CHAPTER 3

Affected Environment and Environmental Consequences

This chapter discusses the impacts of the Preferred Strategy on the human and natural environment. The chapter includes a summary of impacts from the Draft FTEIS and describes any changes that have occurred since the Draft FTEIS. The strategies evaluated in **Chapter 2** of the **Draft FTEIS** included the No-Build, Improve Key Bottlenecks, Add Lane Capacity, and Transportation Improvement Corridor. These strategies have not been revised since the Draft FTEIS. Please refer to **Chapter 3** of the **Draft FTEIS** for full discussion of the Affected Environment and the Environmental Consequences of each of these strategies.

Single-family Residential in the Budd Park Area

The Preferred Strategy is shown on **Figure 2.3** located at the end of **Chapter 2**.

The following section, **Section 3.1** provides a summary of impacts of the Preferred Strategy. **Section 3.2** discusses changes and clarifications from the Draft FTEIS.

3.1 Environmental Consequences

The following subsections provide a brief summary of the impacts of the Preferred Strategy that have not changed from the Draft FTEIS.

What are Second Tier Studies?

Tiering allows projects to conduct the planning and NEPA activities for large transportation projects in two phases: a first tier study addresses broad, overall corridor issues, and a second tier focuses on site-specific impacts, costs, and mitigation measures. Second Tier Studies result in traditional project level environmental documents.

3.1.1 Land Use

The current and planned zoning and land uses in the Study Area are relatively consistent with the Preferred Strategy west of I-435. This strategy will have minimal affect on the existing land use and zoning and aims to make improvements within the existing right of way to the extent possible. However, the need for right of way may be required in areas near existing bottlenecks. These areas may include the Benton curve, the Jackson curve, the I-435 interchange, and interchange ramps throughout the Study Area.

East of I-435, the wider footprint (Add General Lanes Strategy) is less consistent with current and planned zoning and land uses in the Study Area than the Improve Key Bottlenecks Strategy. The Preferred Strategy will affect commercial, residential, and other facilities differently depending on which strategy is selected in the Second Tier Studies. **Section 3.1.4 Relocations** discusses the impacts to commercial, residential, and other facilities more specifically.

The Preferred Strategy will potentially impact light industrial, commercial, and residential land uses.

3.1.2 Community and Neighborhood Impacts

This section discusses how the Preferred Strategy will affect the local residents, neighborhoods, and community facilities. Detailed community and neighborhood discussion is in **Chapter 3.2** of the **Draft FTEIS**.

Gregg Klice Community Center

The Preferred Strategy will not directly impact any schools, libraries, hospitals, fire, police, or other emergency service facilities. There are potential direct impacts to community facilities, parks, churches, residences, and commercial buildings.

Where residential and business displacements will be required, they would most likely occur near the existing roadway and interchanges. If businesses are displaced, local residents may have to travel farther to dine at a restaurant, fill up their car at a gas station, or shop.

The Preferred Strategy may have noise, air quality, and visual effects on residents in the adjacent neighborhoods. These effects are discussed in more detail in **Section 3.1.7 Visual Effects, Section 3.1.10 Noise,** and **Section 3.1.11 Air Quality**.

Margaret Kemp Park

3.1.3 Parks and Recreation Facilities

Public lands and facilities include parks and community centers. There are 27 parks located in the Study Area. These parks are shown in **Chapter 3.3** of the **Draft FTEIS**.

The Preferred Strategy may impact West Terrace Park and Ermine Case Jr. Park as downtown loop access is improved. There would be potential impacts to Margaret Kemp Park with the reconfiguration of the access ramps on the east side of the downtown loop.

Cypress Park is adjacent to the I-70 right-of-way and will potentially be impacted.

Depending on the selected strategy east of I-435 during the Second Tier Studies, there are potentially impacts to Carriage Hills Park and Little Blue Trace Park, a Section 6(f) park, with proposed improvements to the I-470 interchange.

