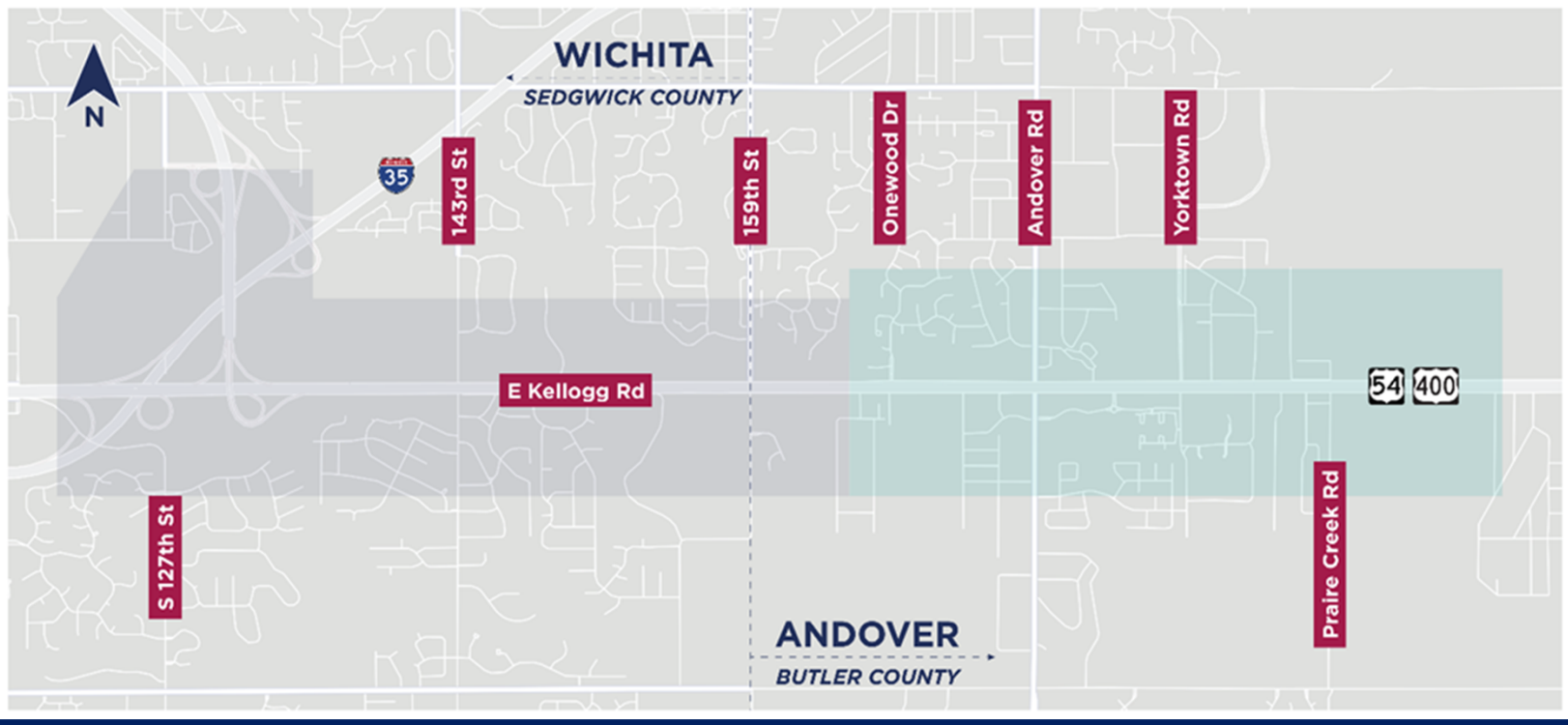

US 54/EAST KELLOGG EXPANSION

ENVIRONMENTAL ASSESSMENT

November 2022

KDOT
IKE
THE EISENHOWER LEGACY TRANSPORTATION PROGRAM

KDOT Project Number 054-106 KA-6535-02

US 54/East Kellogg Expansion

Sedgwick and Butler Counties, Kansas

ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to 42 USC §4332 (2)(c)

by the

U.S. Department of Transportation, Federal Highway Administration

and

Kansas Department of Transportation

10-31-2022
Date of Approval

For KDOT

11-1-2022
Date of Approval

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The Kansas Department of Transportation (KDOT), in cooperation with the Federal Highway Administration (FHWA), have developed the Environmental Assessment (EA) to expand a portion of the US 54/US 400/East Kellogg Corridor (US 54/East Kellogg) in Sedgwick and Butler Counties, Kansas to a controlled-access freeway. The EA evaluates and discloses the potential environmental impacts resulting from the reasonable alternatives considered including the Preferred Alternative.

Comments of this EA are due by December 2, 2022, and should be sent to the persons listed above.

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1.0 NEED AND PURPOSE FOR ACTION

A Need and Purpose Statement describes the transportation problems a proposed project is intended to address. This statement demonstrates the needs along the US 54/US 400/East Kellogg Corridor (US 54/East Kellogg) and within the Study Area to be addressed and describes the purpose of the proposed US 54/East Kellogg Expansion.

1.1 Project Overview and Background

The Kansas Department of Transportation (KDOT), in cooperation with the Federal Highway Administration (FHWA), are proposing to expand a portion of the US 54/East Kellogg corridor in Sedgwick and Butler Counties, Kansas to a controlled-access freeway. The City of Wichita and the City of Andover are serving as partners in the study. Because of the intent to use federal funds to build the proposed project, this Environmental Assessment (EA) is prepared in accordance with the National Environmental Policy Act (NEPA) (42 USC §4331), the Council on Environmental Quality's regulations implementing NEPA (40 CFR Parts 1500-1508), and FHWA's Environmental Impacts and Related Procedures (23-CFR §771).

1.1.1 Project Limits and Logical Termini

The NEPA Clearance Boundary or Study Area and anticipated right-of-way (ROW) needed for the proposed expansion were established (1) to set a baseline for analysis of the No-Build Alternative in comparison to the Build Alternative and (2) to provide flexibility in the development of the project's final design. **Figure 1-1** illustrates this NEPA Clearance Boundary (orange) which begin west of the existing K-96/Interstate 35 (I-35)/Kansas Turnpike junction in Wichita, Sedgwick County and extend to the east along US 54/East Kellogg to approximately 500 feet east of Prairie Creek Road in Andover, Butler County. The overall length of the proposed project is approximately 4.25 miles. The logical termini are Kansas 96 (K-96)/Interstate 35 (I-35) on the west and Prairie Creek Road on the east.

1.1.2 Project Backrgound and History

In 2008, the City of Wichita began preliminary design of a new freeway segment along US 54 from the end of the existing freeway at Cypress Street and extending east to Greenwich Road. The project included reconstruction of the Kansas Turnpike Authority (KTA) Exit 50 access along US 54. The project did not reconstruct the Exit 50 toll plaza, but instead, included a direct system-to-system access (I-35 to US 54/K-96) at Exit 50. Construction was initiated in 2008 from Greenwich Road to 127th Street East including a new interchange at Greenwich Road and a grade-separated structure at the Zelta interchange with both projects being completed in 2010.

In 2011, the City of Andover, KDOT, and the Wichita Area Metropolitan Planning Organization (WAMPO) prepared a US 54 Corridor Study to identify possible solutions to address increased traffic from the growth occurring in Sedgwick County and the City of Wichita as well as Butler County and the City of Andover. The locally preferred alternative from that study provided full interchanges at 159th Street, Andover Road, and Prairie Creek Road. The City of Wichita prepared ROW plans for US 54 from 127th Street East to 159th Street;

Figure 1-1: US 54/East Kellogg Environmental Clearance Boundary and Logical Termini

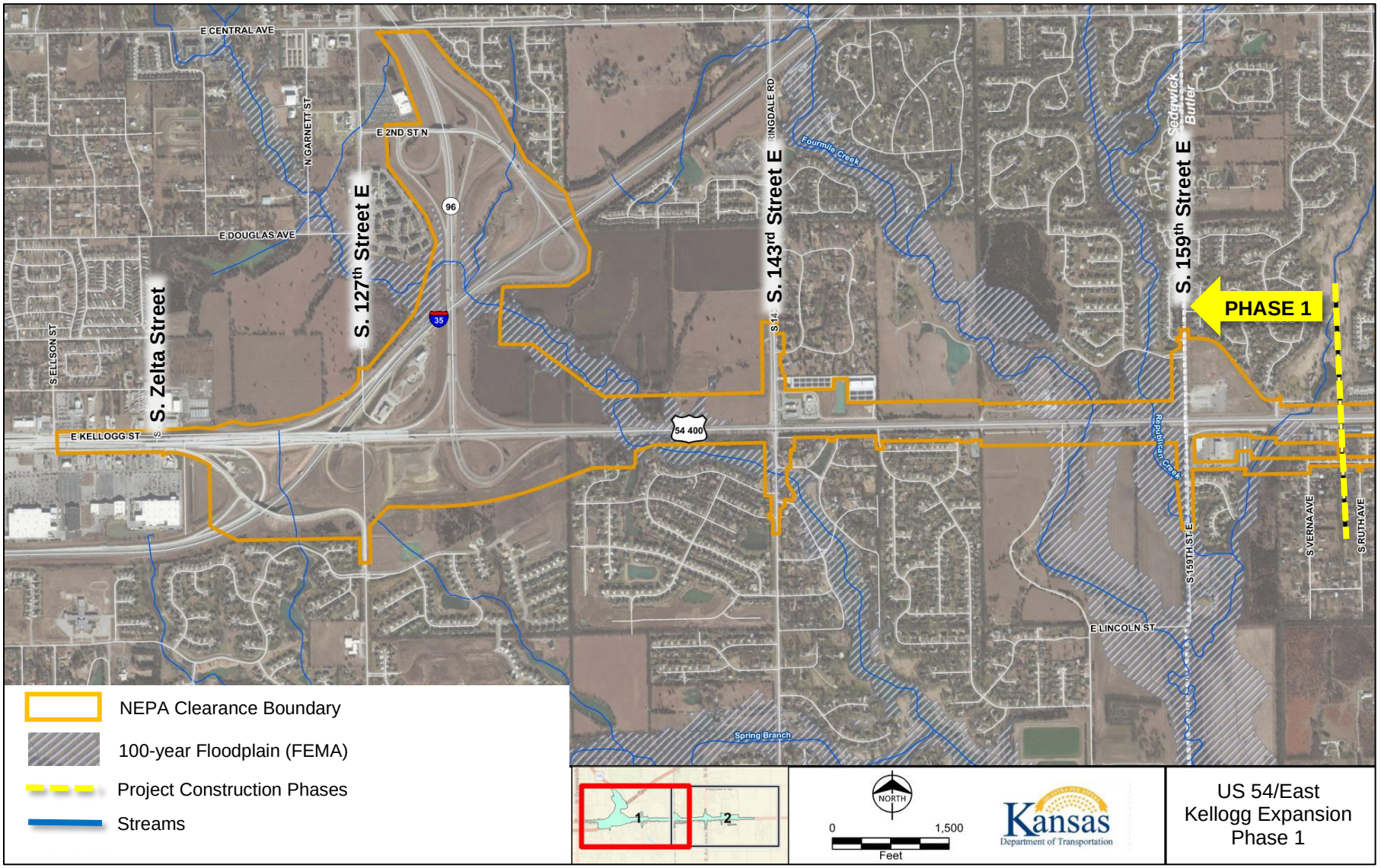
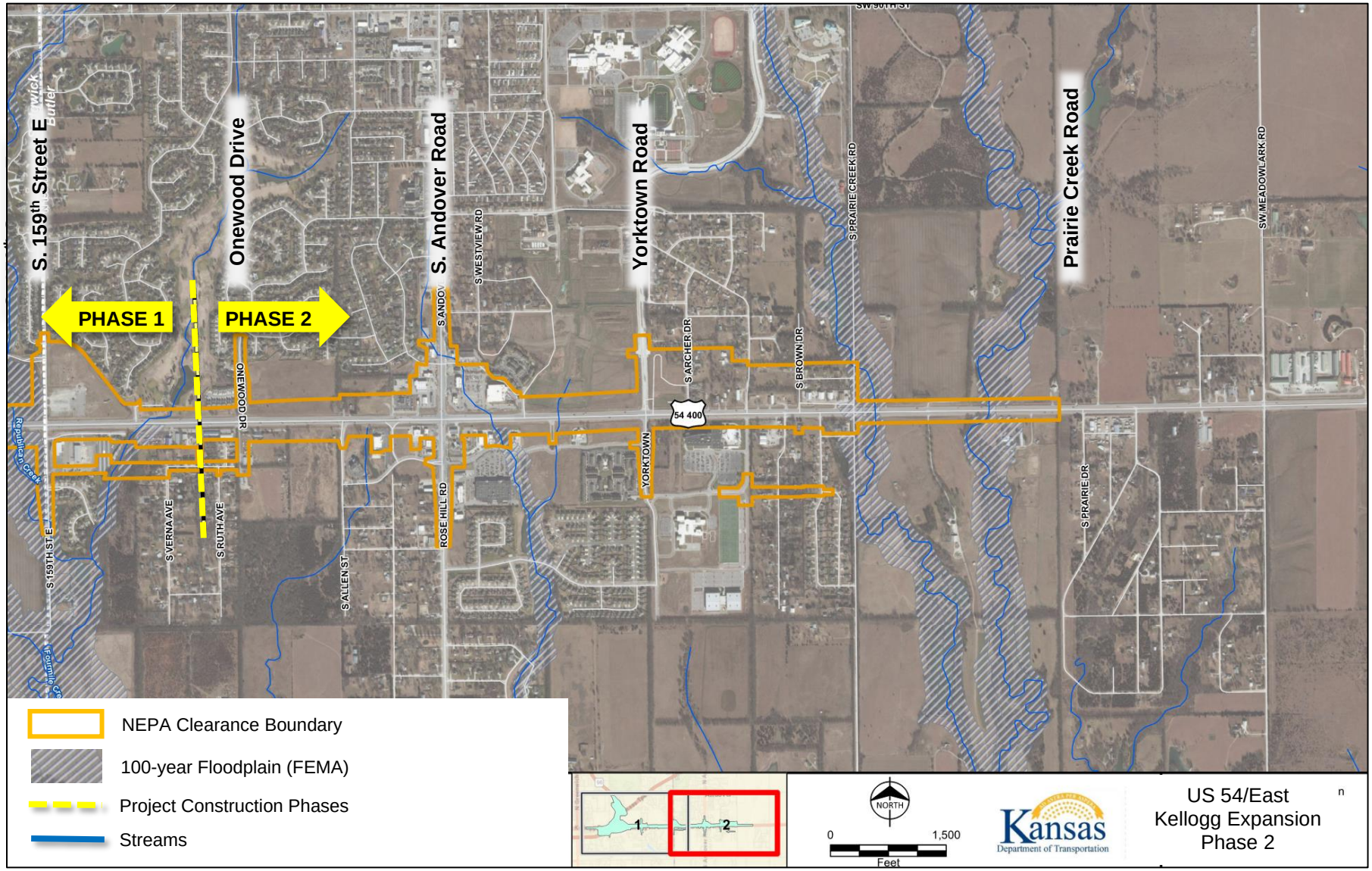


Figure 1-1, continued: US 54/East Kellogg Environmental Clearance Boundary and Logical Termini



and in 2011, KDOT obtained environmental clearance for improvement of that stretch of US 54/East Kellogg under a Categorical Exclusion (CE). Due to a lack of funding, the improvements were not constructed.

Considering the proposed expansion of US 54 and forecasted growth in east Wichita, in 2014, KTA began studying movements between US 54 and K-96 at the west end of the US 54/East Kellogg corridor. KTA has developed several concepts to provide improved connectivity between US 54/US 400, K-96, and I-35 and to support their plan to convert KTAs toll collection system to accommodate cashless tolling. At this time, the proposed US 54/East Kellogg Expansion project will focus on the KDOT system roadway improvements (e.g., US 54/US 400 and the K-96 interchange crossing over I-35) without making improvements to I-35. Future system-to-system improvements to better connect US 54/US 400 and K-96 to I-35 may be studied at a later date.

1.1.3 Proposed Action

The National Environmental Policy Act (NEPA) requires the FHWA to assess the environmental effects of projects that include federal funding or require a federal action. The NEPA process allows transportation officials to make project decisions that balance engineering and transportation needs with social, economic, and natural environmental factors. At the direction of FHWA, this Environmental Assessment (EA) is being prepared for the proposed expansion of US 54/East Kellogg Avenue to determine whether or not the proposed action has the potential to cause significant environmental effects to the natural or built environment. Within this EA, FHWA and KDOT are evaluating a No-Build or "do nothing" Alternative and a Build Alternative that would expand US 54/East Kellogg to a 6-lane, access-controlled freeway with 2-lane frontage roads on each side and grade-separated interchanges or cross-streets between I-35/K-96 on the west and just east of Prairie Creek Road on the east.

The project would be implemented in two phases – Phase 1 extending from the I-35/K-96 interchange to Ruth Street (just east of 159th Street), and Phase 2 extending from Ruth Street to approximately 500 feet east of Prairie Creek Road. A single elevated design option is considered for Phase 1 with the mainlines elevated on earthen fill with retaining walls and grade-separated interchanges at 143rd Street and 159th Street. Two design options are being considered for implementation in Phase 2 – Option A would lower or depress the freeway mainlines between Ruth Avenue (east of 159th Street) to near Yorktown Road, and Option B would elevate the freeway mainlines on structure or earthen fill between the same limits. See **Figure 2-3** for illustrations of what is being considered for Phase 1 and Phase 2. The proposed action would require the acquisition of additional ROW beyond what exists today along both sides of US 54/East Kellogg and at the proposed interchanges and grade-separations. ROW acquisition and project improvements would be funded by federal transportation money.

1.2 Need and Purpose

1.2.1 Needs for the Proposed Project

The proposed project is needed because current and future population growth and increasing travel demand is forecasted to exceed current highway capacity within the Study Area leading to increased congestion, reduced mobility, and higher crash rates compared to other similar roadways in the region. The proposed project is needed to:

Provide capacity to accommodate forecasted population growth and travel demand.
Improve mobility and route continuity.
Improve operational and safety performance within the corridor.

1.2.2 Provide Capacity to Accommodate Forecasted Population Growth and Travel Demand

Population and Employment Growth - Since 2008, Wichita and Andover, Sedgwick and Butler Counties, along with WAMPO have recognized the pressure current and forecasted growth would have on the US 54/East Kellogg corridor as described in Section 1.1.2. These entities initiated plans to expand the capacity of the corridor to alleviate congestion and accommodate travel demand as the Wichita area grew. Noted in **Table 1-1**, the largest increase in population in the Study Area occurred between 2000 and 2010 with Andover growing by 76 percent and the Wichita Metropolitan Area growing by 14 percent. Employment growth in the Study Area mimicked population growth over the same time periods reflecting the influence of 20 of the area's major employers as part of the evolving aviation industry along with the number of jobs growing in advanced manufacturing, education, health care, and oil and gas markets.

Table 1-1: Population and Employment Growth in the Study Area 2000 through 2020

Jurisdiction	Population			Percent Population Change	Percent Employment Change
	2000	2010	2020	2000-2010	2000-2010
				2010-2020	2010-2020
City of Wichita	344,384	382,368	397,532	11 %	9%
				4%	6%
Sedgwick County	452,869	498,365	523,824	10%	7%
				5%	6%
City of Andover	6,698	11,791	14,892	76%	75%
				26%	13%
Butler County	59,482	65,880	67,380	11%	10%
				2%	-1%
Wichita Metropolitan Area	545,220	623,061	647,610	14%	12%
				4%	5%

Sources: 2000 Decennial Census Summary, 2010 Decennial Census Summary, 2020 American Community Survey (ACS) 5-year estimates; accessed July 2022

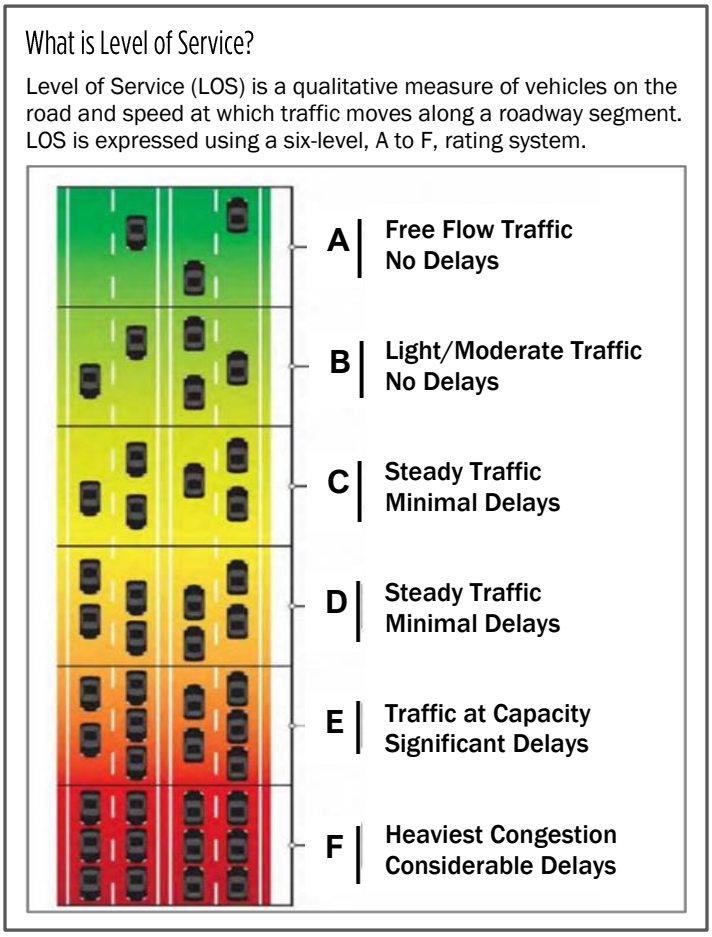
The Center for Economic Development and Business Research at Wichita State University (WSU) forecasts population growth in Butler and Sedgwick Counties combined to exceed 700,000 persons by 2050. The WSU population forecasts from 2020 to 2050 are shown in **Table 1-2**.

Table 1-2: Population Forecasts for Butler and Sedgwick Counties, 2020 through 2050

Jurisdiction	Population				Percent Population Growth
	2020	2030	2040	2050	2020-2030
					2030-2040
					2040-2050
Sedgwick County	534,532	575,450	605,262	619,471	7.86%
					5.96%
					2.14%
Butler County	69,808	75,296	79,784	81,489	7.65%
					5.18%
					2.35%

Source: Wichita State University, Center for Economic Development and Business Research; https://kansaseconomy.org/. Accessed 14-April-2022. Population forecasts are based on a migration scenario.

Travel Demand Growth - Traffic volumes and travel demand has increased along the US 54/East Kellogg corridor in parallel with population and employment growth. In 2011, daily traffic volumes east of 159th Street ranged from 33,000 vehicles per day (vpd) to 23,000 vpd closer to Prairie Creek Road.[1] **Figure 1-2** illustrates the peak hour daily traffic volumes modeled for 2022 (existing) and 2042 (future No-Build) along US 54/East Kellogg and the corresponding Level of Service (LOS) at key intersections for 2022 and 2042.