What is the Selected Strategy?

The Selected Strategy is the strategy that is formerly selected in the Record of Decision (ROD).

What is Section 6(f)?

Section 6(f) of the Land and Water Conservation Act prohibits the conversion of any property acquired or developed with the assistance of the land and water conservation funds (LWCF) to anything other than public outdoor recreation use without the approval of the Secretary of the Department of Interior.

3.1.4 Relocations

The Preferred Strategy would require the relocation of residential, commercial, and community facilities. The exact number of relocations is not known and the numbers presented in this document are estimates based on the widest potential footprint of the Selected Strategy. In total, the Preferred Strategy has the potential to require 228 single-family residential relocations, 19 multi-family residential relocations, 67 commercial relocations, and four community facility relocations.

The commercial relocations are primarily industrial facilities. The community facilities that may be affected are the Salvation Army Emergency Disaster Services Warehouse Building, Vatterott College buildings, and a MoDOT maintenance facility.

Additional information on relocations is discussed in **Section 3.2.2**.

How do I know if my property will be affected?

At this stage we don't know exactly which homes and businesses would be affected by improvements to I-70. During the Second Tier studies, the Identified Preferred Strategy alignment details will become clearer. As a result, the potential relocations will be determined.

3.1.5 Environmental Justice

An Environmental Justice assessment was conducted in accordance with Executive Order 12898 on Environmental Justice, Title VI of the Civil Rights Act of 1964, Title VIII of the Civil Rights Act of 1968, and The Americans with Disabilities Act (ADA) of 1990. Data from the 2000 U.S. Census was utilized to identify minority and low-income populations

Title VI of the Civil Rights Act of 1964:

Title VI prohibits discrimination on the basis of race, color, and national origin in programs and activities receiving federal financial assistance.

Title VIII of the Civil Rights Act of 1968:

Title VIII (Fair Housing Act) prohibits discrimination in the sale, rental, and financing of dwellings based on race, color, religion, sex, or national origin.

Americans with Disabilities Act (ADA) of 1990:

ADA prohibits discrimination based on disability.

Environmental Justice Populations Defined:

Those populations that are minority and/or low-income.

within the Study Area. The Census data has not changed since the Draft FTEIS was prepared and the potential effects on Environmental Justice populations have not changed. 2010 Census Data will be used in the Second Tier Studies. Minority and low-income populations were provided an opportunity to provide input on the Draft FTEIS at the Public Hearings. More information on the Public Hearings is included in **Chapter 4** of this document.

The Preferred Strategy may result in adverse effects and benefits on minorities and low-income populations living near key bottlenecks west of I-435. The improvements to key bottlenecks in the Urban Sub-Area are most likely to adversely affect minorities and low-income persons. This Sub-Area has the highest concentrations of minorities and low-income persons living in the Study Area and includes two of the worst bottlenecks, the Benton Curve and the Jackson Curve. The Preferred Strategy is also expected to benefit minority and low-income populations by reducing traffic congestion and improving air quality.

Approximately 60 to 80 percent of the population living in the block group adjacent to the Benton Curve is minority, and approximately 20 to 40 percent of the same population lives below the poverty line. Approximately 60 to over 80 percent of the population living in the block groups adjacent to the Jackson Curve is minority, and approximately 20 to 60 percent of the same population lives below the poverty line.

Potential impacts to minority and low-income populations in these areas include relocations and increased noise. The Second Tier Studies will further evaluate and refine the potential impacts that would result from implementation of the Preferred Strategy. A final determination regarding disproportionate and adverse effects on minority and low-income populations will be made after the more detailed studies are complete. The Study Team will pay close attention to potential impacts on Environmental Justice populations, especially those in the Urban Sub-Area near the Benton Curve and the Jackson Curve.

Additional information on relocations is discussed in **Section 3.2.2**.