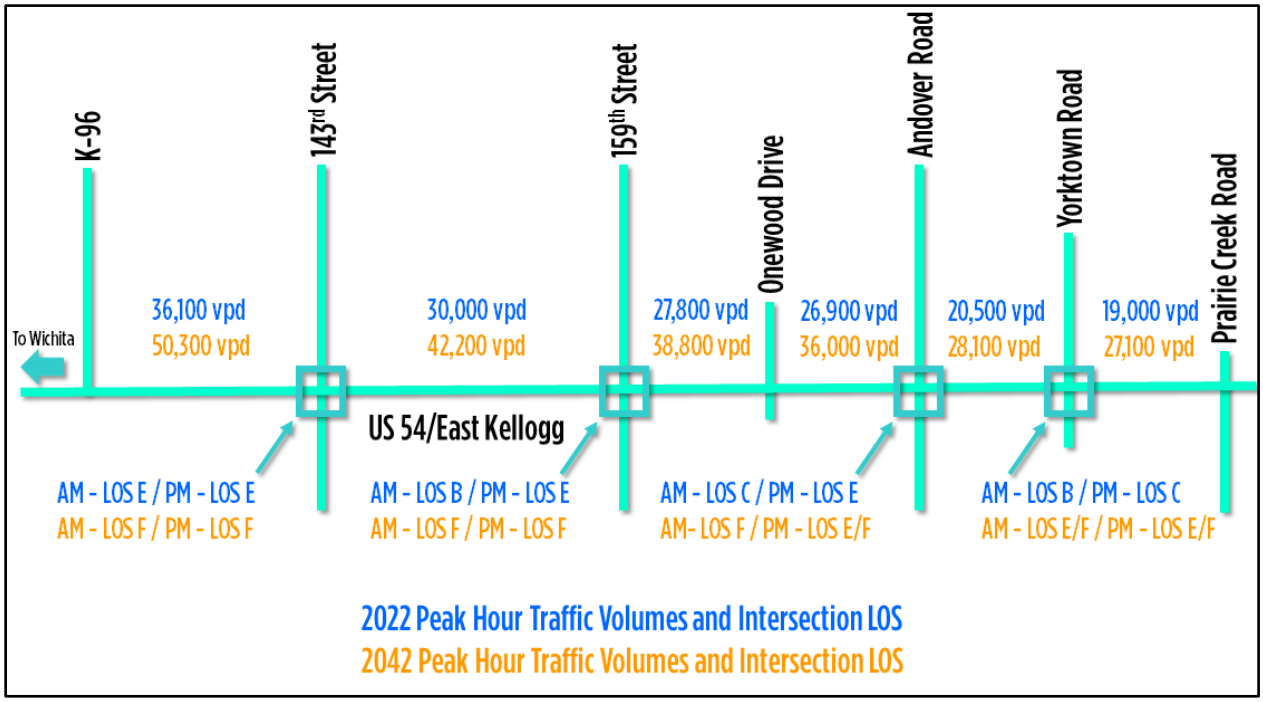


In 2011, the signalized intersections within the Study Area operated at LOS D during peak travel hours. Intersections in 2022 during the AM peak hour operate at LOS B or LOS C, but during the PM peak hour operate at LOS E or LOS F. The primary difference in 2022 AM and PM peak hour operations is the difference in the directional flow of traffic along the corridor – during the AM peak hour traffic flow is primarily to the west and during the PM peak hour traffic flow is primarily to the east – and the inability of the intersections to accommodate heavy volumes of left-turn movements at these intersections. By 2042, increased traffic volumes would exacerbate the problem, particularly during the AM peak hour, with key intersections operating at LOS F during both AM and PM peak travel periods.[2]

1 *City of Andover US 54/400 Corridor Study*, December 2011.

2 *US 54/E. Kellogg Conceptual Design Traffic Analysis*, IKE Transportation Partners. August 2, 2022.

Figure 1-2: Traffic Volumes and Intersection Levels of Service in 2022 and Forecasted for 2042



1.2.3 Improve Mobility and Route Continuity

US 54/US 400 is the primary east-west corridor across Wichita, connecting to major north-south routes - K-96, I-135, and I-235; downtown Wichita, and the Wichita Dwight D. Eisenhower National Airport. US 400 originates just west of the Kansas-Missouri state line south of Pittsburg, Kansas, and continues west across the state through Dodge City and Garden City before crossing into Colorado. East of Dodge City, US 54 leaves the dual-designated alignment with US 400 to travel southwest to Liberal, Kansas before crossing into Oklahoma.

In 2020, the portion of US 54/East Kellogg west of K-96 was expanded to a 6-lane freeway with 2-lane, one-way frontage roads on both sides. The mainlines are depressed with cross-streets spanning over the mainlines. I-135 and I-235 are 4-lane divided freeways with frontage roads and grade-separated interchanges at major roadways. From north of the interchange with US 54/East Kellogg to the interchange with I-135, K-96 is a 4-lane divided highway with grade-separated interchanges at major cross-streets. K-96 from I-135 to 13th Street (approximately 1.5 miles north of the K-96/I-35 interchange) is proposed to be widened to a 6-lane divided highway by 2028. The project is currently under study by KDOT with NEPA clearance anticipated in 2024. The section of K-96 from the K-96/I-35 interchange through 21st Street is slated for pavement replacement during the same timeframe.

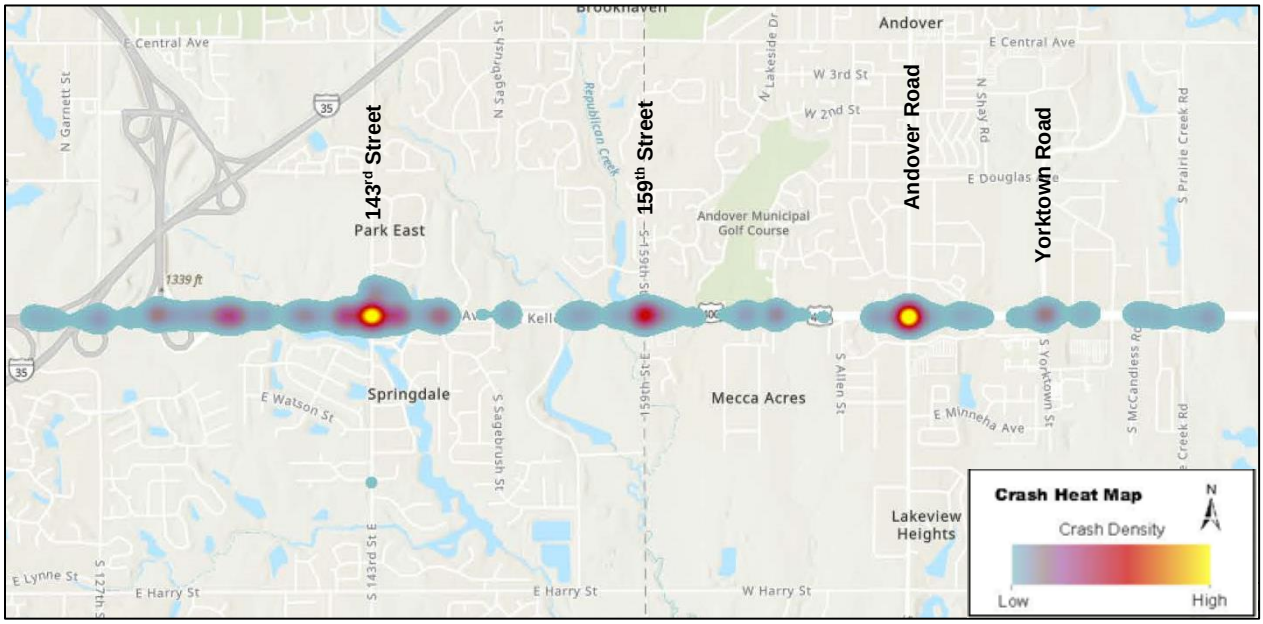
Compared to the connecting routes (K-96, I-135, I-235, and US 54/US 400 west of K-96), the section of US 54/US 400 within the Study Area is a 4-lane divided urban arterial with at-grade, signalized intersections at major cross-streets. Several local streets are only stop-controlled with at-grade connections and crossovers

accessing US 54/US 400. These unsignalized and signalized intersections create traffic conflict points resulting in crashes which contribute to travel delays.

1.2.4 Improve Operational and Safefty Performance Within the Corridor

As described in Section 1.2.2, increasing traffic volumes and limited capacity has contributed to congestion along the corridor with intersections operating at LOS E during peak hours. This level of congestion – traffic at capacity and increased delays - resulted in higher crash densities at 143rd Street, 159th Street, and Andover Road as illustrated in **Figure 1-3**. The data shows rear-end crashes are the most frequent type indicating a high level of congestion. This section of the US 54/East Kellogg corridor averages 1.872 crashes per million miles of vehicle travel, just below the statewide crash rate of 1.923 per million miles of vehicle travel for similar roadways across the state. Only one fatal crash has occurred in the corridor between 2016 and 2020.[3]

Figure 1-3: Crash Density Along the US 54/East Kellogg Corridor



Congestion also contributes to lower travel speeds, particularly during AM and PM peak hours. Non-peak hour travel speeds average 40 to 45 miles per hour (mph) with a posted speed limit of 60 mph near K-96 transitioning to 55 mph near Yorktown Road. Travel time in 2022 from 143rd Street to Prairie Creek Road (approximately 3.8 miles) is approximately 5 minutes. With growth and congestion forecasted to increase, travel time would also increase to approximately 15 minutes in 2042.

[3] Motor Vehicle Accident Data Memorandum, Kansas Department of Transportation; March 11, 2022.

1.3 Purpose of the Proposed Project

The purpose of the proposed action is to provide a cost-effective, environmentally-sustainable, and safe transportation facility that improves mobility and connectivity to support current and forecasted increases in travel demand.

1.4 Project Goals

- Improve trip reliability
- Support economic growth in the region
- Minimize duration of construction impacts to the area
- Deliver project efficiently and within budget

2.0 ALTERNATIVES

This chapter discusses the alternatives considered and analyzed to address the needs and purpose for the proposed action. The following sections summarize the alternatives considered and the evaluation process used to identify and recommend a Preferred Alternative.

2.1 Alternatives Development and Early Screening

The basis for the Build Alternative described in this EA came from the January 2010 City of Wichita *Design Concept Report, East Kellogg Improvements from 127th Street to 159th Street*, and the December 2011 City of Andover *US 54/400 Corridor Study*. In 2011-2012, KDOT developed a project concept based on the design concept for US 54/East Kellogg improvements from 127th Street to 159th Street as approved by the City of Wichita on January 12, 2010 (KA-1164-01). KDOT prepared a Categorical Exclusion (CE) in accordance with NEPA for the project, with environmental clearance for project KA-1164-01 issued by FHWA in 2011. Because of the lack of funding, the improvements from 127th Street to 159th Street were never completed. The design concept from the City of Andover corridor study was added to the overall US 54/East Kellogg expansion concept for this EA. In 2014, the Kansas Turnpike Authority (KTA) began to look at alternatives to improve the I-35/US 54/K-96 interchange, referred to as "Exit 53".

In consideration of these previous relevant studies, the initial KDOT development concept for expanding US 54/East Kellogg included three phases:

- Phase 1 – improvements from 127th Street to 159th Street
- Phase 2 – improvements from 159th Street to just east of Prairie Creek Road
- Phase 3 – system-to-system connection at I-35/US 54/K-96 (existing interchange improvements)

Because the KTA's review of the I-35/US 54/K-96 interchange concepts has evolved to include their plans for updating the I-35 corridor to accommodate cashless tolling, which would modify the existing toll plaza at Exit 53, and designs to improve the connection between the KDOT system (K-96/US 54 [US 400]) and the KTA system (I-35) will take additional study and no funding has been designated for its completion, Phase 3 was removed from the US 54/East Kellogg design concept to be evaluated in this EA.

The Build Alternative assessed in this EA includes "Phase 1" and "Phase 2" only, with the logical termini of the proposed action adjusted to I-35/K-96 and US 54/East Kellogg on the west and approximately 500 feet east of Prairie Creek Road on the east as described further in **Section 2.4**.

2.2 Alternatives Considered but Dismissed

New Location Alignment – Moving US 54/East Kellogg to a new location alignment is not considered feasible or reasonable because of development within the Study Area and the need to connect to the existing I-35/US 54/K-96 interchange. Alignments on new location north or south of the existing US 54/East Kellogg corridor would result in substantial business and residential displacements, divide existing neighborhoods, and result in considerable costs. For these reasons, consideration of new location alignments was dismissed.

Transportation System Management (TSM) and Transportation Demand Management (TDM) - TSM is a set of low-cost strategies to enhance safety, reduce congestion, and improve traffic flow. Specific strategies may include traffic signal synchronization, operational improvements (e.g., changeable message signs, ramp metering), and incident management (e.g., clearing accidents and breakdowns quickly to allow traffic to move more smoothly). Other methods can include providing bus pullouts to remove stopped buses from the traffic stream, intersection improvements that provide signal priority for transit vehicles, and queue-jumper lanes to get transit vehicles to the front of the line at intersections. TDM includes managing or decreasing the demand for auto-related travel to increase the operating efficiency of transportation facilities. Managing or decreasing the demand for auto-related travel can be accomplished by providing mobility alternatives to using single-occupant vehicles (e.g., transit, carpool, vanpool, bicycle), incentives/disincentives to using single-occupant vehicles (e.g., congestion pricing, high-occupancy vehicle (HOV) lanes, travel time advantages for HOVs), alternative work environments (e.g., telecommuting and flex time), and parking management. Although traffic signal synchronization and incident management could aid in improving traffic flow and could be incorporated into the Build Alternative considered, TSM and TDM as stand-alone alternatives would not address the needs identified within the US 54/East Kellogg corridor. For these reasons, TSM and TDM have been dismissed from consideration.

Transit – Wichita Transit, the City of Wichita public transportation department, operates transit and paratransit buses across the city. However, no routes extend east of 127th Street along US 54/East Kellogg. Because all transit busses are equipped with Americans with Disability Act (ADA) -compliant equipment, the city's paratransit van service is available for people with physical or cognitive disabilities that prevent them from using the fixed route bus system. Paratransit service is available for people along the fixed bus routes during regular transit operating hours (Monday through Saturday) and extended evening service is available within three-quarters of a mile from the fixed bus routes. Persons wishing to use the paratransit service must submit an *Application for ADA Paratransit Eligibility* to Wichita Transit.

The *2018 Connecting Communities – Wichita Area Transit Feasibility Study*, co-sponsored by the city and WAMPO, evaluated the demand and support for transit service in the cities of Andover, Derby, Haysville, and Maize. Surveys conducted as part of the study indicated interest and support to expand transit service to Andover ranked as the lowest priority compared to the other three communities included in the study. Extending Wichita Transit service to Andover along 21st Street, 13th/80th Streets, or US 54/400 is included in the mid-term portion of the feasibility study implementation plan. The implementation timeframe for mid-term improvements is two to four years but also dependent on the availability of funding.

Butler County Transit, offered by the Butler County Department on Aging based in El Dorado and funded in part by KDOT, provides curb-to-curb service on weekdays using ADA-accessible vehicles. Reservations are required and the route through Andover is constantly growing.

If extended or improved within the Study Area, transit service would not provide additional roadway capacity or address the forecasted growth in population, would not improve route continuity, and would not improve operational safety or performance. The extension of transit services into the Study Aera would improve mobility for those individuals without access to a personal vehicle or that require paratransit or on-demand

transportation, but as a stand-alone alternative transit would not address the identified needs. For these reasons, transit service was dismissed from consideration.

2.3 No-Build Alternative

Under the No-Build Alternative, no improvements would be made to US 54/East Kellogg within the Study Area. US 54/East Kellogg east of I-35/K-96 would remain as 4-lane divided urban arterial with at-grade signalized intersections and non-signalized cross-street and driveway access points. As population growth and travel demand increases, congestion along the corridor would continue to increase with poor LOS at intersections extending beyond the peak hour. The number of crashes at key intersections could also increase as a factor of the level of congestion. Queue lengths (line of cars waiting to turn) at intersections would also increase adding to further congestion during the AM and PM peak travel periods. In 2042 at 143rd Street, the eastbound and westbound approaches during the AM peak hour would have the longest queue lengths of 1,490 feet and 1,583 feet, respectively, compared to 165 feet and 685 feet in 2022. The queue length for eastbound traffic at 159th Street during the PM peak hour would extend 1,615 feet, nearly 10 times the length as reported in 2022 (169 feet).[4]

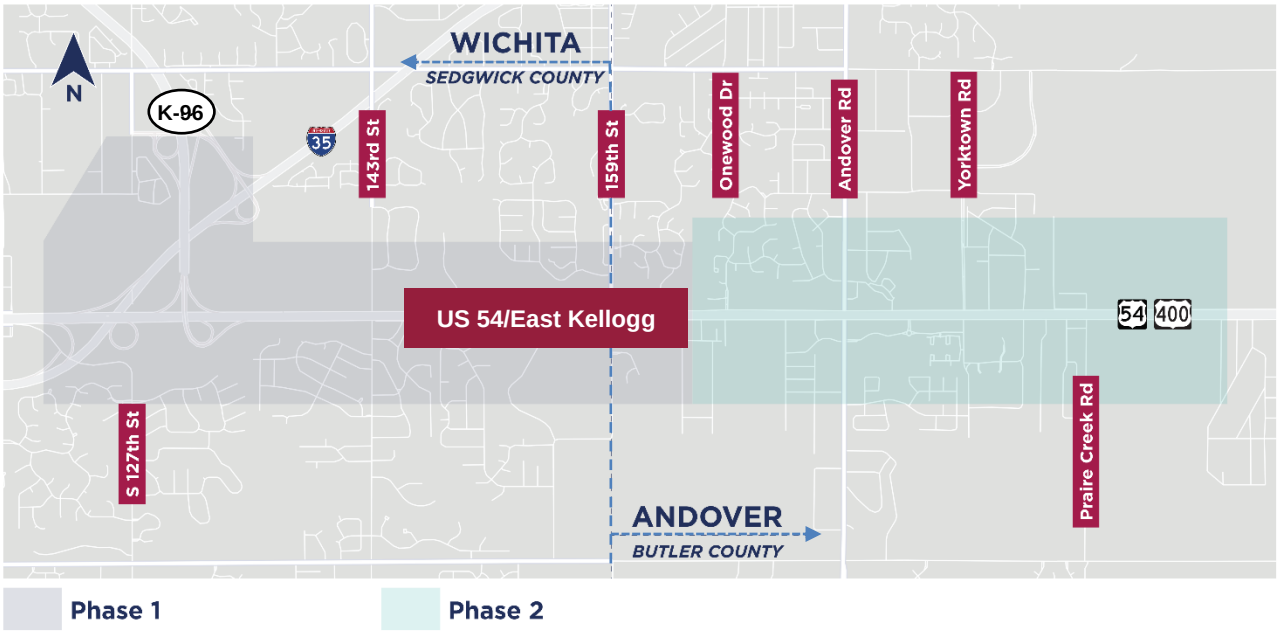
Improvements planned by the cities of Wichita and Andover would continue without improvement of US 54/East Kellogg. Planned improvements considered part of the No-Build Alternative include the City of Wichita's widening 143rd Street from East Harry Street north to connect to US 54/East Kellogg, and the City of Andover's construction of Founder's Parkway, a backage road north of and parallel to US 54/East Kellogg, connecting Onewood Drive, Andover Road, and Yorktown Road to provide access to multi-family and commercial developments planned north of US 54/East Kellogg. Both cities' projects are separate and independent actions from the proposed US 54/East Kellogg Expansion and would occur regardless of whether any improvements are made to US 54/East Kellogg.

[4] *US 54/E. Kellogg Conceptual Design Traffic Analysis*, IKE Transportation Partners. August 2, 2022.

2.4 Build Alternative

The Build Alterative would expand US 54/East Kellogg to a 6-lane access-controlled freeway (3 travel lanes in each direction separated by a raised concrete barrier), with a 2-lane, 1-way frontage road on either side (a short section of 2-way frontage roads would be built just west of Prairie Creek Road), and grade-separated interchanges at K-96, 143rd Street East/Springdale Drive, 159th Street East/SW County Line Road, Andover Road, and Yorktown Road. A grade separation is considered at Onewood Drive. The approximately 4.25 mile-long corridor has been divided into two phases for implementation as shown in **Figure 2-1**:

Figure 2-1: US 54/East Kellogg Study Area - Phase 1 and Phase 2

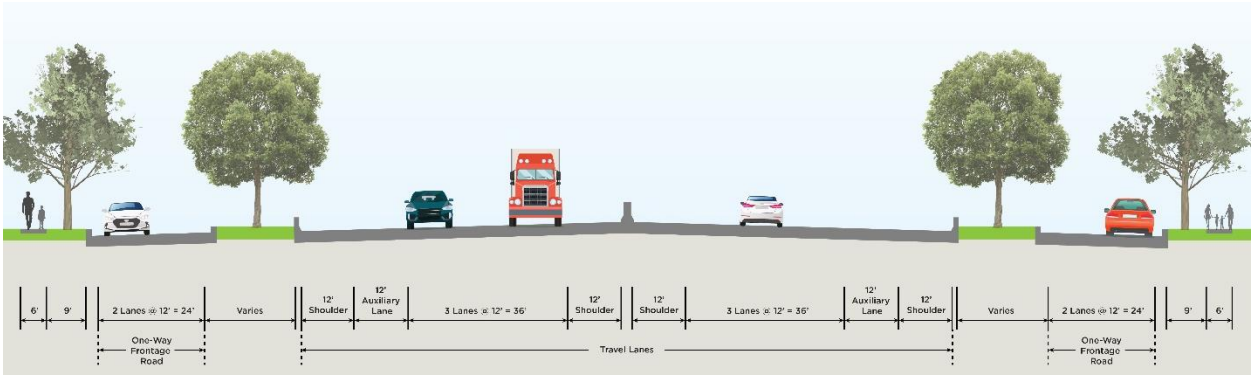


2.4.1 PHASE 1 – I-35/K-96 to East of 159th Street

US 54/East Kellogg – Freeway mainlines would be at-grade to connect to the at-grade section (see top image in **Figure 2-2**) of East Kellogg west of the existing K-96 overpass, and moving east would climb to an elevated typical section (see center image in **Figure 2-2**) on an earthen fill embankment supported by retaining walls as it approaches and goes over 143rd Street. The elevated section would continue east on an earthen fill embankment supported by retaining walls to cross over 159th Street. Until Phase 2 is constructed the proposed 6-lane section would transition to a 4-lane expressway near Onewood Drive.

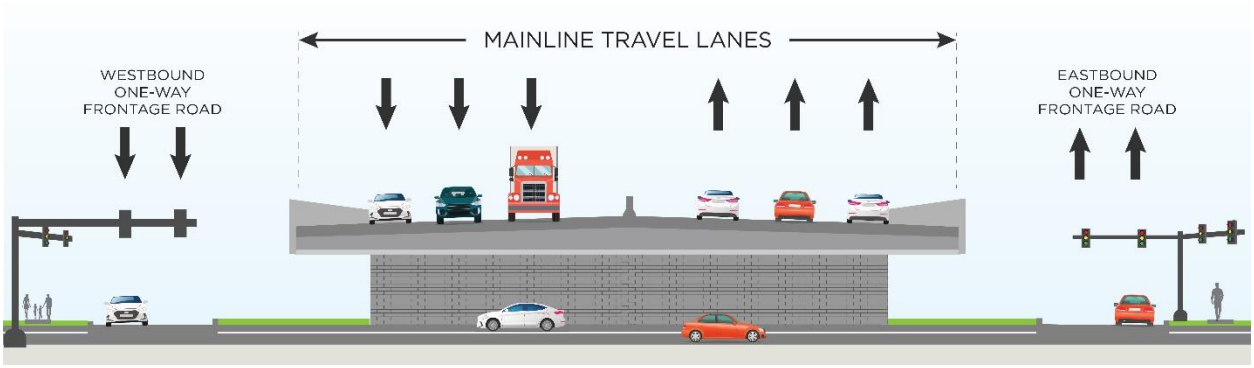
K-96 Interchange - Direct connector ramps would carry traffic northbound and southbound between US 54/East Kellogg and K-96, and eastbound and west bound between US 54/East Kellogg and K-96. A roundabout would be constructed at the intersection of S. 127th Street and the US 54/East Kellogg frontage road south of the K-96 intersection.