3.1.6 Economics

This section discusses the effects of proposed I-70 improvements on businesses, jobs, taxes, and freight movements.

The relocation of businesses in the Study Area will, in turn, cause the relocation of jobs. The Preferred Strategy may relocate 67 businesses. The jobs associated with these businesses would be moved to other locations or potentially eliminated if the businesses decided to close instead of relocate.

The Preferred Strategy would directly affect the tax base of the local communities, including the City of Kansas City, City of Independence, Jackson County, and local school districts by removing land used for improvements from the property tax rolls.

The Second Tier Studies will analyze the effects of improvements to I-70 on businesses, jobs, freight movement, and taxes in greater detail. More specifics will be known about the businesses that would be relocated and this will allow for more detail on the tax base loss and job relocations involved.

3.1.7 Visual Effects

The Study Area was divided into four areas that display consistent visual characteristics and a uniform visual experience. These areas are called Visual Assessment Units (VAUs) and consist of:

- VAU 1 - Central Business District
- VAU 2 - Urban Commercial Area
- VAU 3 - Urban Neighborhood Area
- VAU 4 - Suburban Neighborhood Area

Overall, the existing Study Area view shed is primarily developed with urban residential and commercial uses.

VAU 1 – Missouri River view from the West Leg of the downtown loop

VAU 2 – Commercial Area eastbound looking south

VAU 3 - Residences Close to I-70

VAU 4 – Eastbound I-70

Philips Solvent Recovery Services TSDF

What is a Delisted Superfund Site?

A Delisted Superfund Site is a major hazardous waste site that has been deemed to pose no hazard and classified as No Further Remediation Action Planned (NFRAP).

The views of the roadway and the views from the roadway are not expected to be substantially altered with implementation of the Preferred Strategy. The Preferred Strategy will involve improvements to, modifications of, and reconstruction of interchanges and roadways throughout the Study Area. Implementation of these improvements under the Preferred Strategy is not expected to substantially alter the views of the roadway and the views from the roadway within the Study Area. It is possible that roadway lighting and bicycle/pedestrian crossings at interchanges could result in indirect impacts on the overall visual quality within the Study Area.

The Second Tier Studies will include more detailed analyses of potential visual effects of the proposed improvements. The Second Tier Studies will also include a discussion of potential aesthetic and visual improvements such as landscaping, walls, bridges, lighting, signing, and other aesthetic features. MoDOT will work with the local community and neighborhood groups regarding the long-term visual effects of the Preferred Strategy.

3.1.8 Hazardous Materials

The Study Team reviewed the EPA and Missouri Department of Natural Resources (MoDNR) online databases for major hazardous waste locations and interviewed the Mid-America Regional Council's (MARC) regional solid waste management planner. Active, inactive, closed, and proposed locations were evaluated.

The Study Team identified six sites located in the Study Area The sites include three Delisted Superfund sites, two Hazardous Waste Treatment Storage or Disposal Facility (TSDF) sites, and one inactive corrective action site.

Throughout the Study Area there are scattered gas stations, dry cleaners, industrial buildings, and potential sites with underground storage tanks. These sites contain recognized environmental conditions that could cause contamination affects if uncovered during construction. This First Tier study did not include an identification of these types of sites, which

are not listed. A full project area contamination survey will be completed as part of the Second Tier Studies.

The Delisted Superfund sites have no potential for contamination. The Philips Solvent Recovery Services site (700 Mulberry Street) has completed corrective actions to resolve previous business and residential exposure and contaminated groundwater migration. The north side of the facility which faces I-70 has the greatest potential for groundwater contamination (volatile organic compounds) from construction. However, this facility is located a safe distance from the proposed construction areas for the Build Strategies, including the Identified Preferred Strategy, making disturbance of materials improbable.

What is a Volatile Organic Compound (VOC)?

Volatile organic compounds are compounds that have a high vapor pressure and low water solubility. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, pharmaceuticals, and refrigerants. VOCs are emitted as gases from certain solids or liquids.