Figure 2-2: US 54/East Kellogg Typical Sections



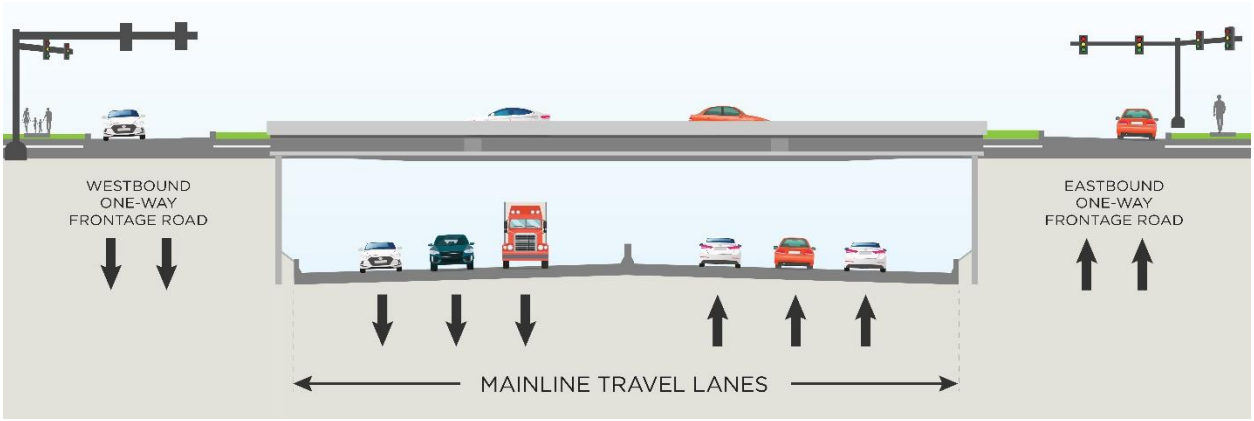
At-Grade

Mainlines and frontage roads remain at/near existing ground level. Considered between K-96/I-35 and west of 143rd Street (Phase 1) and from west of Andover Road to west of Prairie Creek Road (Phase 2).



Elevated

Mainlines built on bridge or earthen embankment with retaining walls, frontage roads remain at/near existing ground level. Cross-streets would go under the mainlines and connect to the frontage roads. Considered from west of 143rd Street through 159th Street (Phase 1) and from east of 159th Street to west of Prairie Creek Road (Phase 2-Option B).



Depressed

Mainlines built below existing grade (lowered) with retaining walls, frontage roads remain at/near existing ground level. Cross-streets would go over the mainlines and connect to the frontage roads Considered from east of 159th Street to west of Prairie Creek Road (Phase 2-Option A).

143rd Street and 159th Street Interchanges – With the freeway mainlines elevated, both 143rd Street and 159th Street would remain at-grade crossing under the mainlines. The 143rd Street interchange would include an on-ramp for eastbound traffic and an off-ramp for westbound traffic. Eastbound traffic originating west of K-96 would have to exit at 159th Street and use the U-turn under the mainlines to travel west to exit at 143rd Street. Westbound traffic would have to exit at 159th Street and take the frontage road to connect with 143rd Street. The 159th Street interchange would include on- and off-ramps in both directions. Both interchanges would provide U-turns in both directions under the mainlines. Traffic signals would be installed at the intersections of the frontage roads and both cross-streets. Backage roads are also proposed on both sides of US 54/East Kellogg – on the north connecting Onewood Drive to 159th Street along the Andover Golf Course and then curving north around the Marietta Farm property to connect to Willowbrook Street; and on the south to extend Onewood Drive south to Clyde Street then parallel to US 54/East Kellogg and behind Advanced Storage, River Wind RV, and Wholesale Fireworks to make a T-intersection at 159th Street. See **Figure 2-3**.

2.4.2 PHASE 2 – East of 159th Street to approximately 500 feet east of Prairie Creek Road

Two design options are evaluated for implementation in Phase 2 – a depressed or lowered section and an elevated section. Both the depressed and elevated options would be constructed within the same proposed ROW footprint – see **Figure 2-4**. Each option is described below:

OPTION A – Depressed Mainlines: The freeway mainlines would be depressed or lowered with frontage roads and cross-streets remaining at-grade (see bottom image in **Figure 2-2**) from east of 159th Street to just east of Yorktown Road. A grade separation would be constructed at Onewood Drive with Onewood Drive going over the mainlines. Drivers accessing Onewood Drive via the frontage roads would exit US 54/East Kellogg west of 159th Street (eastbound traffic) or east of Andover Road (westbound). Grade-separated interchanges at Andover Road and Yorktown Road would be constructed with both cross-streets going over the mainlines and on- and off-ramps connecting the mainlines to the frontage roads. All three cross-streets would include U-turns and signalized intersections at the frontage roads. A section of the frontage roads on both sides of the freeway just west of Prairie Creek Drive would be built to accommodate 2-way traffic to provide access to adjacent properties.

The depressed option is carried forward because it was identified in the 2011 City of Andover *US 54/400 Corridor Study* as the locally preferred alternative. The corridor study noted: *not dividing Andover and preserving the "small town feel" are two issues of great concern to Andover's officials and stakeholders. Stakeholders felt that elevating US 54/400 would create a wall and divide the city.* The corridor study indicated because retaining walls would be used, the vertical profile of the freeway had little influence on determining the corridor footprint and the horizontal alignment selected. The corridor study also indicated depressing US 54/East Kellogg at Andover Road would add approximately $10 million (2011 dollars) to the cost of the project due to the construction of the depressed retaining wall system and inclusion of a stormwater pump station to address drainage from a tributary to Fourmile Creek. The annual operation and maintenance cost associated with the stormwater pump station was not included in the additional cost, but would be the responsibility of the City of Andover. According to the corridor study, public officials and the community supported the depressed freeway option despite the additional construction, operational, and

maintenance costs. During the public meeting held on September 13, 2022, to share the alternative options being considered, residents from Andover noted their continued support for the depressed section between 159th Street Prairie Creek Road.

OPTION B – Elevated Mainlines: The freeway mainlines would be elevated on earthen fill embankment supported by retaining walls with frontage roads and cross-streets remaining at-grade (see center image in **Figure 2-2**) from east of 159th Street to just east of Yorktown Road. A grade separation would be constructed at Onewood Drive with Onewood Drive going under the mainlines. Like the depressed option, drivers accessing Onewood Drive via the frontage roads would exit US 54/East Kellogg west of 159th Street (eastbound traffic) or east of Andover Road (westbound). Grade-separated interchanges at Andover Road and Yorktown Road would be constructed with both cross-streets going under the mainlines. Like the depressed option, on- and off-ramps would connect the mainlines to the frontage roads. All three cross-streets would include U-turns and signalized intersections at the frontage roads.

Both Options for Phase 2 have been modified from the initial design concept to end the proposed freeway section east of Yorktown Road instead of extending it through Prairie Creek Road. The 100-year floodplain and portions of the regulatory floodway associated with Republican Creek north and south of US 54/East Kellogg extends across Prairie Creek Road. The City of Andover has no future plans to extend Prairie Creek Road north of US 54/East Kellogg or to improve the section south of US 54/East Kellogg because of the floodplain/floodway. For this reason, providing a grade-separation or full interchange at Prairie Creek Road or depressing or elevating the proposed freeway through the Prairie Creek area is no longer being considered. Both the depressed and elevated freeway options would transition to a 4-lane divided at-grade roadway section west of Prairie Creek Road with the frontage roads connecting to existing Prairie Creek Road on both sides of the mainlines to maintain access to neighboring developments.

The Build Alternative with Phase 1 and Phase 2 proposed improvements is shown in **Figures 2-3 and 2-4**.

Figure 2-3: US 54/East Kellogg Build Alternative – Phase 1

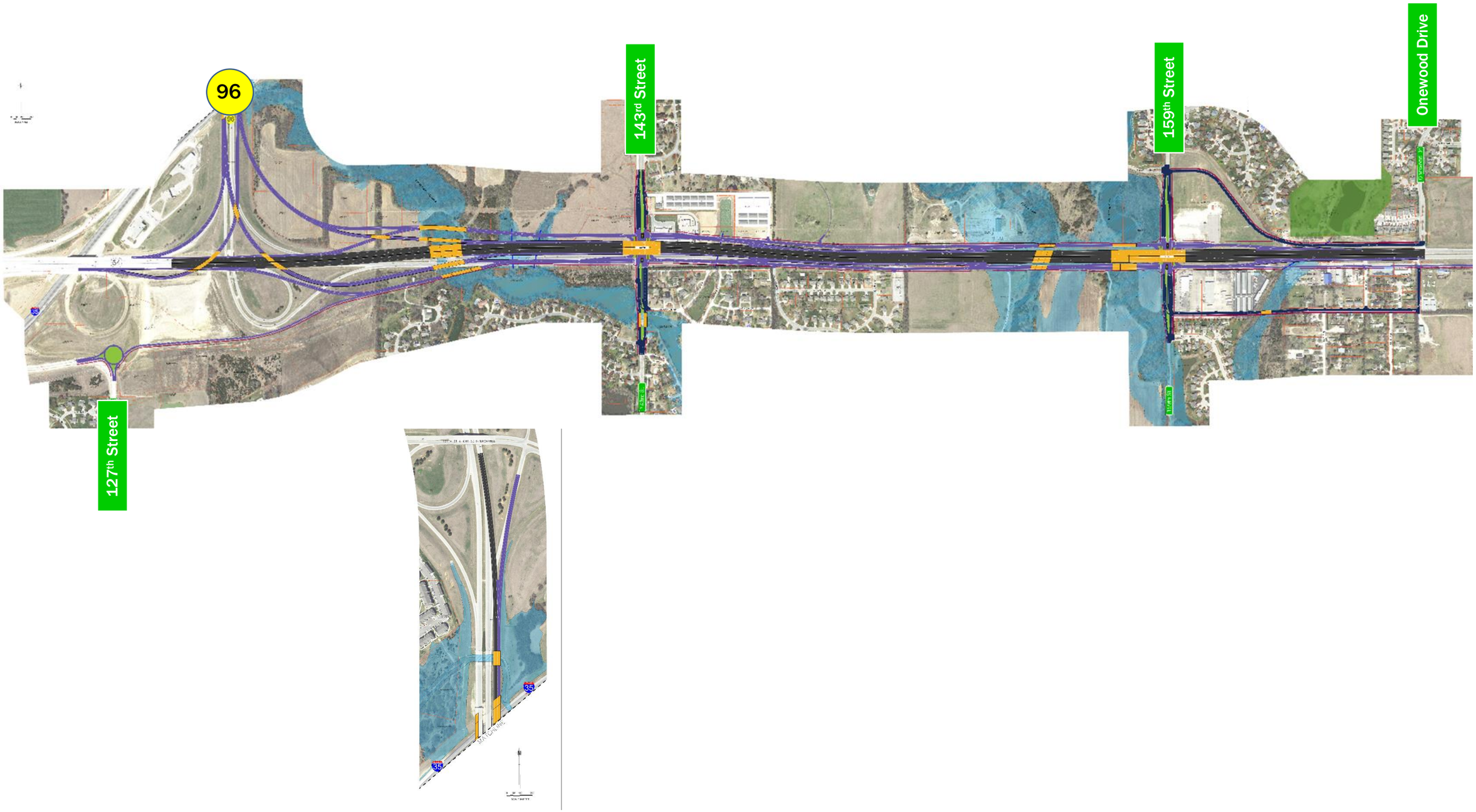
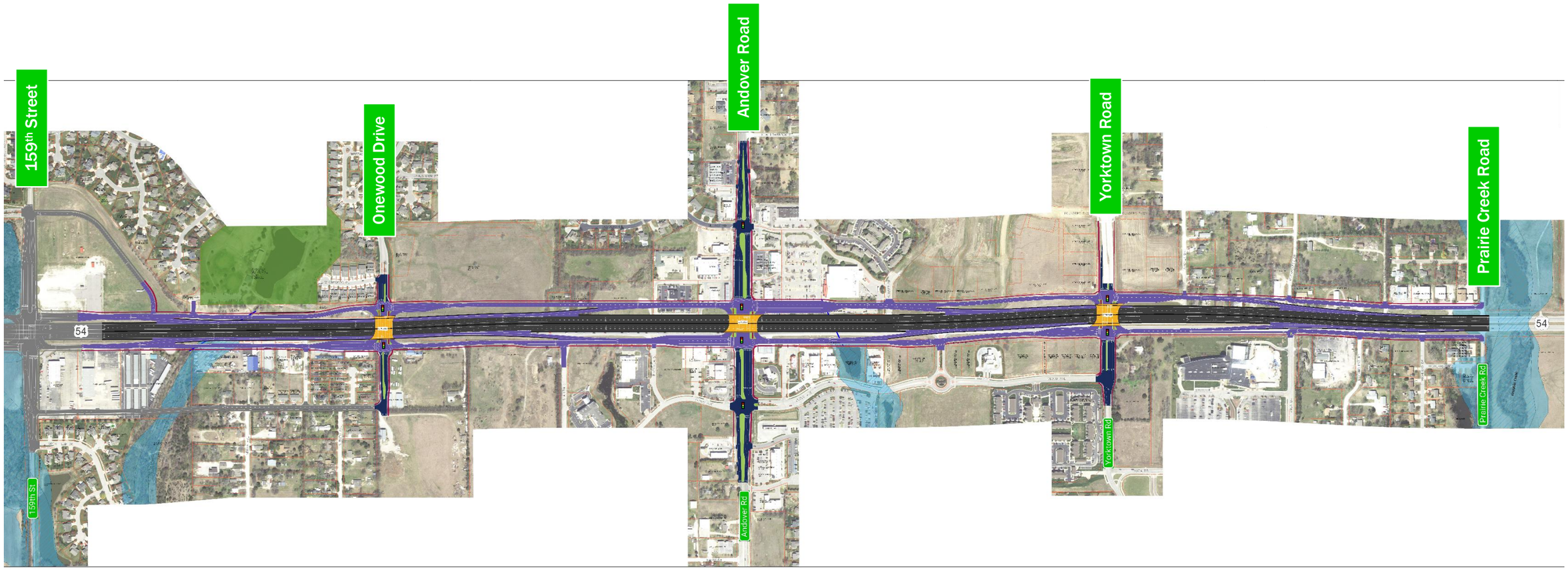


Figure 2-4: US 54/East Kellogg Build Alternative – Phase 2



2.5 Preferred Alternative

Phase 1 (elevated freeway) and Phase 2 Option A (depressed freeway) were selected as the components of the Preferred Alternative for the expansion of US 54/East Kellogg Avenue. The Preferred Alternative would satisfy the needs and purpose of the project and minimize effects on the human and natural environment.

Table 2-1 summarizes the impacts of the Build Alternative (with the Phase 2 design options) considered and the No-Build Alternative presented in further detail in **Chapter 3**. The impacts presented are calculated within the NEPA Clearance Boundary and the proposed ROW, as noted.

Table 2-1: Impacts Summary for the Alternatives Considered

Resource	Measure	Build Alternative			No-Build Alternative
		Phase 1 Elevated	Phase 2 Option A Depressed	Phase 2 Option B Elevated	
Community Facilities (government offices, places of worship, schools, parks/recreation areas, etc.)	Number w/in NEPA Clearance Boundary	0	0	0	NA
Environmental Justice Populations	Disproportionately high or adverse impacts	No	No	No	NA
Bike/Pedestrian Facilities	Number of existing facilities w/in NEPA Clearance Boundary	0	0	0	NA
Archaeological Sites	Number w/in NEPA Clearance Boundary	0	0	0	NA
Historical Sites	Number w/in NEPA Clearance Boundary	0	0	0	NA
Section 4(f)/6(f) Properties	Number w/in NEPA Clearance Boundary	0	0	0	NA
ROW Acquisition including permanent and temporary easements	Acres (ac) w/in proposed ROW	63.3 ac	23.3 ac	23.3 ac	0
Potential Displacements (Commercial and Residential)	Number w/in proposed ROW	10 Businesses 5 Residences	10 Businesses 6 Residences	10 Businesses 6 Residences	NA
Farmland Impacts	Acres in proposed ROW		44.54 ac		0
Wetland Impacts	Acres w/in NEPA Clearance Boundary	3.27 ac	0.66 ac	0.66 ac	NA
	Acres w/in proposed ROW	0.36 ac	0.66 ac	0.66 ac	NA
Stream Impacts	Linear feet (LF) w/in NEPA Clearance Boundary	11,166 LF	1,538 LF	1,538 LF	0
	LF w/in proposed ROW	2,126 LF	256 LF	256 LF	NA
100-year Floodplain Impacts	Acres w/in NEPA Clearance Boundary	35.2 ac	2.9 ac	2.9 ac	NA
500-year Floodplain Impacts	Acres w/in NEPA Clearance Boundary	9.3 ac	1.1 ac	1.1 ac	NA
Regulatory Floodway Impacts	Acres w/in NEPA Clearance Boundary	18 ac	0.6 ac	0.6 ac	NA
Traffic Noise Impacts (2042 Design Year)	Number of impacted receptors	2	0	0	6

Table 2-1 continued: Impacts Summary for the Alternatives Considered

Resource	Measure	Build Alternative			No-Build Alternative
		Phase 1 Elevated	Phase 2 Option A Depressed	Phase 2 Option B Elevated	
Hazardous Material Sites	Number w/in NEPA Clearance Boundary	1	5	5	NA
Major Utility Conflicts*	Number of potential conflict locations	35 +/-	24 +/-	24 +/-	NA

*Count based on generalized locations, utility provider/owner, and type of utility; additional lines may be present and affected along the corridor.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the socioeconomic, cultural, natural, and human environments along the project corridor and those affected by the Build Alternatives considered. Each of the following sections describes the effects of the Build Alternative which includes the Phase 1 elevated freeway option and two design options for Phase 2 – depressed and elevated freeway. The effects of the No-Build Alternative are also described to provide a comparison for the Build Alternatives. Introduction & Summary of Effects

3.1 Community and Socioeconomic Impacts

3.1.1 Land Use and Zoning

The development and implementation of the proposed project was reviewed to determine its consistency with the land use plans, land use policies/zoning, and transportation plans governing the project boundary and surrounding areas. Local jurisdictions including the City of Wichita, City of Andover, Sedgwick County, and Butler County have been engaged throughout the project development process. In addition to describing the current land use and developments within the NEPA Clearance Boundary, the following discusses the most relevant local and regional plans and policy documents.

Andover Area - Kansas 2014-2023 Comprehensive Plan[5]– The *2014-2023 Andover Area Comprehensive Plan* defines the city's intended future land uses and desired pattern and character of growth. Overall, the plan provides a mid- and long-term vision for the city to be the "best place to live, work, learn, and play" and sets forth processes and strategies to work toward that vision. The plan incorporates the intentional shaping of a "lifestyle corridor" of more intense, sustainable mixed uses along US 54/East Kellogg, by integrating a series of designated land uses including mixed commercial, mixed residential, single and multi-family residential, civic, and open space land uses. Following completion of the *US 54/400 Corridor Study* in 2010, the City of Andover adopted a development set-back along US 54/East Kellogg to support continued growth and development within the community while minimizing the impact the future improvement of US 54/East Kellogg would have on adjacent properties.

Community Investments Plan 2015-2035 (Wichita-Sedgwick County)[6] – The *2015-2035 Community Investments Plan* is the most recently adopted joint comprehensive plan for the City of Wichita and Sedgwick County. The plan establishes a vision, community values, and guiding principles for intentional growth in the area through 2035, and serves as a guide for future growth, development, and public infrastructure investment decisions. The plan also describes future land use policies to encourage orderly growth to meet market demand, while considering impacts to various stakeholders, the environment, and the community as a

[5] City of Andover, A*ndover Area - Kansas 2014-2023 Comprehensive Plan. https://www.andoverks.com/761/Long-Range-Planning*

[6] City of Wichita and Sedgwick County. Community Investments Plan 2015-2035. https://www.wichita.gov/Planning/Pages/Comprehensive.aspx

whole. The future growth plan associated with Phase 1 of the US 54/East Kellogg Expansion includes the continued development of a mix of residential and employment uses.

Existing Land Use

Current land uses within the NEPA Clearance Boundary consist primarily of local streets and highways, single-family residential, commercial, undeveloped/vacant, and agricultural uses, with small areas of public and private recreational use.

Phase 1 - Existing land uses adjacent to US 54/East Kellogg include commercial developments at the far west end of the NEPA Clearance Boundary on both sides of the highway Established single-family residential neighborhoods are adjacent to the south side of existing US 54/East Kellogg from west of 143rd Street/Springdale Drive to Ruth Street. Both land use types are interspersed with large areas of undeveloped or vacant land and parcels in agricultural use. The Andover Municipal Golf Course, a public recreational property, is at the boundary between Phase 1 and Phase 2 along the north side of US 54/East Kellogg.

Phase 2 – Commercial developments (e.g., bank, gas stations, fast food/restaurant, and retail stores) surround the Andover Road intersection. Single-family residential border both sides of US 54/East Kellogg east of Ruth and between Archer Drive and Prairie Creek Road The Andover YMCA is between Yorktown Street and YMCA Drive, with light industrial uses extending east to Prairie Creek Road. Scattered undeveloped parcels are interspersed among the developed properties.

Impacts of the Build Alternative

Phase 1 – Elevated – Areas of new ROW would be acquired along both sides of US 54/East Kellogg taking land from existing land uses and potentially changing the access to commercial and residential properties not displaced by the proposed project. Potential displacements, including properties in residential and commercial use, are described in **Section 3.3**. Growth and land use changes induced by transportation projects are most often related to changes in accessibility of an area, which in turn affects the area's attractiveness for development. Expansion of the existing US 54/East Kellogg roadway could induce additional commercial development along the corridor on vacant or undeveloped parcels as access changes with construction of the frontage roads. Existing and planned areas of single-family and multi-family development would most likely remain. The potential for induced growth and possible changes in future land use are consistent with the Wichita-Sedgwick County future growth concepts, as described in the area's *2015-2035 Community Investments Plan.*

Phase 2 – Option A Depressed – Areas of new ROW would be acquired along both sides of US 54/East Kellogg and along the cross-streets of Onewood Drive, Andover Road, and Yorktown Road north and south of their respective intersections with existing US 54/East Kellogg. Changes in land use along Phase 2 are not anticipated as much of the adjacent land area is developed and the set-back established by the city would minimize ROW impacts along the mainlines. Changes in land use induced by the proposed project would be consistent with the *2014-2023 Andover Area Comprehensive Plan.*

Phase 2 – Option B Elevated - Development of an elevated section through Andover would have a greater potential to change land uses due to the change in access and visibility across the corridor with the elevated freeway. The same ROW footprint is anticipated for Option A and Option B.

Impacts of the No-Build Alternative

The No-Build Alternative would not acquire ROW causing redevelopment in some areas. Induced development may continue along existing US 54/East Kellogg as traffic volumes grow and city projects such as the Founder's Parkway that is needed to serve planned multi-family and commercial development along the north side of US 54/East Kellogg between Onewood Drive and Yorktown Road.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

The Preferred Alternative would accommodate future travel demand that may support continued development of vacant land along the corridor, especially with improvements in access. The Preferred Alternative has the potential to induce growth that would be compatible with existing and future land use plans.

3.1.2 Community Facilities and Emergency Responders

A community can be defined in part by the behavior patterns of those individuals and groups that comprise the community, including the use of local facilities and the services they provide. Community facilities were identified during the Community Impact Assessment (CIA) through review of desktop resources and a field survey performed in April 2022. The CIA Study Area extends beyond the NEPA Clearance Boundary to capture the overall community potentially affected and benefitted by the proposed action. A total of 29 community facilities were identified within the CIA Study Area, including 11 places of worship, 6 recreational areas, 5 schools, 2 nursing homes, and a post office, library, daycare center, Andover City Hall (government office), and the Andover YMCA and Early Learning Center (other community facility). Two of the identified community facilities are adjacent to US 54/East Kellogg - the Andover Municipal Golf Course (recreational area) and the Andover YMCA and Early Learning Center. All other community facilities are within the CIA Study Area, but located more distant from the highway corridor.

It is essential for the health, safety, and general welfare of a community that emergency response vehicles and services have adequate roadway access to all residential, commercial, and industrial properties.

For Wichita and Sedgwick County residents (Phase 1), the nearest fire and emergency medical response provider is Sedgwick County Fire Station 38, approximately 1.6 miles north of US 54/East Kellogg on 143rd Street. The nearest City of Wichita police station is approximately 5.1 miles west of the proposed project at the northeast corner of S. Edgemoor Street and US 54/East Kellogg. Andover and Butler County residents are served by the Andover Fire Department including emergency medical response and the Andover Police Department from their facilities on N. Andover Road approximately 1.6 miles north of US 54/East Kellogg.

The Andover Municipal Golf Course is located adjacent to the north side of the proposed ROW, and straddles the boundary of Phase 1 and Phase 2 of the project (east of 159th St at Ruth Street). Impacts to these two facilities would be limited to temporary access changes during the construction phase of the project. The facilities would remain accessible to the public, but may require alternate routes for a short duration during

construction activities. There would be no significant or permanent impacts to either of the facilities based on the design improvements proposed at their locations. Impacts to other identified community facilities are not anticipated as the facilities are located within the CIA Study Area but are not adjacent to the proposed ROW.

Impacts of the Build Alternative

Phase 1 – Elevated – No community facilities would be affected. Access to neighborhoods and local streets would be maintained either at the interchanges proposed at 143rd Street and 159th Street or through connections to the frontage road system. Access to neighborhoods by school buses and emergency responders would be maintained with emergency response times potentially improved as a result of the added capacity including turn lanes at cross-street intersections and along US 54/East Kellogg.

Phase 2 – Option A Depressed and Option B Elevated – No community facilities would be affected by either option. Similar to Phase 1, access to neighborhoods and local streets would be maintained either at the interchanges and grade-separations proposed at Onewood Drive, Andover Road, and Yorktown Road or through connections to the frontage road system. Access to Prairie Creek Parkway would be provided via the frontage road system to improve safety and maintain access into the neighborhoods it serves. Access to neighborhoods by school buses and emergency responders would be maintained with emergency response times potentially improved as a result of the added capacity including turn lanes at cross-street intersections and along US 54/East Kellogg.

Impacts of the No-Build Alternative

Under the No-Build Alternative, only improvements to the local street network would occur as described in Section 2.3 (e.g., widening of 143rd Street south of US 54/East Kellogg and construction of Founder's Parkway connecting Onewood Drive, Andover Road, and Yorktown Road north of US 54/East Kellogg). These improvements are intended to improve access to adjacent neighborhoods as well as to community facilities within the area. Once completed, they could improve travel times along school bus routes and for emergency responders serving these areas. The No-Build Alternative would not provide additional capacity or improve access to neighborhoods and community facilities (e.g., Andover YMCA, Andover Municipal Golf Course) adjacent to US 54/East Kellogg.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

The Preferred Alternative would provide added capacity along US 54/East Kellogg and at major cross-street intersections to reduce congestion and improve travel times across the Study Area for all travelers including school buses and emergency responders. No community facilities would be displaced and access to those adjacent to US 54/East Kellogg would be maintained during construction and afterwards with connections to the frontage road system. Any detours will be temporary in nature and limited in duration to the period of time required to construct project improvements. The exact location, timing, and duration of road closures will be finalized during construction of the project. A traffic management plan will be developed and implemented by KDOT during construction. Access to properties along the US 54/East Kellogg will be maintained by phased construction, temporary access roads, or other appropriate means to ensure that emergency response vehicles have access throughout the corridor.

3.1.3 Environmental Justice

All federal agencies must comply with Title VI of the 1964 Civil Rights Act (Title VI) and Executive Order 12898: *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. Under Title VI and related statutes, each federal agency is required to ensure that no person is excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, national origin, age, sex, disability, or religion. Executive Order 12898 states that "…each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations…"

Pursuant to the Executive Order, FHWA issued Order 6640.23A, *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* on June 14, 2012, the Secretary of Transportation, along with heads of other federal agencies, signed a Memorandum of Understanding on Environmental Justice (EJ MOU) and Executive Order 12898 confirming the continued importance of identifying and addressing these considerations in agency programs, policies and activities as required by Executive Order 12898. As part of the EJ MOU, each agency agreed to review and update their Environmental Justice (EJ) strategy as appropriate. The updated strategy relies upon existing authorities for achieving EJ as described by Executive Order 12898, such as the National Environmental Policy Act of 1969 (NEPA), Title VI and related statutes, and the commitments and focus areas in the EJ MOU.

On December 16, 2011, FHWA issued a memorandum titled "Guidance on Environmental Justice and NEPA." The memorandum describes the process involved in addressing Environmental Justice during NEPA review, including documentation requirements. FHWA administers its governing statutes to identify and avoid discrimination and disproportionately high and adverse effects on minority populations and/or low-income populations by:

(1) Identifying and evaluating environmental, public health, and interrelated social and economic effects of FHWA programs, policies, and activities;

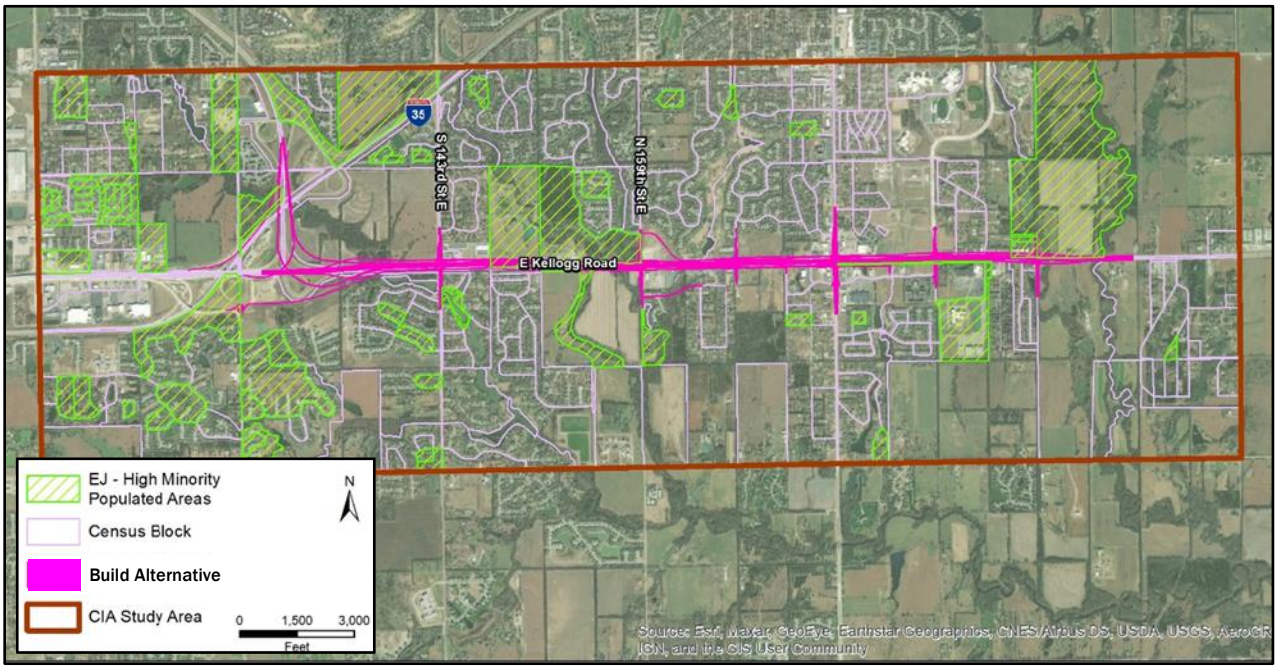
(2) Proposing measures to avoid, minimize, and/or mitigate disproportionately high and adverse environmental and public health effects and interrelated social and economic effects and provide offsetting benefits and opportunities to enhance communities, neighborhoods, and individuals affected by FHWA programs, policies, and activities, where permitted by law and consistent with Executive Order 12898;

(3) Considering alternatives to proposed programs, policies, and activities where such alternatives would result in avoiding and/or minimizing disproportionately high and adverse human health or environmental impacts, where permitted by law and consistent with Executive Order 12898; and 4. Providing public involvement opportunities and considering the results thereof, including providing meaningful access to public information concerning the human health or environmental impacts and soliciting input from affected minority populations and/or low-income populations in considering alternatives during the planning and development of alternatives and decisions.

Minority is defined as a person who is: Black (having origins in any of the black racial groups of Africa); Hispanic or Latino (of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); Asian American (having origins in any of the original peoples of the Far East, Southeast Asia or the Indian subcontinent); American Indian and Alaska Native (having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition); or Native Hawaiian and Other Pacific Islander (having origins in any of the original peoples of Hawaii, Guam, Samoa or other Pacific Islands).[7]

Minority population is defined as any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed FHWA program, policy, or activity. The minority census blocks within the CIA Study Area are depicted in **Figure 3-1**.

Figure 3-1: Minority Populations Within the CIA Study Area



Low-income is defined as a household income at or below the Department of Health and Human Services (DHHS) poverty guidelines. The poverty guidelines are provided by the DHHS every year. In 2022, the DHHS poverty guideline for a four-person family is $27,750.

Population data presented in **Table 3-1** at the census block (Census 2020) and census block group levels (2016-2020 American Community Survey [ACS] 5-Year Estimates) from the US Census Bureau were used to identify low-income and minority populations within the NEPA Clearance Boundary and the CIA Study Area for comparison. Census block data provides information at the lowest scale available for race and ethnicity

[7] FHWA Order 6640.23A

analysis; census block group data provides information at the lowest scale available for household income and poverty population analyses.

Table 3-1: Demographic Characteristics within the CIA Study Area and NEPA Clearance Boundary

Demographic Characteristic	NEPA Clearance Boundary[1]	City of Wichita	Sedgwick County	City of Andover	Buter County	State of Kansas
Total Population (2020)	5,037	397,532	523,824	14,892	67,380	2,937,880
Race and Ethnicity:						
White	73.5%	59%	64%	79%	84%	72.2%
Black or African American	4.7%	11%	9%	2%	2%	5.6%
American Indian/Alaskan Native	0.4%	1%	1%	1%	1%	0.7%
Asian	8.2%	5%	4%	5%	1%	2.9%
Native Hawaiian/Other Pacific Islander	0.0%	0%	0%	0%	0%	0.1%
Hispanic	5.3%	18%	16%	7%	5%	13.0%
Median Household Income	$84,466	$53,466	$57,540	$98,320	$66,405	$61,091
Percent Living Below Poverty	6.7%	16%	13%	6%	9%	11.6%
Persons w/Limited English Proficiency[3]	6.2%	6.5%	5.5%	2.3%	0.9%	4.5%

Source: 2016-2020 5-YR American Community Survey (ACS)

1–Demographic data provided in the table for the NEPA Clearance Boundary reflects the totaled data available for the census blocks or census block groups that intersect the NEPA Clearance Boundary.

The proposed improvements to US 54/East Kellogg are anticipated to provide benefits to the adjacent and surrounding community that include reduced congestion, improved safety and mobility, and improved connectivity. No substantial adverse impacts to community cohesion, public facilities, and services, and emergency travel times would result from the proposed project.

Adverse impacts to EJ populations include potential noise impacts at certain locations, changes in access, and displacements; however, these impacts are not disproportionate as they would also affect non-EJ populations. Relocation assistance, noise abatement measures (if and where applicable), and added benefits of roadway improvements would mitigate and minimize the adverse impacts resulting from the proposed project. Although access changes would occur, access would not be eliminated to any portion of the CIA Study Area or within the proposed ROW. Displacements and ROW acquisitions are anticipated under the Build Alternative, are further described in **Section 3.3**.

Minority Populations - Census block-level data indicates 64 of the total 239 populated census blocks within the CIA Study Area have a minority population greater than 50 percent (shown in green hatching on **Figure 3-1**). Comparatively, 14 of the 51 populated census blocks that intersect the NEPA Clearance Boundary contain a minority population of approximately 50 percent or more. The CIA Study Area has a minority population of approximately 26 percent, compared to the minority population within the NEPA Clearance Boundary of 33 percent (**Table 3-1**). The NEPA Clearance Boundary intersects block groups that average 6.7 percent minority, higher than the City of Andover (6 percent) but lower than the City of Wichita (16 percent).

Low-Income Populations - As summarized in **Table 3-1,** the CIA Study Area boundary includes 15 census block groups containing 8,116 households. All 15 census block groups within the CIA Study Area have a median household income higher than the 2022 DHHS poverty guideline for a family of four ($27,750 annually); therefore no low-income populations were identified within the CIA Study Area. One census block group is considered marginally low-income with a reported median household income of $29,655. Median household incomes across the CIA Study Area range from $29,655 to $137,554.

Limited English Proficiency (LEP) - Approximately 7 percent of the population within the CIA Study Area speaks English "less than very well." The most common other languages spoken by the LEP population within the CIA Study Area include Asian and Pacific Islander languages (4.1 percent) and Spanish (1.2 percent). Public involvement and community outreach activities have included reasonable accommodations to provide the public, including LEP individuals and populations, meaningful access to the services and information regarding the proposed project.

Impacts of the Build Alternative

The proposed project would improve mobility, connectivity, and travel safety for the community as a whole, equally benefitting EJ and non-EJ populations. Although the Build Alternative would widen and elevate (Phase 1) US 54/East Kellogg creating a substantial physical and visual barrier between existing neighborhoods already separated by the existing highway, it would not encroach upon or bisect low-income or minority populations. One of the 11 potential residential displacements in Phase 1 has been identified as minority and is within a 100 percent minority census block (total of 5 persons). ROW would be acquired from one minority-owned business along Phase 1 and from four businesses within a minority census block at the east end of Phase 2. Ownership of the businesses within the minority census block in Phase 2 has not been identified. Based on the information available at this time, no minority-owned businesses would be displaced.

Impacts of the No-Build Alternative

The No-Build Alternative would not result in disproportionately high and adverse impacts on EJ communities as no ROW would be acquired, no displacements would occur, and no changes in access to neighborhoods and communities would be made. However, as forecasted future traffic congestion along US 54/East Kellogg increases, safe and reliable access to homes, services, and employment centers within the CIA Study area may be negatively affected for all populations.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

Based on the data collected, 1 residence out of a total of 11 potential residential displacements is known to be a minority, ROW would be acquired from one minority-owned business, and ROW would be acquired from four business within a minority census block. None of the 20 total potential business displacements have been identified as minority-owned. None of the displacement are within a low-income block group. Therefore, the Preferred Alternative would not result in disproportionately high and adverse impacts on minority or low-income populations in accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23. The Preferred Alternative would improve mobility, connectivity, and travel safety for the entire community. The Preferred Alternative would not encroach upon or bisect EJ neighborhoods.

3.1.4 Bicycle and Pedestrian Facilities

Wichita's *2013-2023 Bicycle Master Plan*[8] indicates no SUPs or bicycle facilities exist along US 54/East Kellogg or the cross-streets within the NEPA Clearance Boundary. The plan establishes priorities for development of future bicycle and pedestrian facilities, including priorities to develop bicycle lanes along both sides of 127th Street, 143rd Street, and 159th Street within Phase 1 of the proposed project. The *City of Andover US 54/400 Corridor Study* proposed sidewalks/bike paths along both sides of the north-south arterial streets crossing US 54/East Kellogg - 159th Street, Onewood Drive, Andover Road, Yorktown Street, and Prairie Creek Road - and along proposed backage roads. No existing SUPs or pedestrian pathways/sidewalks have been developed within the limits of Phase 2 (Andover). [9] Existing segments of 10-foot-wide SUPs and 6-foot-wide or narrower pedestrian pathways/sidewalks extend along Andover Road north and south of US 54/East Kellogg, but they do not provide access to the existing intersection of Andover Road and US 54/East Kellogg.

Impacts of the Build Alternative

Phase 1 – Elevated - No existing bicycle or pedestrian facilities would be affected by construction of the Phase 1 improvements. The City of Wichita has prioritized development of bicycle lanes along the north-south streets crossing US 54/East Kellogg. The proposed project would incorporate grade-separated interchanges for K-96, 143rd Street, and 159th Street, with traffic signals installed at the intersections of the frontage roads and cross-streets. Six-foot-wide sidewalks would be built along the outside of the frontage roads in both directions connecting to 6-foot-wide sidewalks and 10-foot-wide SUPs along 143rd Street and 159th Street extending north-south from the frontage roads. A 10-foot-wide SUPs would be built along one side of the backage road proposed east of 159th Street. The length of the SUPs will be determined during final design. The proposed project is compatible and consistent with Wichita's proposed bicycle lane development.

Phase 2 – Option A Depressed - Existing pedestrian pathways/sidewalks north and south of US 54/East Kellogg would be connected to with 10-foot-wide SUPs extending from the frontage roads. Six-foot-wide sidewalks would be built along the outside of the frontage roads in both directions connecting to the north-south SUPs. The proposed project is consistent with the bicycle/pedestrian improvements recommended in the

8 City of Wichita. *Bicycle Master Plan (2013-2023.* https://www.wichita.gov/Planning/Pages/BicycleMasterPlan.aspx

9 City of Andover. *Walkable Andover* webpage. https://www.andoverks.com/442/Walkable-Andover

US 54/400 Corridor Study, and would support connectivity to parks, schools, and community facilities within the Phase 2 project area.

Phase 2 – Option B Elevated – The same combination of SUPs and sidewalks would be constructed as described in Option A Depressed.

Impacts of the No-Build Alternative

The No-Build Alternative would make no improvements to existing roadways nor construct new roadways, therefore, no effect on existing or planned bicycle and pedestrian facilities would occur. The proposed shared use paths along backage roads would not be constructed.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

Construction of the Preferred Alternative would be consistent with local plans for development of bicycle and pedestrian facilities and construction of shared use paths would support local and regional connectivity and multi-modal transportation for residents that do not have access to or do not prefer use of a vehicle.

3.2 Farmland

The Farmland Protection Policy Act (FPPA) of 1981 is intended to minimize the unnecessary conversion of prime farmlands and farmlands of statewide importance to non-agricultural uses by federal projects and programs. Projects that cross soils classified as prime or statewide important farmlands and that are not located on land already in urban development, are subject to review by the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) under the FPPA. A large portion of the proposed ROW is located within the census-designated Wichita, Kansas Urbanized Area (UA).

Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land. Farmland "committed to urban development or water storage" includes all such land that receives a combined score of 160 points or less from the land evaluation and site assessment criteria based on the criteria in the NRCS-CPA-1006 Farmland Conversion Impact Rating form completed for the project.

Table 3-2: Comparison of Farmland Impacts of the Build Alternative Within the NEPA Clearance Boundary and Proposed ROW

Farmland	Phase 1		Phase 2*		Total Project	
	Acres	Percent Total Acres	Acres	Percent Total Acres	Acres	Percent Total Acres
Total Area within NEPA Clearance Boundary	522.8	100%	188.4	100%	711.3	100%
Area of Mapped Prime Farmland	152.1	29.1%	92.2	49.0%	244.4	34.4%
Area of Mapped Farmland of Statewide Importance	347.6	66.5%	96.2	51.0%	443.8	62.4%
Total Farmland	499.7	95.6%	188.4	100.0%	688.2	96.8%
Total Farmland within the Proposed ROW[1]	NA	NA	NA	NA	44.5	100%
Area of Mapped Prime Farmland	NA	NA	NA	NA	24.8	55.7%
Area of Mapped Farmland of Statewide Importance	NA	NA	NA	NA	16.2	36.4%

1 – Taken from the NRCP-CPA-1006 Form returned by the NRCS on October 20, 2022.

KDOT conducted a total corridor assessment for the Build Alternative using of the NRCS-CPA-1006 Farmland Conversion Impact Rating Form and initiated coordination with NRCS on September 20, 2022. The assessment indicated a total 44.54 acres of new ROW would be classified as prime or of statewide importance for Phase 1 and Phase 2 combined. The NRCS responded on October 20, 2022, providing the completed NRCS-CPA-1006 Form. The project scored a total of 137.35, below the maximum allowable 260 total site assessment points. A copy of the NRCS-CPA-1006 Form, prime and statewide important farmland mapping, and supporting documentation is included in **Appendix A.**

Impacts of the Build Alternative

The Build Alternative (Phase 1 and Phase 2, either Option A or B) would convert farmland (combination of prime and statewide important farmland) to non-agricultural use with the proposed ROW. The project is within the US Census-designated Wichita, Kansas UA with much of the area committed to urban development.

Impacts of the No-Build Alternative

The No-Build Alternative would not require ROW acquisition or development, therefore, no impacts to farmland would occur.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

The Preferred Alternative would convert areas of mapped prime and statewide important farmland to non-agricultural uses. Both project phases are within the boundaries of the US Census Bureau designated Wichita, Kansas UA and committed to development. Therefore, conversion of the affected farmland would not result in an adverse effect on the resource.

3.3 Right-of-Way Acquisition and Potential Displacements/Relocations

Property acquisition required for the proposed improvements would be conducted by KDOT in accordance with the Uniform Relocation and Real Property Acquisition Policies Act of 1970, as amended; 49 CFR Part 24, Subparts C through F; Title VIII of the Civil Rights Act of 1968 (Federal Fair Housing Law); Housing and Urban Development (HUD) Amendment Act of 1974, and KDOT policies and procedures. Relocation resources will be made available, without discrimination, to all affected property owners and tenants required to relocate as a result of implementation of the proposed project.

It is KDOT's policy that no person be requested to move from their dwelling until at least one comparable replacement dwelling has been made available to that person. A comparable, replacement dwelling is safe, decent, sanitary, and functionally similar to the present dwelling, and within the financial means of the displaced person. The replacement housing must also be open to persons regardless of race, color, religion, or national origin.