The City Environmental, Inc. TSDF site is not currently in operation. This TSDF has been identified by the EPA for corrective action; however, mitigation has not been completed at the site. The site location in relationship to the proposed construction areas for the Build Strategies, including the Identified Preferred Strategy, makes the potential for adverse affects minimal.

Additional updated information about hazardous materials is discussed in **Section 3.2.4**.

3.1.9 Historic and Archaeological Resources

The architectural resources that were assessed included historic commercial buildings, private residential buildings, historic districts, bridges, and churches. None of the bridges along I-70 are historically significant.

Early 1900 to present architecture styles in the Kansas City skyline. Photo from the Intersection of Grand and Admiral Avenues in the northeast corner of the downtown loop.

There are no anticipated adverse impacts to historic properties listed on the National Register of Historic Places as a result of the Preferred Strategy. There were no potentially NRHP eligible historic properties or cemeteries discovered in the Study Area during the windshield survey. However, a full cultural resources survey of the buildings and other structures will be conducted as part of the Second Tier studies.

The predictive model used for this project identified three potential archaeological site locations in the vicinity of the I-

435 Interchange and four potential archaeological site locations in the vicinity of the I-470 Interchange. Both of these interchanges are located within the Study Area of the Preferred Strategy. The Preferred Strategy is not expected to directly impact any of the known archaeological resources identified in the vicinity of the Study Area. Secondary impacts could be possible during construction activities.

The Second Tier Studies will include detailed cultural resources investigations including site walkovers, Phase 1 and potentially Phase 2 or Phase 3 archaeological investigations/mitigation. The Second Tier Studies will identify any necessary measures to avoid, minimize, or mitigate potential cultural resources impacts. This process will include the preparation of documentation should one be required under Section 4(f) of the Department of Transportation Act.

In the event that a potential cultural resource is found during the construction phase of the project, the project should temporarily cease while a cultural resources investigation is conducted, the appropriate agencies are contacted, and the significance of the cultural resource is evaluated.

Residences close to Highway

3.1.10 Noise

Noise levels may increase at residences, businesses, and community facilities located along the corridor of the Preferred Strategy. By improving key bottlenecks, more traffic will be able to move along I-70 at higher speeds, thereby increasing noise levels.

Residences close to Highway

The areas most likely to be affected are the residential areas in the Urban and Suburban Sub-Areas that are located adjacent to I-70. These Sub-Areas have high concentrations of single-family and multi-family residences that are located close to the existing I-70 right of way. In addition, community facilities located in proximity to the existing I-70 right of way may also experience increases in noise levels. These community facilities include parks and recreation areas, one community center, seven churches, one school, and one homeless assistance facility.

The potential noise impacts are based on the widest potential footprint between east of I-435 and I-470. It should be noted that the Preferred Strategy is expected to result in fewer noise impacts than the No Build Strategy.

The Second Tier Studies will further evaluate and refine the potential noise impacts that could result from implementation of the Preferred Strategy. The MoDOT Noise Policy will dictate the evaluation and assessment methods used in the Second Tier Studies. If the Selected Strategy requires substantial changes in horizontal or vertical alignments or an increase in the number of through lanes, then noise measurements and modeling will be completed using FHWA approved models. A preliminary assessment of mitigation will occur. Consideration of noise abatement measures, such as walls and/or berms, will be completed in accordance with the MoDOT Noise Policy.

3.1.11 Air Quality

Three sets of air pollutants are of concern with regard to the I-70 First Tier EIS. These pollutants are criteria pollutants regulated under the National Ambient Air Quality Standards (NAAQS), Mobile Source Air Toxics (MSATs), and general carbon emissions from motor vehicles.