A representative of KDOT will assist each displaced person in securing comparable replacement housing and be sensitive to the special needs of any special group of residents. The relocation coordination office will maintain liaison activities with other agencies rendering services useful to persons who must relocate. The occupants of residences are entitled to receive reasonable and necessary moving costs and related expenses for relocating their personal property.

Impacts of the Build Alternative

Table 3-3 summarizes the number of parcels to be acquired, total acres of new ROW needed, and potential displacements that would result from the Build Alternative. The potential displacements are described in more detail in the following sections.

Table 3-3: Comparison of Potential Displacements Resulting from the Build Alternatives

Project Phase	Number of Parcels to be Acquired	Total Acres of New ROW Needed (approx.)	Number of Potential Residential Displacements/ Relocations	Number of Potential Commercial Displacements/ Relocations
Phase 1	62	63.3	5	10
Phase 2*	54	23.3	6	10
Total	116	86.6	11	20

* Phase 2 Option A Depressed and Option B Elevated have the same proposed ROW footprint and would have the same potential ROW acquisition needs.
NOTE: The number of parcels and acreages of new ROW needed do not include parcels presently owned by KTA, the City of Wichita, and the City of Andover.

Phase 1 – Elevated – Requires the acquisition of approximately 63.3 acres of new ROW would potentially displace five single-family residences along the south side of US 54/East Kellogg. One potential residential displacement is east of the I-35/K-96 interchange, three are along the east side of 143rd Street/Springdale Drive, and one is at the west corner of Verna Avenue and W. Clyde Street. Ten potential businesses would be

displaced, most are along the south side of US 54/East Kellogg, between 159th Street and Ruth Street (Mid Kansas Marine, King Pete Tattoo, Ball Heating & Air Conditioning, Robs Guntech & Firearms, PD Plumbing, Heating, & Cooling, Secure Self Storage [west parcel], Chelsea Square Apartments leasing office) and one additional business at the southeast corner of US 54/East Kellogg and S. Frey Street (Secure Self Storage [east parcel]). Two commercial properties in the northeast quadrant of the 143rd Street and US 54/East Kellogg intersection (QuickTrip and Integrity Auto Group) would also be displaced.

Phase 2 – Option A Depressed - Requires the acquisition of approximately 23.3 acres of new ROW and would potentially displace six residences, north of US 54/East Kellogg, between Archer Drive and Brown Drive. Ten potential businesses would be displaced, all located at the intersection of Andover Road and US 54/East Kellogg (Z Auto, Braum's, Goodwill, Kwikshop, Poplar Restaurant, Flint Hills Wine & Spirits, Billy Sims BBQ, Primo, Capitol Federal Savings Bank, and Applebee's).

Phase 2 – Option B Elevated – Requires the same amount of new ROW and would result in the same potential displacements as Option A Depressed as they have the same ROW footprint.

Impacts of the No-Build Alternative

No ROW acquisition or displacements would occur.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

The Preferred Alternative would require a total of approximately 86.6 acres of new ROW and would potentially displace a total of 20 businesses and a total of 11 residences (all single-family). As final design progresses, further refinement of the alignment and ROW needs may occur with the intention to minimize the number of potential displacements. In the event design changes result in additional displacements that cannot be avoided, KDOT will coordinate with FHWA to-evaluate project impacts.

3.4 Transportation Network

US 54 (US 400)/East Kellogg is the primary east-west roadway through the Study Area. It connects to K-96 at the west end of the Study Area, which provides connectivity to I-35 (part of the Kansas Turnpike). As described in Section 1.2.3, US 54 (US 400) is the primary east-west corridor across Wichita, connecting to major north-south routes - K-96, I-135, and I-235; downtown Wichita, and the Wichita Dwight D. Eisenhower National Airport. US 54 originates just west of the Kansas-Missouri state line south of Pittsburg, Kansas, and crosses the state to Dodge City, where it turns southwest through Liberal, Kansas before crossing into Oklahoma.

K-96 begins at the intersection with US 54 (US 400) at the west end of the Study Area and travels north and then west through the center of Wichita, joining I-135 and I-235, before leaving the interstate system to continue northwesterly coming to an end at K-14 south of Hutchinson, Kansas. K-96 is a four-lane divided facility throughout most of its length. The section through Wichita between 13th Street and I-135 is under study to be expanded to a 6-lane divided facility.

I-35 through the western portion of the Study Area is a 4-lane divided toll facility and part of the Kansas Turnpike managed by the KTA.

The local major roadway network crossing the Study Area includes:

- S. 143rd Street/Springdale Drive (Wichita) – 6-lane divided transitioning to a 5-lane urban arterial north of US 54/East Kellogg; 5-lane transitioning to a 2-lane local street south of US 54/East Kellogg.
- S. 159th Street/SW County Line Road (Wichita, Sedgwick and Butler County line) – 4-lane undivided transitioning to a 3-lane local street north of US 54/East Kellogg; 3-lane transitioning to a 2-lane local street south of US 54/East Kellogg.
- S. Andover Road (Andover) – 6-lane divided urban arterial transitioning to a 4-lane urban street north of US 54/East Kellogg; 6-lane divided urban arterial transitioning to a 5-lane urban arterial south of US 54/East Kellogg.
- Yorktown Street (Andover) – 5-lane divided urban street north of US 54/East Kellogg; 4-lane local street transitioning to a 3-lane local street south of US 54/East Kellogg.
- S. Prairie Creek Road (Andover) – 2-lane local street north and south of US 54/East Kellogg.
- Additional local roads currently cross US 54/East Kellogg that range from 2-lane local streets to a 4-lane divided boulevard (Onewood Drive).

Impacts of the Build Alternative

Phase 1 – Elevated – Grade-separated interchanges would be built at 143rd Street and 159th Street with both roads traveling under the freeway mainlines. Both intersections would be widened to accommodate right- and left-turn lanes, U-turns, access to the frontage roads, and signalized intersections at the frontage roads. On- and off-ramps would be built at both interchanges to provide access between the mainlines and the frontage roads. Other local streets would connect to the frontage roads or property access would be re-routed to a backage road.

Phase 2 – Option A Depressed – A grade-separation separation would be built at Onewood Drive with Onewood Drive going over the mainlines. Grade-separated interchanges at Andover Road and Yorktown Road would be built with both cross-streets going over the mainlines and on- and off-ramps connecting the mainlines to the frontage roads. The intersections would be widened to accommodate right- and left-turn lanes, U-turns, access to the frontage roads, and signalized intersections at the frontage roads. Prairie Creek Road would be modified to connect to the frontage roads on both sides of US 54/East Kellogg, not the mainlines to improve safety. Other local streets would connect to the frontage roads or in some locations, property access would be re-routed to a backage road.

Phase 2 – Option B Elevated – A grade-separation separation would be built at Onewood Drive with Onewood Drive going under the mainlines. Grade-separated interchanges at Andover Road and Yorktown Road would be built with both cross-streets going under the mainlines and on- and off-ramps connecting the mainlines to the frontage roads. The intersections would be widened to accommodate right- and left-turn lanes, U-turns, access to the frontage roads, and signalized intersections at the frontage roads. Prairie Creek Road would be modified to connect to the frontage roads on both sides of US 54/East Kellogg, not the mainlines to improve safety. Other local streets would connect to the frontage roads or in some locations, property access would be re-routed to a backage road.

Impacts of the No-Build Alternative

The No-Build Alternative would not improve US 54/East Kellogg or address the transportation needs identified. Local roadway projects would occur including the widening of 143rd Street south of US 54/East Kellogg by the City of Wichita and the construction of Founder's Parkway (backage road) connecting Onewood Drive, Andover Road, and Yorktown Road north of US 54/East Kellogg in Andover. No other access changes or intersection improvements would occur along US 54/East Kellogg. The No-Build Alternative would likely result in increasing congestion and travel delay by 2042.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

The Preferred Alternative would provide the capacity needed to support the travel demand forecasted through 2042 while easing congestion and improving LOS at major roadway intersections. Access would be maintained to adjacent properties via the proposed frontage and backroad system, while limiting access to the mainlines to improve safety.

3.5 Cultural Resources

The Advisory Council on Historic Preservation's (ACHP's) implementing regulations for Section 106 of the National Historic Preservation Act (36 CFR Part 800) requires federal agencies to take into account the effects of their undertakings on historic properties and to provide the ACHP a reasonable opportunity to comment on the undertakings. The following sections summarize the coordination and findings of archaeological and historic resources surveys conducted within the NEPA Clearance Boundary.

KDOT consulted with Kansas State Historic Preservation Office (SHPO), local governments, Native American Tribes, and other interested parties on cultural resources regarding cultural resources within the NEPA Clearance Boundary. Three Native American Tribes with potential interest in the Study Area - the Kaw Nation of Oklahoma, the Osage Nation of Oklahoma, and the Wichita Affiliated Tribes – were engaged during the agency scoping process in April 2022, and consulted with during the period of July 14, 2022, through September 12, 2022. Responses were received from the Kaw Nation of Oklahoma and the Osage Nation of Oklahoma. The coordination process is detailed in **Section 4.3** of this document with copies of correspondence provided in **Appendix B**.

3.5.1 Archaeological Resources

The Contract Archaeological Program of the KSHS conducted Phase I archival research and Phase II archeological field surveys for areas within the NEPA Clearance Boundary (Phase 1 and Phase 2) with high probability to contain archaeological resources and three previously identified archaeological sites not formerly assessed for National Register of Historic Places (NRHP) eligibility in September 2022 following procedures outlined in a Memorandum of Agreement between the KSHS and KDOT, effective July 1, 2021. No NRHP-eligible resources were found, and no additional investigations were recommended. The KS SHPO concurred with the finding of "no historic properties affected" on September 27, 2022. The Cultural Resources Survey and related correspondence is provided in **Appendix C**.

Impacts of the Build Alternative

Neither Phase 1 or Phase 2 (Option A Depressed or Option B Elevated) would affect properties protected under Section 106 of the NHPA.

Impacts of the No-Build Alternative

The No-Build Alternatives would not acquire ROW or result in construction; therefore the No-Build Alternative would not affect properties protected under Section 106 of the NHPA.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

The Preferred Alternative would not affect historic properties protected under Section 106 of the NHPA. In the event buried cultural deposits are encountered during construction of either project phase, all work within five meters (or approximately 20 feet) of the located materials shall stop and the KS SHPO will be notified to evaluate the site before work may continue.

3.5.2 Historical Resources

Impacts of the Build Alternative

KDOT conducted a survey for historic non-archeological resources within the NEPA Clearance Boundary for both Phase 1 and Phase 2 in September 2022. No properties listed on the NRHP or properties considered eligible for listing in the NRHP were identified. On September 29, 2022, the KS SHPO concurred with the finding the proposed project will not adversely affect any NRHP-eligible properties.

Impacts of the No-Build Alternative

The No-Build Alternative would not affect properties eligible for listing in the NRHP.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

On September 29, 2022, the KS SHPO concurred with the finding the proposed project will not adversely affect any NRHP-eligible properties.

3.6 Section 4(f) and Section 6(f) Properties

Section 4(f) and Section 6(f) properties are federally protected lands defined as follows:

- **Section 4(f) properties** include publicly owned, significant and accessible parks, recreation areas, and wildlife and waterfowl refuges; and significant historic and archaeological sites, regardless of whether they are publicly or privately owned. [Section 4(f) of the Department of Transportation Act of 1966[10]]
- **Section 6(f) properties** were acquired or developed, partially or wholly, with Land and Water Conservation Fund (LWCF) assistance from the National Park Service (NPS). [Section 6(f) of the Land and Water Conservation Fund Act of 1965[11]]

A project or action that proposes to "use" a Section 4(f) property must evaluate avoidance alternatives. The Section 4(f) property may only be used if: (1) there are no prudent and feasible alternatives to avoid the

10 49 USC § 303 and 23 CFR § 774

11 Public Law 88-578

property, and (2) the action includes all possible planning to minimize harm to the property; or if the use of the property, including any measures to minimize harm (e.g., avoidance, minimization, mitigation, or enhancement measures) will have a *de minimis* impact on the Section 4(f) property.

Section 6(f) protected properties cannot be converted to a use other than public outdoor recreation, unless approval is received from the NPS. Conversion of a Section 6(f) property, in whole or in part, to a non-recreational use requires replacement of the converted property.

Only one Section 4(f) and Section 6(f) protected property is adjacent to US 54/East Kellogg – the Andover Municipal Golf Course. Acquired by the City of Andover in 1988 using LWCF monies, the golf course is owned by a public entity and open for public use. The golf course property boundary is approximately 100 feet north of the existing US 54/East Kellogg ROW, separated from the highway ROW by a separate easement purchased by the City of Andover in 2014 without they use of LWCF monies. This easement contains a portion of the entrance drive to the golf course but no recreational or publicly used components of the golf course.

No other Section 4(f) or Section 6(f) protected properties are within the NEPA clearance boundary.

Impacts of the Build Alternative

Phase 1 – Elevated – Construction of Phase 1 would end along US 54/East Kellogg near the existing entrance to the golf course. The widened freeway including the north frontage road would be built within the 100-foot wide easement separating the golf course property from the existing US 54/East Kellogg ROW. Changes may be made to the golf course access drive within that easement and the access may be closed temporarily (tied to coincide with the winter season) to accommodate tying the new driveway (pavement) into the frontage road and proposed backage road within the northeast quadrant of the 159th Street and US 54/East Kellogg interchange. Construction of the Phase 1 improvements would not require ROW from the golf course and would not adversely affect the activities, features, and attributes that qualifies the golf course for protection under Section 4(f), nor would it require the conversion of a Section 6(f) property.

Phase 2 – Option A Depressed or Option B Elevated - Construction of Phase 2 would begin near the existing entrance to the golf course on US 54/East Kellogg. The widened freeway including the north frontage road would be built within the 100-foot wide easement separating the golf course property from the existing US 54/East Kellogg ROW. Changes may be made to the golf course access drive within that easement and the access may be closed temporarily (tied to coincide with the winter season) to accommodate tying the new driveway (pavement) into the frontage road. Temporary grading may occur within the easement adjacent to the golf course to accommodate drainage and utility relocations, but no encroachment into the golf course property is anticipated. Construction of the Phase 2 improvements, either the Depressed or Elevated Option, would not require ROW from the golf course and would not adversely affect the activities, features, and attributes that qualifies the golf course for protection under Section 4(f), nor would it require the conversion of a Section 6(f) property.

Impacts of the No-Build Alternative

No ROW would be acquired from the golf course and no construction would occur within the easement between the golf course and the existing highway. The No-Build Alternative would not affect Section 4(f) or Section 6(f) protected properties.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

The Preferred Alternative would not acquire ROW from the Andover Municipal Golf Course or any other Section 4(f) or Section 6(f) protected property. As described in Section 3.10, the golf course would not be affected by traffic noise under the No-Build or future Build condition. The 66 dB(A) contour falls entirely within the existing ROW along the south edge of the golf course and approximately 40 feet outside of the golf course's property boundary. Construction of the Preferred Alternative would not adversely affect the activities, features, and attributes that qualifies the golf course for protection under Section 4(f), nor would it require the conversion of a Section 6(f) property. The Preferred Alternative would not affect any historic sites protected under Section 4(f).

If during final design changes are made to the proposed construction limits of the Preferred Alternative that would encroach onto the golf course property, including the need to relocate utilities or extend grading limits, the effect of those actions on the activities, features, and attributes that qualifies the golf course for protection under Section 4(f) need to be assessed and approved by FHWA before work may commence.

3.7 Water Resources

3.7.1 Wetlands and Waters of the US

Under section 404 of the Clean Water Act (CWA), the U.S. Environmental Protection Agency (EPA) authorizes the U.S. Army Corps of Engineers (USACE) to regulate impacts to wetlands and waters of the United States through a permitting process. The CWA requires a permit to authorize the discharge of dredged or fill material into waters of the United States (33 USC § 1344). The USACE and the EPA define wetlands as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Executive Order (EO) 11990 *Protection of Wetlands* mandates that federal agencies, including FHWA, "take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands." EO 11990 applies to actions undertaken and/or funded by federal agencies; therefore, EO 11990 applies to the proposed project. EO 11990 prohibits new construction in wetlands unless (1) there is no practicable alternative to such construction, and (2) the project includes all practicable measures to minimize harm to wetlands.

Impacts of the Build Alternative

A field investigation was performed in May-June 2022, to identify potential waters of the US, including wetlands, located within the NEPA Clearance Boundary. The delineation was performed delineation of waters of the US, including wetlands, was conducted in accordance with 1987 *Corps of Engineers Wetlands*

Delineation Manual (1987 Manual) and the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region – Version 2.0* (Regional Supplement).

Table 3-4 provides a summary of the potential waters of the United States, including wetlands and streams, identified within the NEPA Boundary and within the proposed ROW. Further detail regarding wetlands and waters of the US identified for the proposed project are provided in **Appendix D**.

Table 3-4: Impacts to Wetlands and Streams within NEPA Clearance Boundary and Proposed ROW

Water Feature Classification	Phase 1		Phase 2	
	NEPA Boundary	proposed ROW	NEPA Boundary	proposed ROW
Wetlands (Acres)				
PUB	2.98	0.36	0.66	0.66
PAB	0.28	0.00	0.00	0.00
PEM	0.01	0.00	0.00	0.00
Total Wetlands	**3.27**	**0.36**	**0.66**	**0.66**
Streams (Linear Feet)				
Ephemeral	2,379	401	58	0
Intermittent	7,840	1,538	1,480	256
Perennial	947	187	0	0
Total Streams	**11,166**	**2,126**	**1,538**	**256**

* Phase 2 depressed and elevated options have the same ROW footprint and would affect the same water resources.

Phase 1 – Elevated – As presented in **Table 3-4**, approximately 3.27 acres of wetlands were delineated within the NEPA Clearance Boundary with approximately 0.36 acres of wetlands located within the proposed ROW. Because several stream channels and unnamed tributaries flow through the Study Area generally northwest to southeast, approximately 11,166 linear feet of streams were delineated within the NEPA Clearance Boundary with approximately 2,216 linear feet within the proposed ROW. The roadway design would incorporate bridges to span floodplains and floodways, where feasible, to minimize impacts to streams and water features adjacent to stream channels. In some areas, hydraulic modeling will determine whether culverts can be used to carry the stream flows.

Phase 2 – Option A Depressed and Option B Elevated – As presented in **Table 3-4**, approximately 0.66 acres of wetlands were delineated within the NEPA Clearance Boundary for both design options with approximately 0.66 acres within the proposed ROW. Smaller streams flow through the Phase 2 portion of the Study Area where approximately 1,538 linear feet of streams were delineated within the NEPA Clearance Boundary with approximately 256 linear feet with the proposed ROW. Under either the depressed or elevated option, the roadway design would incorporate bridges to span floodplains and floodways, where feasible, to minimize

impacts to streams and water features adjacent to stream channels. In some areas, hydraulic modeling will determine whether culverts can be used to carry the stream flows.

Impacts of the No-Build Alternative

The Under the No-Build Alternative, no ROW acquisition or construction would occur. Therefore, no impacts to waters of the United States would occur.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

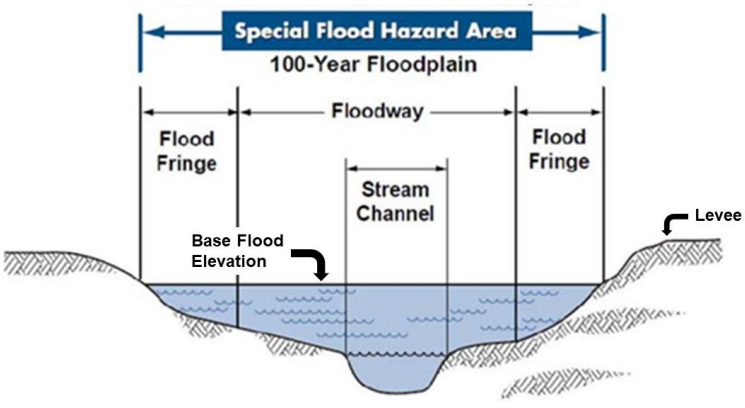
The Preferred Alternative could impact a total of 1.02 acres of wetlands and 2,382 linear feet of stream channel within the proposed ROW. As noted previously, the roadway design would incorporate bridges to span floodplains and floodways, where feasible, to minimize impacts to streams and water features adjacent to stream channels. In some areas, hydraulic modeling will determine whether culverts can be used to carry the stream flows. The level of Section 404 permitting for the project would be determined during final design after obtaining concurrence on the jurisdictionality of the wetlands and stream features delineated and the magnitude of impacts resulting from the placement of fill materials (including earthen fill, bridge bents/piers, riprap, etc.) within jurisdictional wetland boundaries and/or below the ordinary high water mark in the stream channels. The appropriate permits would be obtained for Phase 1 activities, with the permits obtained for Phase 2 at a later date after funding has been identified and final design is initiated.

Any required mitigation of impacts to waters of the United States and would be completed through the purchase of credits within a wetland and/or stream mitigation bank or other in-lieu fee program. The amount of wetland and stream mitigation credits needed for the project would be determined through coordination with the USACE during the Section 404 permitting process as the project approaches final design.

3.7.2 Floodplains/Floodways

Floodplains are low-lying, flat or nearly flat areas of land adjacent to rivers, streams, and other water courses, that are periodically inundated with water due to natural events (depicted in **Figure 3-2**). A 100-year flood is defined as a flood which has a one percent chance of being equaled or exceeded in magnitude in any given year. The 100-year (base) floodplain is any area that would be covered by water during a 100-year flood event.

Figure 3-2: Floodplains and Floodways



A regulatory floodway is defined as the channel of a stream plus the adjacent area that will be inundated with water during a 100-year flood event and must remain free of encroachment to avoid increasing the base flood elevation during a 100-year flood event. 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 hazard areas and to determine the limits of the 100-year (base) floodplain and the extent of possible floodplain encroachment.

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

USDOT Order 5650.2, *Floodplain Management and Protection*, outlines the DOT policies and procedures for implementing EO 11988. 23 CFR § 650A, *Bridges, Structures, and Hydraulics*, prescribes FHWA policies to avoid significant encroachments on floodplains and to minimize impacts of highway agency actions which adversely affect base floodplains The FHWA's floodplain encroachment policy requires avoidance of longitudinal encroachments wherever practicable. If longitudinal floodplain encroachments cannot be avoided, the degree of encroachment should be minimized to the extent practicable. Bridges over major waterways are typically configured to span as much as the floodplain as possible to provide "no rise" in the water surface elevation and to minimize impacts to the floodplain.

What are the natural and beneficial values of floodplains?

In natural systems, floodplains provide several important functions:

- Create wildlife habitat
- Provide temporary storage of flood water
- Recharge and protect groundwater
- Prevent heavy erosion caused by fast moving water
- Support vegetative buffers to filter contaminants
- Accommodate natural movement of stream flows

Floodplains store excess water during floods and slow down the speed of the of flowing water which protects areas farther downstream. Slower water velocities help reduce erosion and allow sediments in the water to settle, often providing nutrients to fertile floodplains.

The Kansas Department of Agriculture, Division of Water Resources (DWR) has jurisdiction over fill material placed in a regulatory floodplain to an average height greater than one foot above the existing ground level for streams with a drainage area of greater than one square mile. The placement of fill that meets this definition would require a Floodplain Fill permit from the DWR. State of Kansas regulations require that fill placed in a floodplain should not have an unreasonable effect on adjacent landowners, be adverse to the public interest and environmental concerns, or lack required environmental mitigation. Development within a FEMA designated floodplain area within Sedgwick or Butler Counties would also require a floodplain development permit from the respective county.