Locations of Air Quality Monitors

The Preferred Strategy is expected to improve air quality by removing existing bottlenecks which create congestion and stop and go traffic flows, which result in deteriorated air quality. The improved traffic flow should allow vehicles to travel more efficiently. In addition, anticipated improvements in fuel mileage efficiency and reductions in emissions would also improve air quality over time. Depending upon the options selected for evaluation in the Second Tier Studies, a moderate increase in the number of vehicles on I-70 is possible. This increase in vehicles could offset some of the air quality benefits resulting from the reduction in congestion.

The Second Tier Studies for the Preferred Strategy will likely have to address new air quality regulations governing ozone, as well as other air pollutants, including carbon monoxide, particulate matter, and MSATs.

Additional updated information about air quality is discussed in **Section 3.2.5**.

3.1.12 Groundwater, Drainage, and Surface Water Quality

This section discusses the effects of the strategies on the groundwater, drainage, and surface water quality within the Study Area.

The Preferred Strategy will increase the impervious surface and increase rainwater runoff. This leads to increased amounts of water flowing in the stream, especially during heavy rainfalls; less groundwater flowing through the soil (base flow); and more erosion of the stream bed because of faster flowing water. These changes to stream flow result in flooding; habitat loss; erosion, which widens the stream channel; and physical changes in how the stream looks and functions.

Demolition and soil disturbance will create sediment which should be managed with carefully maintained sediment control practices. Bridgework will be over sections of rivers and floodplains which will require special diligence to prevent contaminants from entering the drainage and surface waters. Tributary crossings also require diligence to prevent sediment and contaminants from entering drainage and potentially entering water resources. Use of best management practices for the control of erosion and sedimentation is recommended at all construction sites.

What is a floodplain?

A floodplain is the relatively flat land adjacent to a stream or river that experiences occasional or periodic flooding.

3.1.13 Floodplains, Streams, and River Crossings

Little Blue River

This section discusses the benefits of floodplains, identifies the locations where the Study Area crosses or encroaches on floodways, streams, and rivers and reviews the potential effects of the strategies. Floodplains and streams are shown in **Figure 3.1** at the end of this chapter.

The Preferred Strategy will affect a total of 21 acres of floodplain. The majority of the potential impacts are near the

crossing of the Blue River. The Preferred Strategy will cross 10 river or stream tributaries.

Additional information on floodplains is discussed in **Section 3.2.6**.

3.1.14 Wetlands

Information on wetlands in the Study Area was collected by telephone, searches of online databases, National Wetlands Inventory (NWI) mapping, and limited field investigations.

The potential for wetland and habitat loss was measured by estimating the area of wetlands within the boundaries of the construction limits. The Preferred Strategy is anticipated to impact 2.03 acres of wetlands.

Additional information on wetlands is discussed in **Section 3.2.7**.

Bald Eagle

3.1.15 Wildlife, Plants, and Threatened and Endangered Species

This section discusses the effects the strategies may have on wildlife, plants, and protected species.

The Endangered Species Act (ESA) of 1973 assigned the Department of the Interior, U.S. Fish & Wildlife Service (USFWS) to establish a list of federally protected species. The ESA states that each federal agency must insure that "any action authorized, funded, or carried out" by that agency "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification" of officially designated critical habitat of these species. The Study Area is highly urbanized with only scattered areas of undeveloped land.

Barn Owl

Peregrine Falcon

There are four protected wildlife species known to occur in Jackson County and have a State designated endangered status:

- The bald eagle (Haliaeetus leucocephalus),

- The barn owl (Tyto alba),
- The peregrine falcon (Falco peregrinus)
- The Indiana bat (Myotis sodalist).

Terrestrial habitat for any of the above three birds does not appear to be present within the Study Area boundaries.
The USFWS TESS database indicates that one wildlife species is known to occur in Jackson County and have a Federal designated threatened or endangered status:

Pallid Sturgeon

- The pallid sturgeon (Scaphirhynchus albus).