The NEPA Clearance Boundary encompasses portions of Spring Creek Tributary 4 and two of its unnamed tributaries, Fourmile Creek, and Brookhaven Creek in the City of Wichita and unincorporated Sedgwick County; and Green Valley Tributary in the City of Andover (Butler County) within the Phase 1. Within Phase 2 portions of the Fourmile Creek Tributary and the Republican Creek Tributary flow through the City of Andover and unincorporated Butler County.

Phase 1 and Phase 2 will impact mapped Zone AE 100-year floodplain (1 percent annual exceedance probability), Zone X 500-year floodplain (0.2 percent annual exceedance probability) both areas of moderate flood hazard, and regulatory floodways. The FEMA NFIP communities having jurisdiction over the floodplains in Phase 1 are the City of Wichita (Community No. 200328), Sedgwick County Unincorporated Areas (Community No. 200321), and the City of Andover (Community No. 200383). For Phase 2 the FEMA NFIP communities

having jurisdiction over the floodplains are the City of Andover (Community No. 200383) and Butler County Unincorporated Areas (Community No. 200383).

FEMA has mandated projects involving development within a regulatory floodway cause "no-rise" in base flood elevations (BFEs, or 100-year water surface elevations) and "no impact" to floodway widths. The Contractor should seek a "no-rise/no-impact" design; however, because this project will require the construction of several new bridges and a considerable expansion of the existing US 54/East Kellogg ROW, it may not be feasible to achieve a "no-rise/no-impact" design. If a "no-rise/no-impact" design cannot be achieved, the Contractor will be responsible for preparing and submitting an application for a FEMA Conditional Letter of Map Revision (CLOMR)[12], which requires coordination and concurrence from all NFIP communities involved, and obtaining an approved CLOMR from FEMA. A CLOMR cannot be approved if increases in BFEs occur at existing structures. After project construction is complete, the Contractor will be responsible for preparing and submitting an application for a FEMA Letter of Map Revision (LOMR)[13] and obtaining an approved LOMR from FEMA to officially revise the FEMA Flood Insurance Study mapping and data to reflect the changes caused by the project. The Contractor will be responsible for complying with all applicable local, state, and Federal regulations.

Impacts of the Build Alternative

Phase 1 – Elevated – Construction has the potential to place fill materials including earthen fill, bridge bents, and/or culvert structures within approximately 18.0 acres of regulatory floodway, approximately 35.2 acres of 100-year floodplain, and approximately 9.3 acres of 500-year floodplain. The FEMA floodplains and floodways affected are associated with Spring Creek Tributary 4 and two of its unnamed tributaries, Fourmile Creek, Brookhaven Creek, and Green Valley Tributary.

Phase 2 – Option A Depressed or Option B Elevated – Construction has the potential to place fill materials including earthen fill, bridge bents, and/or culvert structures within approximately 0.6 acres of regulatory floodway, approximately 2.9 acres of 100-year floodplain, and approximately 1.1 acres of 500-year floodplain. The FEMA floodplains and floodways affected are associated with Fourmile Creek Tributary and Republican Creek Tributary.

Impacts of the No-Build Alternative

No construction would occur under the No-Build Alternative. Therefore, the No-Build Alternative would have no direct impacts to FEMA floodplains and floodways within the NEPA Clearance Boundary.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

The Preferred Alternative includes substantial bridging across floodplain areas to minimize impacts where feasible. Construction of the Preferred Alternative has the potential to place fill materials including earthen fill, bridge bents, and/or culvert structures within a total of approximately 18.6 acres of regulatory floodway,

12 A CLOMR indicates whether a project, if built as proposed (that would affect the hydrologic or hydraulic characteristics of a flooding source and result in the modification of the existing regulatory floodway, the effective Base Flood Elevations (BFEs), or the Special Flood Hazard Area), would be recognized by FEMA.

13 A LOMR is a letter from FEMA officially revising the current NFIP map to show changes to floodplains, regulatory floodways, or flood elevations.

approximately 38.1 acres of 100-year floodplain, and approximately 10.4 acres of 500-year floodplain. As noted previously, a request for a CLOMR and a LOMR is anticipated due to the extent of the floodplain and floodway features crossing the existing highway and the width of the widening proposed including the number of sizes of bridges and culverts anticipated to convey flood flows that would most likely result in the "no rise/no impact" design not being achieved.

The Contractor will be responsible for obtaining all required floodplain permits from applicable jurisdictions. Any design changes made subsequent to environmental clearance must minimize, to the extent practicable, impacts on floodplains and floodways.

Executive Order 11988, Floodplain Management, Only Practicable Alternative Finding

The US 54/East Kellogg Expansion is federally funded and therefore is subject to EO 11988 and will involve a significant encroachment into the floodplain. EO 11988, directs federal agencies to:

1. assert leadership in reducing flood losses and losses to environmental values served by floodplains;
2. avoid actions located in or adversely affecting floodplains unless there is no practicable alternative;
3. take action to mitigate losses if avoidance is not practicable; and
4. establish a process for flood hazard evaluation based upon the 100-year base flood standard of the NFIP. It also directs federal agencies to issue implementing procedures; provides a consultation mechanism for developing the implementing procedures; and provides oversight mechanisms.

The explanation of how the proposed project will comply with EO 11988 is provided below:

How the project has been designed to minimize potential harm to or within the floodplain – The Build Alternative includes extensive bridging across floodplain areas to minimize impacts where feasible. Floodways would be spanned and pier placements within the floodplain would be planned to minimize hydraulic impacts. Hydraulic modeling will be conducted during design to determine where impacts can be minimized and if compensatory storage will be required.

Reasons why the proposed action must be located in the floodplain - Because of the orientation of the water features (generally north-south) across the Study Area and the need for the proposed project to expand the existing highway facility that extends east-west, crossing of floodplain and regulatory floodways associated with Spring Creek Tributary 4, Fourmile Creek, Brookhaven Creek, Green Valley Tributary, Republican Creek, along with their tributaries is unavoidable. Additional physical constraints including residential and commercial development, major utilities, community facilities, and a public golf course, limit consideration of other locations or alignments for the expanded freeway.

Alternatives considered and why they were not practicable – The development of the Build Alternative was constrained by the presence of residential neighborhoods, commercial development, major utilities, community facilities, and a golf course. Because of the orientation of the streams and their associated floodplains generally perpendicular to the east-west existing highway alignment, complete avoidance of floodplain impacts is impracticable.

The proposed action conforms to applicable state or local floodplain protection standards - Under the Constitution, a federal agency does not have to obtain local community permits to develop property within the community. However, all federal agencies are responsible for implementing EO 11988 through their own regulations. EO 11988 states that, at a minimum, federal agencies must comply with NFIP regulations. The design of the expanded US 54/East Kellogg project will conform to KDOT Design Standards.

3.7.3 Groundwater

The City of Wichita obtains more than 60 percent of its drinking water supply from Cheney Reservoir and the remaining amount from the Equus Beds. The Equus Beds of the High Plains aquifer extend only as far south and east as Hutchinson. No aquifers or recharge zones extend under the Study Area. Wichita's Water Utility Department manages drinking water resources for the city. The Augusta/Butler County portion of the project is within the Butler County Rural Water District #5. No public drinking wells are within the NEPA Clearance Boundary.

Impacts of the Build Alternative

Phase 1 – Elevated – The elevated section would have no impacts on groundwater. Stormwater from the roadway would be directed to roadside ditches/storm sewer inlets to be conveyed to neighboring streams.

Phase 2 – Option A Depressed – Depressing this section of US 54/East Kellogg would place the mainlines approximately 25 feet below the existing ground surface to provide the required vertical clearance for traffic traveling along US 54/East Kellogg under the bridges carrying the cross-streets - Onewood Drive, Andover Road, and Yorktown Road. Based on the anticipated pavement and structure design dimensions, the subgrade elevation (lowest elevation under the depressed pavement section) would be approximately 27 feet below the existing ground surface. KDOT took soil borings at four locations (NE quadrant of Onewood Drive and US 54/East Kellogg, NE quadrant of S. Allen Street and US 54/East Kellogg, SE quadrant of Andover Road and US 54/East Kellogg, and SW quadrant of Yorktown Road and US 54/East Kellogg) in the vicinity of the proposed cross-street bridge crossings that indicated the water table was present within a range of 6 feet to 18 feet below the existing ground surface.

Based on this information, because the water table is above the bottom of depressed roadway section subgrade, a dewatering system (permanent pumps used in a lift station) would need to be built to maintain pavement and subgrade stability within the depressed mainline section. This type of dewatering system would require drainage components and a pumping system with a consistent power supply. Typically, backup generators would also be included in the event of a power outage.

On other KDOT projects, a depressed section has been utilized where groundwater was not a factor in the design. For projects where groundwater is present, a depressed section has been studied but removed from further consideration because of additional costs (initial construction, ongoing maintenance, backup power systems), the need for dedicated staff to maintain and monitor the system, and its long-term reliability. Failure of any part of the system can lead to ruptured pipes and possible pavement failures requiring reconstruction of both the dewatering system and the roadway. The location of the lift stations with permanent pumps would need to be determined to provide suitable discharge locations. It is unlikely that the existing storm sewer

system would be capable of handling the additional water volume, so the water would need to be pumped into adjacent streams. Testing of the groundwater would be needed to determine if any type of treatment would be required to address water quality concerns before the water is pumped to any surface water features.

Further analysis would also be needed to address how to handle the roadway drainage as the result of precipitation events. Similar to the groundwater solution, any stormwater runoff would also need to be directed to and pumped out by the lift station. The capacity of the drainage system would need to be considered in addressing an extreme storm event or if the system becomes clogged or a pump goes out of service that could cause the depressed roadway to flood.

The estimated cost range to install a dewatering system for the Phase 2 depressed section is $5 Million to $10 Million, with ongoing maintenance estimated to be $100,000 per year with the pumps needing to be replaced every 3-4 years at an estimated cost of $1 Million.

Phase 2 – Option B Elevated – None of the groundwater or stormwater issues described under Option A Depressed would occur. Similar to Phase 1, stormwater from the roadway would be directed to roadside ditches/storm sewer inlets to be conveyed to neighboring streams.

Impacts of the No-Build Alternative

The No-Build Alternative would have no effect on groundwater. All stormwater is conveyed off the existing roadway to roadside ditches that retain and transport the water to area stream systems.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

The Preferred Alternative would require further investigation of the groundwater issue associated with construction of Phase 2 to determine the extent of the relatively high water table and what design and mechanical measures could be implemented to provide continued pumping of the groundwater and handling of stormwater flows within the Phase 2 portion of the project. Phase 1 has no effect on groundwater and the proposed surface drainage system would be designed to handle the anticipated stormwater management needs.

3.7.4 Stormwater Management

The KDHE is responsible for administering the National Pollutant Discharge Elimination System (NPDES) to protect waters of the state from sediment and other contaminants. Any project that disturbs greater than one acre from construction activities requires a stormwater permit from KDHE. To obtain a stormwater permit, a Notice of Intent (NOI) form must be submitted with a permit fee a minimum of 60 days prior to initiation of construction activities. The primary requirement of the stormwater permit is the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must specify best management practices (BMPs) to be employed and what controls will be implemented to minimize the contamination of stormwater runoff associated with construction activities into surface waters.

Primary considerations for potential impacts to water quality include sedimentation; contamination from street surface runoff; agents for weed, insect, and rodent control; contamination from chemical or other toxic

material spills; and groundwater pollution. Sediment loads in streams and wetlands have the potential to impact drinking water quality and aquatic wildlife.

Sedimentation may result from bridge and drainage facility construction and by erosion from project construction. Standard engineering practices of mitigation (i.e., temporary erosion, sediment, and water pollution control) should be implemented and would be adequate to minimize sedimentation and water quality impacts of the proposed project.

Municipal Separate Storm Sewer (MS4) Compliance Requirements

The Stormwater Management Program (SWMP), launched in 2003, is KDOT's inter-agency effort to control pollutants in stormwater discharge. KDOT created the SWMP in response to being regulated as a Municipal Separate Storm Sewer System (MS4). The MS4 designation invokes federal legislation that mandates all municipalities reduce the quantity of pollutants from stormwater runoff. KDOT has identified stormwater control measures that are recommended based on the proposed typical section (at-grade, elevated, or depressed) and evaluated for implementation as part of construction projects based on the *KDOT Stormwater Control Measure Manual, Version 1*.

KDOT maintains Kansas Permit No. M-AR94-SU02 (Federal Permit No. KSR410012), *Kansas Water Pollution Control Municipal Separate Storm Sewer System (MS4) Permit and Authorization to Discharge Under the National Pollutant Discharge Elimination System,* for Wichita, Sedgwick County, effective December 1, 2019, and expires November 30, 2024.

Impacts of the Build Alternative

Phase 1 – Elevated – Stormwater would be managed using sheet flow from the mainlines requiring the center concrete barrier to be removed or modified to allow for water to sheet flow across the pavement and into a infiltration area developed between the mainlines and frontage roads. This method would manage approximately 64 percent of the total constructed impervious area and leave 36 percent unmanaged. Bioretention or infiltration trenches may be considered for inclusion adjacent to the roadway or within available open space within an interchange to manage the mainline runoff intercepted by the stormwater collection system. If grades allow, water from the stormwater collection system would be piped to an at-grade bioretention or infiltration trench facility. This measure would require additional ROW to manage the maximum percentage of the total constructed impervious area. A special ditch could be proposed to reduce the amount of additional ROW needed. Runoff from the frontage roads and sidewalks would be managed using bioretention or infiltration tranches developed within the proposed ROW.

Phase 2 – Option A Depressed – Stormwater would be managed from the frontage roads and sidewalks, using a system of detention and constructed wetlands. These measures would require additional ROW and be located within existing overland drainage pathways, outside of the FEMA floodplain, and low enough in the watershed to provide sufficient drainage area to sustain a permanent pool within the constructed wetlands.

Phase 2 – Option B Elevated – Stormwater would be managed from the frontage roads and sidewalks, similar to Phase 1. Bioretention or infiltration ditches would be considered for installation between the frontage road and the sidewalk if grades allow the stormwater collection system to discharge at-grade to the swale.

Impacts of the No-Build Alternative

Under the No-Build Alternative, no construction activities would occur, and therefore no stormwater from construction activities would be discharged.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

Based on the SCM analysis conducted, KDOT recommends that the final design for Phase 1 be able to manage a minimum of 44 percent of the impervious area, with a goal of managing 80 percent of the impervious area using SCMs. When funding has been identified for Phase 2, the future design should meet the KDOT MS4 compliance requirements in effect at the time the project proceeds.

The Contractor would develop a SWPPP and implement and maintain erosion control and stormwater management BMPs during to minimize impacts to surface waters. The Contractor would be responsible for obtaining the NPDES permit for construction discharges from KDHE with submittal of the NOI at least 60 days prior to starting any construction activities. Stormwater management during operation of the completed project would be covered under the MS4 permit noted above and its successor. As final design of the project is developed, additional hydraulic analyses would be conducted to locate and size the recommended stormwater control measures.

3.7.5 Impaired Waters

Section 303(d) of the CWA requires states to identify all water bodies where state water quality standards are not being met. Kansas water quality is governed by the Kansas Surface Water Quality Standards administered by the Kansas Department of Public Health and Environment (KDHE). The KDHE Kansas Section 303(d) Impaired Waters list includes surface waters with impairments that require Total Maximum Daily Load (TMDL), indicating a maximum presence of a given pollutant that would achieve compliance with a water quality standard. TMDL is a regulatory tool which caps the allowable pollutant load within a waterbody and a planning tool which directs and guides practices that will bring a non-compliant waterbody into compliance with applicable state water quality standards.[14] None of the waterbodies within or crossing the NEPA Clearance Boundary are listed on the Kansas Section 303(d) Impaired Waters list.

Impacts of the Build Alternative

Neither Phase 1 nor Phase 2 would impact impaired waterbodies.

Impacts of the No-Build Alternative

Under the No-Build Alternative, no construction activities would occur, therefore no impacts would occur to surface water of impaired waterbodies.

[14] Bureau of Water – Watershed Planning, Monitoring, and Assessment Section. (March 2020). Methodology for the Evaluation and Development of the 2020 303(d) List of All Impaired Waterbodies for Kansas. Retrieved October 2022 from https://www.kdhe.ks.gov/1219/303d-Methodology-List-of-Impaired-Waters

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

The Preferred Alternative would not impact impaired waterbodies. As described in **Section 3.7.4**, BMPs would be implemented during construction to manage stormwater runoff during construction.

3.8 Biological Resources

The proposed project lies at the western-central edge of the Flint Hills physiographic region of Kansas. The Flint Hills region is characterized by gently rolling hills having shallow soils underlain by limestones and shales with numerous bands of chert (flint). Due to the shallow soils, historical agricultural uses of land in the region were better suited for ranching and pastureland rather than farming. Natural habitat that dominated the landscape was tallgrass prairie, with native grasses including big and little bluestem, switchgrass, and Indian grass, and had very sparse trees except along streams and rivers. Well-developed floodplain forests along rivers and streams, dominated by plains cottonwood, black willow, peach-leaf willow, common hackberry, American elm, green ash, and black walnut There are few areas of the native tallgrass prairies remaining in the region.

Presently, the dominant vegetation in undeveloped areas of the NEPA Clearance Boundary is primarily grasses (pastureland and urban open areas) with smaller areas of remnant woodland along streams and open waterbodies, and small areas of row crops. Significant portions of the NEPA Clearance Boundary are developed as existing roadway/maintained ROW and for residential and commercial uses.

3.8.1 Protected Species (Federal and State-listed)

The Endangered Species Act (ESA) provides protection for plants and animals designated by the U.S. Fish and Wildlife Services (USFWS) as threatened or endangered species by prohibiting the take of the designated species (16 USC § 1531-1543). Protection under the ESA may also include protection of habitat designated as critical habitat for supporting listed species. The ESA defines take of a species as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct" (16 USC § 1532). Section 7 of the ESA states that it is the responsibility of federal agencies to ensure that any federal action is not likely to jeopardize the continued existence or result in the destruction or adverse modification of habitat determined to be critical to the conservation of any such species. The Kansas Department of Wildlife and Parks (KDWP) also maintains a state listing of threatened and endangered species, which are protected by the Kansas Nongame and Endangered Species Conservation Act of 1975.

Most avian species native to the United States are also protected under the Migratory Bird Treaty Act (MBTA), and bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (BGEPA). The MBTA authorizes federal regulation of the take of migratory birds and is a primary instrument in migratory bird conservation and protection in the United States. MBTA and BGEPA also include protection of nests.

The USFWS Information, Planning, and Conservation System (IPaC) and KDWP database were reviewed to identify any federally and state-listed protected species with potential to occur within Sedgwick or Butler Counties. **Table 3-5** provides protected species known or suspected to occur within both counties, and **Appendix E** includes the habitat survey memo with additional detail regarding protected species. None of the species listed in **Table 3-5** have designated critical habitat within the NEPA Clearance Boundary.

Six species, the eastern spotted skunk and five fish species, identified as threatened or endangered at the state level also have state-designated critical habitat in Sedgwick or Butler counties; however, no designated critical habitat for any species is known to occur within the NEPA Clearance Boundary.

A field habitat assessment was conducted in June 2022 within the NEPA Clearance Boundary focused on identification of potential northern long-eared bat (NLEB, *Myotis septentrionalis*) roosting habitat and avian nesting sites in forested riparian areas and areas with sufficient water resources and food sources to support wildlife species.

Table 3-5: Federal & State-Listed Threatened and Endangered Species in Sedgwick & Butler Counties

Common Name	Scientific Name	Federal Status	State Status
Mammals			
Eastern spotted skunk	*Spilogale putorius*	--	Threatened
Northern long-eared bat	*Myotis septentrionalis*	Threatened	--
Birds			
Interior least tern	*Sterna antillarum athalassos*	Delisted on 1/13/2021	Endangered
Piping plover	*Charadrius melodus*	Threatened*	Threatened
Snowy plover	*Charadrius alexandrinus*	--	Threatened
Whooping crane	*Grus americana*	Endangered	Endangered
Fishes			
Arkansas River shiner	*Notropis girardi*	--	Endangered
Peppered chub	*Macrhybopsis tetranema*	Endangered	Endangered
Plains minnow	*Hybognathus placitus*	--	Threatened
Silver chub	*Macrhybopsis storeriana*	--	Endangered
Topeka shiner	*Notropis topeka*	Endangered	Threatened
Invertebrates			
American burying beetle	*Nicrophorus americanus*	--	Endangered
Sharp hornsnail	*Pleurocera acuta*	--	Threatened

Northern long-eared bat is found across much of the eastern and north central United States and all Canadian provinces from the Atlantic coast west to the southern Northwest Territories and eastern British Columbia. They are colonial hibernators, entering their winter hibernacula in late August or September. Habitat suitable for the NLEB consists of interior forested areas that have adequate canopy closure for both foraging and roosting habitat. They are typically found roosting singly or in colonies underneath bark, in cavities, or in crevices of both live trees and snags, or dead trees. One tree species that can provide consistent shelter during

spring/summer roosting is the shagbark hickory (*Carya ovata*). C. ovata and other trees with loose or "plate-like" bark are preferred summer roosts for northern long-eared bats. On March 22, 2022, the USFWS issued a proposed rule to reclassify the Northern long-eared bat as endangered that would change the consultation process required if effects to the bat or its habitat are anticipated from the proposed project. USFWS anticipates the formal reclassification of the NLEB to occur by the end of 2022.

Avian species: Three red-tailed hawk (RTHA, *Buto jamaicensis*) nests, two active and one with unknown activity status) were identified in proximity to the NEPA Clearance Boundary of the proposed project during the habitat assessment. The nests were each located on the western portion of the proposed ROW, north of existing US 54/East Kellogg. One nest was within the NEPA Clearance Boundary and outside of the proposed ROW, and two were located outside the NEPA Clearance Boundary and the proposed ROW. Areas within the NEPA Clearance Boundary that consist of cleared pastureland or residential and commercial developments are unlikely to have additional nesting sites due to lack of suitable tree habitat or high levels of anthropogenic activity. However, additional observations may need to be conducted prior to starting any construction activities to determine the presence or absence of nests. No other RTHA stick nest, bald eagle stick nest, migratory bird nests, or colonial nesting waterbird sites were identified during the habitat assessment.

Impacts of the Build Alternative – Phase 1 and Phase 2 Options A and B

Construction plans would be developed to minimize the removal and disturbance of vegetation to the extent practicable and would be limited to that necessary for construction and operational safety of the roadway. Prior to initiating construction activities, the area of work would be surveyed for the presence of potential NLEB habitat and nesting migratory birds. If active bird nests are identified, no vegetation removal would occur until the young have fledged.

Impacts of the No-Build Alternative

Under the No-Build Alternative, no vegetation would be removed and forested areas would remain as they exist today; therefore, there would be no impacts to protected species.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

USFWS concurred with a "no effect" determination for the NLEB, Topeka shiner, and peppered chub on September 7, 2022 (see **Appendix E**). Construction of the Preferred Alternative would require the clearing of areas of forested and grassland habitats within the proposed ROW. Consultation with the USFWS may be required prior to initiating construction regarding new survey or mitigation protocols pertaining to the reclassification of the NLEB. At this time, under the 4(d) Rule, minimal tree clearing within areas of potential NLEB habitat may occur within the winter months when bats are not likely to be present, primarily November to March in Kansas. With the likely change in the listing status of the species, consultation with the USFWS may be required prior to any tree removal. Additional field surveys may be required at the discretion of the USFWS. Prior to any vegetation clearing, the area should also be surveyed for occupied nests, both of the RTHA and of migratory bird species. If occupied nests are identified, the nest and/or tree/vegetation cannot be removed until the young have fledged. The Preferred Alternative is not anticipated to affect any state listed species or species in need of conservation identified by KDWP.

3.9 Air Quality

The EPA uses the term "attainment area" to describe those areas where air quality meets health standards for particular air borne pollutants. As of September 2022, Sedgwick and Butler Counties were both classified by the EPA as attainment areas for all six criteria pollutants comprising the National Ambient Air Quality Standards (NAAQS).[15] (EPA, 2022). The NAAQS were established by the EPA as required by the Federal Clean Air Act (CAA). The CAA, as amended by the Clean Air Act Amendments of 1990, and other rules and regulations, such as the Control of Hazardous Air Pollutants from Mobile Sources rule promulgated by the EPA, specifies environmental policies and regulations to promote and ensure acceptable air quality. These policies and regulations were adopted in the Final Conformity Rule (40 CFR Parts 51 and 93). The EPA delegates authority to the KDHE for monitoring and enforcing air quality regulations in Kansas. The CAA defines conformity as the following:

"Conformity to an implementation plan's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards; and that such activities will not:

- Cause or contribute to any new violation of any NAAQS in any area;
- Increase the frequency or severity of any existing violation of any standard in any area; or
- Delay timely attainment of any standard or any required interim emission reductions or other milestones in any area."

The Federal Clean Air Act Amendments of 1990 require states to adopt the NAAQS. These standards were established to limit the amount of sulfur dioxide (SO2), particulates (PM10 and PM2.5), carbon monoxide (CO), ozone (03), nitrogen dioxide (NO2), and lead (Pb) in the air.

The proposed project is within a Kansas Metropolitan Urbanized Area (KMUA) – Wichita. However it is outside of a non-attainment area. This type of project is included in paragraph (c) or (d) of 23 CFR §771.117 concerning categorical exclusions; therefore, the project is cleared for air quality concerns.

Impacts of the Build Alternative

The proposed construction and operation of Phase 1 and Phase 2 (Option A or B) would not affect regional air quality. Forecasted traffic volumes in combination with higher travel speeds would reduce congestion therefore reducing emissions from stop-and-go traffic and idling at intersections.

Impacts of the No-Build Alternative

The No-Build Alternative could contribute to localized increases in emissions as travel demand increases over time contributing to congestion and delay, including longer vehicle queues at signalized intersections. The increased congestion should not affect the attainment status of the region.

[15] https://www3.epa.gov/airquality/greenbook/ancl.html, accessed October 2022.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

The Preferred Alternative would not affect regional air quality. Free-flow traffic and higher travel speeds along the mainlines would reduce congestion that contributes to localized air quality. As noted previously, the proposed project has been cleared for air quality concerns.

3.10 Traffic Noise

Traffic noise is a combination of sounds produced by vehicle engines, exhaust systems, and tires. Heavier traffic volumes, higher speeds, and a larger number of heavy trucks combine to increase the loudness of traffic noise. Traffic noise impacts occur when the predicted noise levels approach or exceed the FHWA Noise Abatement Criteria (NAC) as defined at 23 CFR § 772 and within the KDOT Highway Traffic Noise Policy and Guidance, effective June 23, 2022. "Approach" is defined as when the predicted sound level reaches one decibel (dB(A)) below the levels shown for the NAC activity category in question (e.g., NAC B – Residential – 67 dB(A); approach would be 66 dB(a)). "Substantially Exceed" is defined as when the predicted sound level is equal to 10 dB(A) or more than the levels shown for the NAC activity category in question (e.g., NAC B – Residential – 67 dB(A); substantially exceed would be 76 dB(A) or higher). **Table 3-6** describes the NAC.

Table 3-6: FHWA Noise Abatement Criteria

Activity Category	Activity Criteria[1] $L_{eq\ (h)}$[2]	Evaluation Location	Description of Land Use Activity Areas
A	57	Exterior	Lands on which serenity and quiet are of extra-ordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[3]	67	Exterior	Residential
C	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F.
F	—	—	Agricultural, 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.

Source: Kansas Department of Transportation Highway Traffic Noise Policy and Guidance (effective 06/23/2022)

[1] The Leq(h) Activity Criteria values are for impact determination only and are not design standards for noise abatement measures.

[2] The equivalent steady-state sound level which in a stated period of time contains the same acoustic energy as the time-varying sound level during the same time period, with Leq(h) being the hourly value of Leq.

[3] Includes undeveloped lands permitted for this activity category.

A traffic noise analysis was prepared in accordance with FHWA standards and regulations (23 CFR Part 772) and KDOT's (FHWA-approved) *Highway Traffic Noise Policy and Guidance* (2022). The Study Area for noise impacts is represented by the NEPA Clearance Boundary. A copy of the Noise Technical Report is included in **Appendix F**.

Impacts of the Build Alternative:

The following describes the impacts of the Phase 1 Elevated and Phase 2 Option A Depressed and Option B Elevated project components under consideration.

Traffic noise impacts and temporary construction noise impacts can be a consequence of transportation projects, particularly for noise-sensitive land uses near high-volume and/or high-speed existing steady-state traffic noise sources. The traffic noise study used computer models created with the FHWA TNM v2.5 software, validated with field-collected traffic noise measurement data, to determine existing and to predict future, loudest-hour equivalent noise levels and identify impacted land use activity areas (receptors) resulting from the US 54/East Kellogg expansion. **Table 3-7** provides a summary of impacts identified from the Traffic Noise Study.

Table 3-7: Traffic Noise Impact Summary for the 2042 No-Build and Build Alternatives

Design Alternative	Absolute Impact (NAC)[1]							Relative Impact[2]	Total Highway Traffic Noise Impacts
	A	B	C	D	E	F[3]	G[4]		
2042 No-Build	N/A	5	1	0	N/A	--	--	0	**6**
2042 Design Year Build (Elevated)	N/A	2	0	0	N/A	--	--	0	**2**
2042 Design Year Build (Depressed)	N/A	2	0	0	N/A	--	--	0	**2**

Source: Project Team, FHWA TNM v2.5
[1] Based on NAC criteria described in FHWA noise guidelines.
[2] Based on substantial increase criteria described in FHWA noise guidelines.
[3] There are no impact criteria for land use facilities in this activity category and no analysis of noise impacts is required.
[4] There are no impact criteria for undeveloped lands, but some noise levels may need to be provided to local officials to aid them in future land use planning efforts.

In the project vicinity, a total of 277 receptors across 14 noise-sensitive areas were analyzed for noise impacts. The receptors were comprised of residences, apartments, hotels, and public recreational facilities. Of the total receptors, 6 impacted receptors were identified in the 2042 No-Build scenario, and 2 impacted receptors were identified in the 2042 Build scenarios. The number and location of receptor impacts did not change between the elevated and depressed design options under consideration in Phase 2. In fact, no impacted receptors were identified within Phase 2. As there are fewer impacted receptors forecasted in the Build scenario than the No-Build scenario, the implementation of the proposed project would benefit the overall Study Area with regard to traffic noise.

The Andover Municipal Golf Course (receptor R-0722 within NSA 7) is not impacted in either the existing condition or either of the build scenarios. The golf course sits at the dividing point between Phase 1 and Phase

2. As modeled, the Phase 2 depressed build scenario results in lower noise levels than the existing base year condition. The 66dB(A) contour is entirely within the existing ROW adjacent to the golf course, approximately 40 feet outside of the golf course property line and approximately 20 feet from the nearest lane of travel on the access road adjacent to the property.

As is required in KDOT's 2022 Highway Traffic Noise Policy and Guidance, consideration for noise abatement measures was given to all impacted receptors for the US 54/East Kellogg Expansion. Noise abatement measures suggested by KDOT, including the construction of noise walls, were not found to be acoustically feasible as a minimum of three first-row impacted receptors are required. Therefore, no noise abatement is proposed.

To avoid noise impacts that may result from future development of properties adjacent to US 54/East Kellogg, local officials responsible for land use control programs must ensure, to the maximum extent practicable, that no new activities are planned or constructed along or within the predicted (2042) noise impact contours identified in **Table 3-8**. A copy of this traffic noise analysis will be available to local officials to assist in future land use planning.

Table 3-8: Predicted 2042 Build Alternative Traffic Noise Level Contours

Build Alternative	Predicted Impact Contour Distances from Edge of Nearest Travel Lane	
	71 dB(A)	66dB(A)
Phase 1 - Elevated	In ROW	60'
Phase 2 – Option A Depressed	In ROW	50'
Phase 2 – Option B Elevated	In ROW	35'

Source: Project Team, FHWA TNM v2.5

Impacts of the No-Build Alternative

As noted above, the No-Build Alternative would impact receptors (homes) through 2042 due to the growth in travel demand and forecasted traffic volumes.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

Traffic noise levels generated by the Preferred Alternative in 2042 would impact two receptors. In applying the current KDOT Noise Policy, abatement in the form of constructing noise barriers between the impacted receptors and the expanded US 54/East Kellogg facility is not feasible or reasonable.

3.11 Hazardous Material Sites and Solid Waste

Identification of potential hazardous materials locations within the Study Area was conducted through review of existing and previous land uses, a regulatory database review, and site investigations conducted in April 2022. The regulatory database review was provided by Environmental Risk Information Services (ERIS) and identifies areas of potential concern within standard American Society for Testing Materials (ASTM) 1527-13 search radii for the project area.

Impacts of the Build Alternative

The hazardous materials regulatory database review identified six sites of potential environmental concern within the NEPA Clearance Boundary, one within Phase 1 and five within Phase 2. Three additional sites identified during the site investigation were determined not likely to impact the proposed project; however, these sites may require further investigation as the proposed project progresses. **Table 3-9**. identifies the six sites of potential environmental concern to the Build Alternative.

Table 3-9: Hazardous Materials Sites of Potential Concern for Phase 1 and Phase 2

Site Map ID Number	Site Name	Database Listing	Location Description	Status/Environmental Risk Description
PHASE 1				
Map ID 3	QuikTrip	FINDS/RST, UST	Phase 1; located at the northeast corner of the E. Kellogg/US 54 and 143rd St intersection, within the proposed ROW.	Site has three USTs containing gasoline, and one UST containing diesel.
PHASE 2				
Map ID 13	Z Auto (formerly Bud's Auto Service	RCRA NON GEN, VSVQ, FINDS/FRS, LUST	Phase 2; located along E. Kellogg/US 54, west of the intersection with Andover Rd., adjacent to the proposed ROW.	Location is currently occupied by the Z Auto dealership. 3,000-4,000 gal gas USTs and lines have been removed with no contamination exhibited.
Map ID 14	Kwik Shop (formerly Lubbers East)	RCRA NON GEN, FINDS/FRS, UST, SPILL	Phase 2; located at the northwest corner of the E. Kellogg/US 54 and Andover Rd. intersection, adjacent to the proposed ROW.	Site visit confirmed site is a Kwik Shop and has three USTs containing gasoline and one UST containing diesel. A spill was recorded as resolved.
Map ID 15	Bill Sims BBQ (formerly Valero)	FINDS/FRS, LUST, UST	Phase 2; located at the southwest corner of the E. Kellogg/US 54 and Andover Rd. intersection, within the proposed ROW.	Site visit confirmed the location is no longer a gas station and is now Billy Sims BBQ. USTs have been removed from the ground. Leaking UST (LUST) database listing is closed but still under monitoring status.
Map ID 16/17	Prima (formerly Presto)	RCRA NON GEN, FINDS/FRS, LUST, UST	Phase 2; located at the southeast corner of the E. Kellogg/US 54 and Andover Rd. intersection, within the proposed ROW.	Site is no longer in use (Prima). USTs have been removed from the ground. Two gasoline LUST sites occurred in 2004 and 2013 and are currently being monitored.
Map ID 21	Dillons Fuel Center	UST, FINDS/FRS	Phase 2; located at the southeast corner of the Cloud Ave. and Andover Rd. intersection, adjacent to the proposed ROW.	Site has three USTs containing gasoline.

Phase 2 depressed and elevated options have the same ROW footprint and would have the same sites of potential concern related to hazardous materials.
FINDS/FRS = Facility Index System/Facility Registry Service, RST = , RCRA NON-GEN = Resources Conservation and Recovery Act Non-Generating Facility, UST = underground storage tank, LUST = leaking underground storage tank, SPILLS = Spills, discharges, and emergency release sites reported to the KDHE.

Nonhazardous solid wastes currently generated within the project area, by residential and non-residential properties, are either collected by a private waste hauler or transported by the property owner or tenant to and disposed at an authorized solid waste disposal facility.

Impacts of the No-Build Alternative

Under the No-Build Alternative, no construction activities would occur and therefore there would be no impact to potential hazardous materials sites or increased generation of solid waste within the project area.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

A total of six hazardous materials sites are of potential concern to the proposed project, one along the proposed ROW of Phase 1 and five along the proposed ROW of Phase 2, summarized in **Table 3-9**. Each of the six sites of potential concern contain active or inactive underground storage tanks (USTs), including three sites located within the proposed ROW. USTs located within the proposed ROW of the Preferred Alternative would require removal. Further research and coordination with KDHE, the state agency regulating USTs and aboveground storage tanks (ASTs), would be required to determine the status of storage tanks and to develop removal and disposal plans for the USTs identified within the proposed ROW. USTs identified adjacent to the proposed ROW should be further evaluated for potential to cause impacts to the proposed project.

While no other sites are expected to pose potential hazardous materials concerns to the proposed project, special provisions or contingency language would be included in project plans, specifications, and estimates to handle any hazardous materials that may be encountered during construction of the Preferred Alternative. Plans would include language for, but not limited to, the handling and disposal of petroleum contamination, asbestos-containing materials, and additional hazardous materials in accordance with applicable federal and state regulations.

Under the Preferred Alternative, a project-specific management plan for nonhazardous solid wastes generated during project activities would be developed prior to initiation of construction or demolition activities. Nonhazardous solid wastes would be expected to primarily consist of roadway construction and demolition materials. A licensed waste hauler would be contracted to collect, transport, and dispose or recycle materials at a licensed facility.

3.12 Visual Resources

The visual environmental along US 54/East Kellogg from K-96/I-35 to Prairie Creek Road transitions from open and undeveloped near the western terminus (K-96/I-35) through a mix of commercial and residential development, then back to rural and undeveloped east of Prairie Creek Road. The terrain is relatively flat, bisected by low-lying floodplains along wooded stream channels crossing the highway. Development is the densest between 159th Street and Yorktown Road.

Impacts of the Build Alternative

Phase 1 – Elevated – Building an elevated freeway starting west of 143rd Street through 159th Street would create a physical and visual barrier within the corridor and between neighborhoods and commercial centers. Views across the highway would be blocked by the elevated roadway on earthen fill held in place by retaining

walls. The frontage roads on either side of the mainlines would be at grade transitioning to ramps connecting the mainlines in designated areas. Highway signage and lighting would be introduced along the corridor with traffic signals installed at the grade separations/interchanges.

Phase 2 – Option A Depressed – The depressed section would push the mainlines below existing ground level to allow the cross-streets to cross roughly at existing grade. Lighting and signage would be introduced at the existing signalized intersections and along the at-grade frontage roads. Views across the US 54/East Kellogg corridor would be maintained.

Phase 2 – Option B Elevated – Same as described under Phase 1.

Impacts of the No-Build Alternative

The No-Build Alternative would not change the visual character of the corridor No elevated or depressed mainlines would be constructed and no grade separated intersections or interchanges would be constructed.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

The Preferred Alternative would create two different visual environments – an elevated freeway within Phase 1 transitioning to a depressed freeway in Phase 2. The elevated freeway on Phase 1 would be a sharp contrast to both the existing at-grade section of US 54/East Kellogg west of 127th Street and the proposed depressed section east of 159th Street. The elevated Phase 1 section would create a substantial physical and visual barrier further separating neighborhoods and development on both side of the highway.

3.13 Utilities

A combination of overhead and underground utilities cross NEPA Clearance Boundary as identified in **Table 3-10**. The list includes fiber optic and telephone cables to large water mains, gas lines, and sanitary sewer lines owned by private companies and cities.

Impacts of the Build Alternative

For both phases, the relocation of each affected utility will be determined during final design through coordination with the utility owner, KDOT, and the Contractor. Most utilities within or adjacent to the proposed ROW would be relocated to a new easement outside of the proposed ROW.

Impacts of the No-Build Alternative

No construction would occur under the No-Build Alternative; therefore, the No-Build Alternative would have no direct impacts to utilities within the NEPA Clearance Boundary.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

The Preferred Alternative will require relocation of overhead and underground utilities. The extent and exact nature of other utility impacts will be determined during final design. Coordination with the public and private utility companies will continue as final design proceeds and to ensure utility service is uninterrupted or only minimally disrupted during utility relocation and construction of the proposed project.

Table 3-10: Potential Utility Conflicts and Relocations

Utility Owner	Utility Type	Overhead or Underground	General Location	Phase 1 or Phase 2
AT&T	Fiber Optic	Underground	South side of US 54/East Kellogg east of 143rd Street.	Phase 1
Coffeyville Resources / CVR Energy	6" crude oil pipeline	Underground	Diagonal through 143rd Stret and US 54/East Kellogg intersection.	Phase 1
Cox Communications	Fiber Optic and Coaxial Cable Television (CATV)	Underground	Crosses US 54/East Kellogg at 143rd Street and 159th Street, north side of US 54/East Kellogg from 143rd Street to Andover Road, crosses US 54/East Kellogg and continues along south side.	Phase 1 Phase 2
Cox Communications	Fiber Optic and Coaxial Cable Television (CATV)	Overhead	Along 127th Street south of US 54/East Kellogg, neighborhood south of US 54/East Kellogg and east of 143rd Street, east of 159th Street along north and south sides of US 54/East Kellogg.	Phase 1 Phase 2
Kansas Gas Service	Natural gas lines	Underground	Crosses 143rd Street north of US 54/East Kellogg and crosses US 54/East Kellogg east of 143rd Street, southside of US 54/East Kellogg withing existing ROW, parallel to US 54/East Kellogg ROW from 159th Street to Allen Street.	Phase 1 Phase 2
Phillips 66	Natural gas pipeline	Underground	North-south along east side of 127th Street.	Phase 1
Southern Star	20" natural gas pipeline	Underground	Crosses US 54/East Kellogg 0.25 miles west of 143rd Street, continues east to 143rd Street on the north along the west ROW of 143rd Street for 0.25 miles, the crosses 143rd Street in northeasterly direction.	Phase 1
Evergy	Electric transmission and distribution lines	Overhead	North side of US 54/East Kellogg.	Phase 1 Phase 2
Evergy	Electric distribution lines	Underground	Crosses US 54/East Kellogg west of 159th Street.	Phase 1
City of Wichita - Sewer Dept.	Sanitary sewer (8" to 21")	Underground	Trunk line crosses US 54/East Kellogg between K-96 and 143rd Street, crosses 143rd Street north of US 54/East Kellogg, along US 54/East Kellogg crossing west of 159th Street, north side of US 54/East Kellogg east of 159th Street.	Phase 1 Phase 2

Table 3-10 continued: Potential Utility Conflicts and Relocations

Utility Owner	Utility Type	Overhead or Underground	General Location	Phase 1 or Phase 2
City of Wichita – Water Dept.	Waterline (8" to 24")	Underground	Across US 54/East Kellogg east of I-35, north side of US 54/East Kellogg between I-35 and 143rd Street, south side of US 54/East Kellogg between 143rd Street and Stagecoach Street, north side of US 54/East Kellogg between 143rd and 159th Streets, west side of 159th Street, north side of US 54/East Kellogg between 159th Street and Ruth Street, east-west at K-96/I-35 overpass, east-west north of K-96/I-35 overpass.	Phase 1 Phase 2
Indian Nation Fiber	Fiber Optic	Underground	North-south west of 127th Street.	Phase 1
KTA	Fiber Optic	Underground	NW side of K-96/I-35 interchange.	Phase 1
Zayo	Fiber Optic	Underground	Near Evergy substation.	Phase 1
Zayo	Fiber Optic	Overhead	North side of US 54/East Kellogg (W/Evergy).	Phase 1

3.14 Construction Impacts

Construction-phase impacts are typically temporary and relatively short-term, ending when construction is complete. They typically result directly from construction activities such as clearing and grubbing, demolition, grading, equipment operation, building (e.g., pouring concrete, welding, assembling, etc.), and transporting and storing materials.

Impacts of the Build Alternative

Construction of either project phase would result in short-term and temporary impacts including increases in noise, dust, and pollutants discharged by construction equipment. Construction activities would also affect traffic along US 54/East Kellogg and intersecting cross-streets in terms of circulation and temporary impacts caused by access modifications and detours. **Table 3-11** summarizes the potential construction-related impacts of both project phases.

Impacts of the No-Build Alternative

No construction would occur under the No-Build Alternative. Short-term impacts such as noise, dust, and pollutant discharges from maintenance activities associated with the No-Build Alternative would be mitigated in a similar manner to those for the Build Alternative.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

As described in **Table 3-11**, temporary and short-term impacts related to construction will occur with implementation of both Phase 1 and Phase 2. Construction activities may result in increases in noise, dust, and pollutants discharged by construction equipment in areas adjacent to the construction zone. A Traffic Management Plan (TMP) would be developed by the Contractor to manage traffic along US 54/East Kellogg and intersecting cross-streets to keep traffic moving as much as possible during construction. Detour routes and property access changes would be determined final design.

Table 3-11: Anticipated Construction-Related Impacts of the Build Alternative

Construction Impacts	US 54/East Kellogg Expansion - Project Phases		
	Phase 1	Phase 2	
		Option A Depressed	Option B Elevated
Traffic Control/Detours	▪ Constructing a freeway would affect local traffic as the contractor's personnel work around the project site. Additional traffic would be generated by mobilizing equipment and material delivery. As the final design process advances decisions will be made regarding construction phasing, temporary roadway closures, laydown areas, and detour routes. ▪ A TMP will be developed by the Contractor, defining coordinated traffic management strategies to manage work zone impacts – including active public outreach and notifications, installing temporary traffic control devices, and detour routes. ▪ Temporary detours and local roadway closures may be necessary to facilitate construction of the elevated or depressed mainlines and grade-separated intersections and frontage roads. Detours would be identified by the Contractor in close coordination with KDOT and the cities.		
Air Quality	▪ Air quality concerns associated with roadway construction typically arise from the operation of construction equipment - bulldozers, haul trucks, cranes, and pavers, along with additional worker traffic to and from the construction area. ▪ These types of equipment use diesel engines that emit exhaust similar to over-the-road trucks. The level of contaminants in the exhaust can vary greatly depending on the condition of the equipment, making it important for the contractor to keep equipment in good operating condition. Emissions from construction equipment would short-term and temporary and are controlled in accordance with emission standards prescribed under state and federal regulations. ▪ Temporary batch plants may be constructed within the Study Area to facilitate construction. The Contractor will be responsible for obtaining all permits and regulatory approvals to locate and operate such facilities in accordance with KDOT specifications and regulations and Federal OSHA standards. ▪ Under dry conditions, heavy traffic or strong winds can cause dust from the soil itself to become airborne (fugitive dust), resulting in short-term air quality impacts. The Contractor will be required to control 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		
Noise	▪ One the most noticeable types of noise generated during construction is the use of a pile driver to install sheet piles or other elements that need to penetrate deep into the soil. If pile-driving is needed, it would of relatively short duration and would be limited to daytime hours. ▪ Noise would also be expected from the operation of equipment such as cranes, bulldozers, front-end loaders, scrapers, and other typical earth-moving equipment. To reduce the impacts of construction noise, KDOT would include special provisions in the construction contract requiring the Contractor to comply with all applicable local, state, and federal laws and 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. ▪ No explosives would be used during demolition or construction, including creation of the depressed section within Phase 2.		