Aquatic habitat for the pallid sturgeon is definitely not **present** within the Study Area boundary. The bald eagle is no longer federally listed as threatened or endangered. The bald eagle is still protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Terrestrial habitat for the bald eagle does not appear to be present within the Study Area boundaries.

Due to the absence of habitat for listed threatened and endangered species within the Study Area, effects on these species from the proposed strategies are unlikely.

Additional information on Wildlife, Plants, and Threatened and Endangered Species is discussed in **Section 3.2.8**.

3.1.16 Farmland and Soils

The entire Study Area is located in the urbanized cities of Kansas City and Independence, Missouri. Over time, development has transformed any farmland in this area to urban uses including homes and businesses. As a result, there are no farmlands located within the Study Area of the I-70 First Tier EIS.

3.1.17 Energy

The Preferred Strategy is expected to improve traffic flow and reduce vehicle fuel consumption on a per vehicle basis. However, the Preferred Strategy is expected to attract rerouted trips from elsewhere in the local transportation network to the

more efficient I-70 corridor. Overall, the Preferred Strategy is expected to reduce the consumption of energy over time by improving traffic flow, reducing congestion, and reducing vehicle fuel consumption through the corridor. During construction, lane restrictions or closures may be required, leading to increased congestion and energy use, but these effects would be temporary.

The Second Tier Studies will further investigate potential changes in energy uses due to improvements along I-70.

3.1.18 Utilities

The following major utility services exist within the Study Area: sanitary sewer, water, gas, electricity, and communications. The Preferred Strategy would result in temporary impacts to utility services. The greatest impacts will most likely be to telephone and cable services. Public and private owners with utility easements for aboveground or underground utilities on their property could be restricted from certain uses on the portion of the property where the easement is located. Prior written consent from an easement grantee would be required in order to place temporary or permanent structures or other improvements or to alter terrain on the property. The easement grantee would also retain the right of access to that portion of the property. Utility easements, and their use, are not expected to deny property owners from reasonable economic use of their property.

Overhead electric power lines across I-70

The Second Tier Studies will further evaluate and refine the utility impacts. Additional engineering design will be completed during the Second Tier Studies and will allow for a more detailed analysis of potential effects on specific utility lines or corridors. The Second Tier Studies will identify preliminary utility relocations.

3.1.19 Indirect and Cumulative

The Preferred Strategy, in combination with other projects near I-70, could result in cumulative impacts on affordable

housing, transportation, floodplains, and air quality. **Section 3.19** of the **Draft FTEIS** discusses the specific impacts in detail.

3.1.20 Joint Development

The joint development or multi-use concept proposes that a roadway right of way be used for purposes other than the movement of traffic. Although the Preferred Strategy does not include any specific joint development proposals, the right of way could incorporate the multi-use concept through the accommodation of water and sanitary sewer lines, telephone conduits and poles, natural gas lines, electric cables and poles, and fiber optic lines.

3.1.21 Relationships between Short-Term Environmental Uses and the Maintenance and Enhancement of Long-Term Productivity

Short-term environmental uses of the Preferred Strategy include:

- Temporary air, noise, water pollution, and visual effects caused by of the construction of roadways.
- Increased cost to motorists in time and fuel efficiency because of construction delays and detours.
- Disturbances to business, homes, and institutions because of construction.
- Conversion of open space and wetlands to transportation uses.
- Relocation of people and businesses, including expenses that would be incurred as these people and businesses are compensated.
- Reduction in property tax revenues resulting from the relocation of people, businesses, and other land uses.
- Use of public funds to build roadway infrastructure.

Long-term benefits of the Preferred Strategy include:

- Improvements in driver convenience, safety, travel time, and emergency access.

- Reduction of air pollution due to more efficient travel routes.
- Local opportunities for contractors in the region.