Table 3-11 continued: Anticipated Construction-Related Impacts of the Build Alternative

Construction Impacts	US 54/East Kellogg Expansion - Project Phases		
	Phase 1	Phase 2	
		Option A Depressed	Option B Elevated
Water Quality	▪ The KDHE regulates the control of runoff from land disturbance and issues a permit for the work to KDOT, not to the contractor. Erosion control measures must be put in place before land clearing begins. KDOT'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 may 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 the streams within/adjacent to the project. Clean-up any such spills that occur within 1,500 feet of any stream within 24 hours of the spill to prevent the possibility of pollution due to runoff. – Avoid disposing of cement sweepings, 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 as a result of construction activities. – Protect streams and wetlands in vicinity of the project from activities that may result in modifying or filling them. – Per project permits, excavate, dredge, and fill in/adjacent to streams in a manner that minimizes increases in suspended solids and turbidity. – Immediately remove and properly dispose of all debris in order to prevent the accumulation of unsightly, deleterious, and potentially toxic material in or near streams and wetlands. – Avoid disposing of any construction debris or waste material below the OHWM of any waterbody or at any location where the material could enter a stream or an adjacent wetland as the result of site run-off, flood, wind, or other natural forces.	▪ In additional to the information described under Phase 1, further analysis of the potential groundwater issues is required before final design and construction may begin. ▪ The location, depth, source, quantity, and quality of the subsurface water should be evaluated to further determine appropriate design parameters and location of a potential pump station and outfall for removal of the subsurface water.	Same as Phase 1.

Table 3-11 continued: Anticipated Construction-Related Impacts of the Build Alternative

Construction Impacts	US 54/East Kellogg Expansion - Project Phases		
	Phase 1	Phase 2	
		Option A Depressed	Option B Elevated
Floodplains/Floodways	▪ Contractor will avoid establishing laydown or storage areas within mapped floodplains and adjacent areas prone to flooding.		
Solid Waste	▪ Materials resulting from clearing and grubbing, demolition, or other operations 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. Man-made waste must be hauled to a licensed sanitary landfill. ▪ No hazardous materials or wastes would be generated by the proposed project.		
Visual	▪ During construction views of the US 54/East Kellogg corridor will change due to construction activities such as utility relocation, earth moving, and roadway construction. Sites adjacent to the proposed ROW may be developed to store materials and equipment, but such sites would be returned to existing pre-construction condition once the project is complete. The duration and severity of these temporary visual impacts would vary depending on the location along the corridor.		
Utilities	▪ Utility relocation would occur as one of the first steps to move them out of the way of construction activities. Relocation may involve open trenching or directional drilling, and in most cases, the new lines would need to be completed and operational before the existing utilities can be removed. ▪ KDOT and the Contractor will continue to coordinate closely with utility owners and providers to coordinate relocation as part of the overall construction process.		
Borrow and Waste Sites	▪ All suitable materials removed during excavation will be used as far as practicable in the formation of roadway embankments, subgrade, shoulders, and other locations requiring fill as directed on the construction plans. No excavated materials will be wasted without permission, and when such material is to be wasted, it will be placed so 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 or 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 would 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 are both satisfactory. The Contractor will 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 will 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 archaeological clearances. ▪ In the event during excavation, cultural resources are encountered (e.g., potential prehistoric site or artifacts of historical and/or archaeological significance), all construction activities in the vicinity of the site will be temporarily discontinued and KDOT and the KS SHPO will be called to. investigate the findings. Work in the area may resume after KDOT/KS SHPO have cleared the site.		

3.15 Indirect and Cumulative Effects

The CEQ defines cumulative effects as the "effects on the environment that result from the incremental effects of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such an action." Cumulative effects "can result from individually minor but collectively significant actions taking place over a period of time."[16] Indirect effects are reasonably foreseeable and occur as a result of an action, but may occur later in time or are removed from the location of the proposed action. Indirect effects may include growth-inducing effects such as changes in land use, population growth and density, and environmental systems (e.g., water resources, air quality, etc.).

The purpose of a cumulative effects analysis is to view the direct and indirect effects of the proposed project within the larger context of past, present, and future activities that are independent of the proposed project, but that are likely to affect the same resources in the future. Broadening the view of resource effects in this way provides the decision maker with an insight into the magnitude of project-related impacts considering the overall health and abundance of selected resources.

In addition to the direct impacts described for the US 54/East Kellogg expansion, other reasonably foreseeable actions proposed within the Study Area and its surroundings considered in this assessment include:

- **KDOT's K-96 Improvements K-96/I-135 interchange to just north of the K-96/US 54/400 Interchange. (096-087 KA-6099-02)** - Upgrade K-96 from a 4-lane to a 6-lane freeway from K-96/I-135 to 21st Street. Pavement replacement only from 21st Street to 13th Street. Includes full reconstruction of existing interchanges at N. Woodlawn Boulevard, N. Rock Road, and N. Webb Road.
- **Widening of S. 143rd Street/Springdale Drive from US 54/East Kellogg to E. Harry Street (City of Wichita) –** widening on the existing 2-lane road to a 3-lane or 5-lane urban roadway (with a center two-way turn lane).
- **Founder's Parkway, Onewood Drive to Yorktown Road, north of US 54/East Kellogg (City of Andover)** – construct a backage road connecting Onewood Drive to Andover Road on the west and connecting Yorktown Road to Andover Road on the east.

Impacts of the No-Build Alternative

Because the No-Build Alternative would not result in construction or impacts to features and resources outside of the existing ROW, it would not contribute to the cumulative or indirect effects of the other proposed actions. Ongoing and planned maintenance of US 54/East Kellogg would result in minimal effects on adjacent properties through the implementation of best management practices (BMPs) to address stormwater and erosion control, if needed.

Impacts of the Preferred Alternative – Phase 1 Elevated and Phase 2 Depressed

Construction of the Preferred Alternative would not affect the implementation of the other proposed actions as they are all complete and independent projects. Founder's Parkway (Andover) and the 143rd Street (Andover) both address local access and capacity issues and their implementation would move forward with or without the US 54/East Kellogg improvements. The overall cumulative effects of these actions when added to the direct impacts of US 54/East Kellogg expansion focus on land disturbance, floodplain/floodway encroachment,

[16] 40 CFR §1508.1(g)(3)

effects of vegetation clearing on wildlife species and habitats, and changes to the visual environment. Impacts to adjacent properties resulting from the proposed project in combination with the K-96 and 143rd Street widening would be minimized as they are proposed along the existing alignments, therefore minimizing the amount of new ROW needed to implement each project. Changes in land use and land cover would result in a cumulative increase in impervious cover leading to an increase in surface runoff, potentially degrading surface water quality, and resulting in more frequent and intense storm events with higher flows occurring over shorter durations. Changes in the overall visual environment would occur across all projects as roadway corridors are widened, elevated, or depressed, creating wider and taller physical and visual barriers between existing neighborhoods.

4.0 COMMENTS AND COORDINATION

4.1 Agency Coordination

A virtual Agency Scoping Meeting was conducted on April 28, 2022. An overview of the proposed project, the initial need and purpose, alternatives to be considered, the proposed methodology and level of detail to be used to evaluate alternatives, the anticipated NEPA and construction schedules, and an overview of the types of construction were discussed. All of this information along with the Coordination Plan and Public Involvement Plan were included for review and comment as an attachment to the meeting invitations distributed on April 18, 2022. Fifty-one people participated in the meeting representing 23 agencies and 1 federally recognized Tribe. The comment period extended for 30 days from April 18, 2022, through May 18, 2022. Five comments were provided during the meeting, with 25 additional written comments received during the comment period. Comments included:

- Clarification of agency roles and responsibilities.
- Alternatives considered – include depressed typical section for Phase 2.
- Section 106 coordination.
- Project funding.
- Applicable special purpose laws and related permitting required for the project.

4.2 Public Involvement

4.2.1 Public Scoping Meeting – May 26, 2022

An in-person open house public scoping meeting was held on May 26, 2022, from 4:30PM to 6:30PM at the LifeChange Church in Wichita, Kansas. Approximately 150 people attended the open house. A virtual open house was hosted on the project website (eastkellogg.ksdotike.org/public-meeting-may26) during the comment period from May 26, 2022, through Jun 9, 2022. The same information and displays were provided in the online format as were presented at the in-person open house. A total of 52 comments were received during the comment period. Both the in-person and virtual meetings provided information on the need and purpose of the project, the alternatives being considered, an overview of the NEPA process, the anticipated study and construction schedule, and features and constraints to be considered. Comments received included questions about potential traffic noise increases and the need for noise barriers, drainage and flooding, maintaining property access, preservation of trees and ponds along US 54/East Kellogg, drainage/flooding considerations, possible impacts to homes/neighborhoods and the property acquisition process, project funding, and the construction timeline for each project phase. The Public Meeting Summary is included in **Appendix G**.

4.2.2 Public Meeting - September 13, 2022

An in-person open house public meeting was held on September 13, 2022, from 4:30PM to 6:30PM at the Sunflower Elementary Gymnasium in Andover, Kansas. More than 150 people attended the open house. A virtual open house was hosted on the project website (eastkellogg.ksdotike.org/public-meeting-september13) during the comment period from September 13, 2022, through September 27, 2022. The same information and displays were provided in the online format as presented at the in-person open house. A total of 65 comments were received during the comment period. Both the in-person and virtual meetings provided information on the ongoing environmental studies, need and purpose, anticipated schedule for implementation of Phase 1 (Phase 2 is not funded at this time), the Build Alternative being considered and the elevated and depressed (Phase 2 only) options being evaluated, and traffic noise modeling process including determining whether noise abatement (noise barriers or wall) is warranted. Schematic drawings illustrated the proposed improvements – mainlines, frontage roads, backage roads, SUPs and sidewalks, and interchanges and grade separations. Comments included property access (proposed medians blocking access to driveways and neighborhood streets), detours and traffic management during construction, timing and funding of Phase 2, property acquisition process (a KDOT Right-of-Way Specialist was at the meeting to answer questions), retaining the trees and ponds along US 54/East Kellogg, traffic noise impacts and if noise barriers were going to be built, purpose of backage roads, access to frontage roads, SUPs and sidewalks, and improvements at the K-96 interchange and access to 127th Street. The Public Meeting Summary is included in **Appendix G**.

4.3 Tribal Coordination

The Kaw Nation of Oklahoma, the Osage Nation, and the Wichita and Affiliated Tribes were invited to participate in the Agency Scoping Meeting conducted on April 28, 2022. Representatives from the Osage Nation participated in the scoping meeting. Coordination under Section 106 of the NHPA was initiated by KDOT on behalf of FHWA with all three Tribes on July-14, 2022. The Osage Nation responded on July 20, 2022, requesting copies of a 2010 cultural resources report, avoidance of previously identified archaeological sites, shovel tests be conducted in all areas of the APE regardless of high surface visibility, inclusion of a map showing the locations of the shovel tests within the cultural resources survey report, and a copy of the cultural resources survey report to review. On August 1, 2022, the Kaw Nation of Oklahoma responded indicating “we know of no known properties of cultural or sacred significance to the Wichita and Affiliated Tribes in this immediate area, therefore, [the project] is not likely to have a No Effect on [historic properties] HPs in the [direct effect/visual effect] DE/VE APE.” They noted that as the project moves forward (1) in the event inadvertent discoveries are made, all work shall cease immediately and the Tribal Historic Preservation Officer (THPO) shall be contacted to review the find; work may not restart until the THPO has approved a plan for addressing the site; (2) in the event post-review discoveries are made, all work shall cease immediately and the THPO shall be contacted to review the find; work may not restart until the THPO has approved a plan for addressing the site; and (3) activities that have the potential to disturb areas outside of the [NEPA Clearance Boundary] areas specified in the accompanying documents are not approved and will not proceed until a cultural review of potential adverse effects in the new area has been completed. To date, no response has been received from the Kaw Nation of Oklahoma. Copies of correspondence are included in **Appendix B**.

4.4 Public Review of the EA

A Notice of Availability of the Draft EA and Notice of Public Hearing was published in the *Wichita Eagle* on November 2, 2022. The Draft EA was made available for review and comment by the public from November 2, 2022, through December 2, 2022. The Draft EA is posted on the US 54/East Kellogg website at https://eastkellogg.ksdotike.org and paper copies are available for inspection at the Wichita Public Library (Rockwell Branch) and the Andover Public Library. The public hearing is scheduled for November 17, 2022, and will be conducted in both an in-person, open house setting and a virtual open house.

5.0 COMMITMENTS

This chapter includes a list of commitments and permits necessary for design and construction of the Preferred Alternative. Avoidance, minimization, and mitigation measures noted throughout Chapter 3 are summarized in the table along with performance measures and commitments to be carried forward through construction of the project.

5.1 Commitments and Responsible Parties

Table 5-1: Project Commitments

Commitment Code	Commitment	Responsible Parties
C-1	Commitments are not subject to change without written approval of FHWA.	ALL
C-2	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.	KDOT
C-3	Sidewalks, SUPs/multi-use paths and trails impacted by the Preferred Alternative will be replaced in-kind during project construction.	KDOT/Contractor
C-4	Construction phasing will be implemented in a manner to ensure that emergency response vehicles have access throughout the corridor during construction.	KDOT/Contractor
C-5	Access to properties impacted by construction activities will be maintained by phased construction, temporary access roads, or other appropriate means.	KDOT/Contractor
C-6	If changes to the acres of farmland soils for right-of-way are modified, a revised form will be submitted to the NRCS for clearance.	KDOT/Contractor
C-7	Obtain the USACE Section 404 permit prior to construction activities that impact streams or wetlands under USACE jurisdiction.	KDOT/Contractor
C-8	If any changes to wetland or stream impacts occur, the Section 404 permit application will be revised and resubmitted to USACE for clearance.	KDOT/Contractor
C-9	Purchase wetland mitigation bank or in-lieu fee credits to mitigate for the wetland and stream impacts of the Preferred Alternative prior to construction.	KDOT/Contractor
C-10	Obtain the Section 401 Water Quality Certification construction activities that impact streams or wetlands under USACE jurisdiction.	KDOT/Contractor
C-11	Follow all conditions of the 401 Water Quality Certification. If there are any changes to the wetland or stream impacts after the Water Quality Certification is received, coordinate with the KDHE to ensure the revised impacts still meet the water quality certification requirements.	KDOT/Contractor
C-12	Request a CLOMR and a LOMR due to the extent of the floodplain and floodway features crossed by the existing highway and the intent of the final design.	KDOT/Contractor
C-13	Re-evaluate the project area during the final design phase and prior to initiating construction to identify whether suitable roost trees for Indiana bats are present and would need to be removed for construction. Provide detailed plans, updated effects assessment, and information on proposed construction demolition techniques based on the updated Preferred Alternative to USFWS as follow-up to informal consultation.	KDOT/Contractor
C-14	Conduct surveys to determine if protected bird species are nesting in or on structures to be removed prior to demolition. If active nests are present, demolition activities would not be allowed to begin until the young have fledged from the nests.	KDOT/Contractor

Table 5-1 continued: Project Commitments

Commitment Code	Commitment	Responsible Parties
C-15	Submit a Notice of Intent (NOI) to obtain a NPDES permit prior to construction. Develop a SWPPP, implement and monitor BMPs, and update the SWPPP as necessary during project construction. At a minimum, the following measures may 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 the streams within/adjacent to the project. Clean-up any such spills that occur within 1,500 feet of any stream within 24 hours of the spill to prevent the possibility of pollution due to runoff. ▪ Avoid disposing of cement sweepings, 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 as a result of construction activities. ▪ Protect streams and wetlands in vicinity of the project from activities that may result in modifying or filling them. ▪ Per project permits, excavate, dredge, and fill in/adjacent to streams in a manner that minimizes increases in suspended solids and turbidity. ▪ Immediately remove and properly dispose of all debris in order to prevent the accumulation of unsightly, deleterious, and potentially toxic material in or near streams and wetlands. ▪ Avoid disposing of any construction debris or waste material below the OHWM of any waterbody or at any location where the material could enter a stream or an adjacent wetland as the result of site run-off, flood, wind, or other natural forces.	KDOT/Contractor
C-16	Implement BMPs to reduce impact to surface waters and groundwater during construction.	KDOT/Contractor
C-17	Obtain the DWR General or Stream Obstruction Permit prior to construction. If there are any changes to the stream impacts after the permit is received, coordinate with the DWR to revise the initial permit.	KDOT/Contractor
C-18	Obtain the DWR Floodplain Fills Permit prior to construction. If there are any changes to the floodplain impacts after the permit is received, coordinate with the DWR to revise the initial permit.	KDOT/Contractor
C-19	Incorporate design recommendations for Phase 1 to manage a minimum of 44 percent of the impervious area using SCMs, with a goal of managing 80 percent of the impervious area using SCMs to meet KDOTs MS4 compliance requirements.	KDOT/Contractor
C-20	Obtain floodplain permits from Sedgwick County, and Andover County, as appropriate.	KDOT/Contractor
C-21	Coordinate with KTA regarding any design modifications and construction activities associated with the K-96/I-35 interchange.	KDOT/Contractor
C-22	If substantial changes in the horizontal and vertical alignment of the Preferred Alternative occur during final design, noise impacts and the potential need for abatement measures will be reviewed. A final revised noise report will be prepared, if required by FHWA.	KDOT/Contractor
C-23	If during final design or construction phase disturbance is required outside of the limits cleared as part of the EA (NEPA Clearance Boundary), coordination with KDOT, FHWA and applicable resource agencies will be necessary to potentially conduct further analyses and revise the previous environmental clearance.	KDOT/Contractor

Table 5-1 continued: Project Commitments

Commitment Code	Commitment	Responsible Parties
C-24	In the event contaminated soils are encountered during construction, sampling and categorization, removal, and disposal in accordance with applicable regulations would be required.	KDOT/Contractor
C-25	Store all fuels and materials used during construction according to local and state regulations. Methods would be implemented to minimize spills and other unauthorized releases of hazardous materials.	Contractor
C-26	Provide all necessary information for the disposal of construction wastes to the appropriate landfill operator, including any required testing of materials and completion of forms required by the MDNR.	Contractor
C-27	Any previously unknown hazardous waste sites that are found during project construction will be handled in accordance with federal and state laws and regulations. If regulated solid or hazardous wastes are found during construction activities, work will cease at the suspect site and contact with KDHE will be initiated to discuss options for remediation.	KDOT/Contractor
C-28	Emissions from construction equipment will be controlled in accordance with emission standards prescribed under state and federal regulations.	Contractor
C-29	If an excavation operation encounters remains of a prehistoric site or artifacts of historical and/or archaeological significance, all construction activities shall be stopped in the vicinity of the find and KDOT, KS SHPO, and the appropriate Tribal organizations shall be contacted to review and determine appropriate next steps.	KDOT/Contractor
C-30	Develop a TMP to lay out a set of coordinated traffic management strategies to manage work zone impacts. If detour routes are planned that extend beyond the NEPA Clearance Boundary, coordination with KDOT and FHWA is required before proceeding with implementation of the TMP.	KDOT/Contractor
C-31	Coordinate with all utility providers during final design to determine location and timing of relocation to accommodate construction. Develop plans to maintain continuous service during construction.	KDOT/Contractor and Utility Companies
C-32	All borrow and waste sites will be identified and all environmental clearances, approvals, and permits for use of all borrow and/or waste sites will be obtained prior to initiating construction.	Contractor
C-33	Continue to coordinate relevant Section 106 information with the Osage Nation and Kaw and Affiliated Tribes.	KDOT
C-34	Opportunities for public engagement have occurred and will continue to occur throughout the life of this project. Provide translators and additional outreach services, as warranted, to effectively engage special populations.	KDOT
C-35	Prior to demolition evaluate all structures that may be removed, including buildings and bridges/overpasses, to determine if lead paint, asbestos containing materials, or other potentially hazardous materials are present. Testing and removal of painted structures suspected of harboring lead-based paint or other coverings will be determined on a case-by-case basis prior to demolition and disposed of in accordance with applicable state and federal regulations.	KDOT/Contractor
C-36	Avoid establishing laydown or equipment/material storage areas within mapped floodplains and adjacent areas prone to flooding	Contractor
C-37	Obtain all permits and regulatory approvals to locate and operate temporary batch plants or rock crushers in accordance with KDOT specifications and regulations and Federal OSHA standards.	KDOT/Contractor

5.2 Required Permits

The following table summarizes the permits and other agency approvals anticipated to implement the project.

Table 5-2: Permits and Agency Approvals Required for Implementation of the Proposed Project

Permit or Authorization*	Purpose	Issuing Agency	Responsible Party
Section 404 Permit (Nationwide or Individual)	Placement of fill materials within jurisdictional wetlands and waters of the United states.	US Army Corps of Engineers, Kansas City District	KDOT/Contractor
Section 401 Water Quality Certification (if Individual Section 404 Permit is required)	Protect the water quality of federally regulated waters; issued in tandem with the Section 404 permit.	KDHE	KDOT/Contractor
National Pollutant Discharge Elimination System (NPDES) Permit	Authorize the discharge of stormwater as the result of construction activities disturbing one or more acres. Requires development and implementation of a Stormwater Pollution Prevention Plan.	KDHE	Contractor
Kansas Division of Water Resources (DWR) Floodplain Permit	Placement of fill materials within a FEMA-designated floodplain.	DWR	KDOT/Contractor
Kansas DWR General or Stream Obstruction Permit	Bridge or culvert replacement.	Kansas Department of Agriculture, DWR	KDOT/Contractor
Sedgwick County Floodplain Development Permit	Placement of fill materials within a 100-year floodplain.	Sedgwick County	KDOT/Contractor
Butler County Floodplain Development Permit	Placement of fill materials within a 100-year floodplain	Butler County	KDOT/Contractor
Federal Aviation Administration (FAA) Obstruction Clearance under 14 CFR Part 77	Demonstrate construction activities, the use of construction equipment (e.g., cranes) or the final project (e.g., lighting. Signage, etc.) does not create and obstruction to navigation within the approach/departure paths of nearby airports.	FAA	KDOT/Contractor
Section 7 of the Endangered Species Act compliance	Consultation to resolve potential "may affect" determination for the NLEB with its proposed reclassification to Endangered.	USFWS	KDOT

*Permits for Phase 1 would be obtained separately from those needed for Phase 2.

APPENDICES

APPENDIX A – Farmland

APPENDIX B – Tribal Coordination

APPENDIX C – Cultural Resources

APPENDIX D – Water Resources

APPENDIX E – Biological Resources

APPENDIX F – Traffic Noise

APPENDIX G – Public Involvement