3.1.22 Irreversible and Irretrievable Commitments of Resources

Construction of the Preferred Strategy involves the commitment of a range of natural, physical, and human resources, as well as public tax dollars. Land resources may be converted from natural, residential, and commercial areas to accommodate additional right of way needs. Additional discussion on the irreversible and irretrievable commitments of resources is in **Section 3.22** of the **Draft FTIES**.

3.1.23 Construction Impacts

Construction of any of the Preferred Strategy would result in certain short-term environmental impacts associated with construction activities. The construction impacts could include noise, air quality, water quality, traffic circulation disposal of surplus and waste. Additional information is available in **Section 3.23** of the **Draft FTIES**.

MoDOT Construction

3.2 Changes and Clarifications from the Draft FTEIS

The following subsections discuss changes to the impacts of the Preferred Strategy since the Draft FTEIS. The changes are a result of resource agency and public comments. Most of these changes were minor and included updated data. There are no changes to the Preferred Strategy as a result of these comments.

3.2.1 Parks and Recreation Facilities

The Goin' to Kansas City Park and Freeway Park were removed from the Preferred Strategy impacts. The Goin' to Kansas City Park is located at Paseo Boulevard and 12th Street which will not be impacted by the Preferred Strategy. Freeway Park is MoDOT right-of-way that is leased to the City

of Kansas City and used as a community garden. Freeway Park is not an officially designated park open to the public.

3.2.2 Relocations

The Study Team completed a new search of the multiple listing service (MLS) operated by the National Association of Realtors to provide more current data on houses for sale in the zip codes contained within the Study Area. The results of this analysis are shown in **Table 3.1**. The difference between the houses for sale at the time the Draft FTEIS was prepared and current data is shown in blue italics.

Columbus Park Older Housing

Based upon the updated data from the MLS, the number of homes for sale in the zip codes within the Study Area has decreased from 1,629 in March 2009 to 1,496 in June 2010. The majority of the houses currently for sale are in the $50,000-$100,000 price range and have two or three bedrooms.

Table 3.1 Houses for Sale within Zip Codes Located in the Study Area

Type of House	64101	64102	64105	64106	64108	64127	64129	64133	64052	64055	64057
$0-$50,000	0	0	1 *+1*	2 *+1*	4 *+1*	60 *-26*	18 *+4*	35 *-1*	49 *+22*	14 *-4*	3 *+3*
$50,000-$100,000	0	0	15 *+7*	7 *+6*	5 *-1*	13 *-11*	16 *-14*	159 *+46*	97 *-15*	106 *+20*	7 *-3*
$100,000-$150,000	0	0	42 *+25*	22 *+1*	12 *-9*	0 *-7*	3 *-6*	131 *+47*	21 *+22*	114 *+16*	34 *+5*
$150,000-$200,000	0	0	44 *+12*	27 *+11*	32 *+3*	0 *-3*	0	18 *-11*	7	34 *-13*	24 *+6*
$200,000-$300,000	0	0 *-1*	40 *+7*	42 *-16*	48 *+3*	0 *-1*	0	14 *+2*	0 *-1*	18 *-12*	23 *+9*
$300,000+	0	0	22 *+11*	46 *-103*	52 *-25*	0	0	0 *-5*	0 *-1*	0 *-8*	15 *-3*
1 Bedroom or less	0	0	72 *+13*	50 *+1*	32 *-17*	6 *-12*	0	0 *-9*	3 *+12*	9 *-5*	0 *-4*
2 Bedroom	0	0 *-1*	56 *+45*	86 *-67*	90 *-10*	26 *-6*	12 *+2*	79 *+8*	75 *+6*	71 *-5*	8 *+1*
3 Bedroom	0	0	4 *+3*	8 *+2*	25 *+7*	31 *-16*	25 *-8*	209 *+57*	71 *-9*	159 *+18*	53 *+8*
4 Bedroom	0	0	1 *+1*	2 *-1*	5 *-9*	7 *-11*	0 *-9*	61 *+14*	21 *-3*	42 *+5*	31
5+ Bedrooms	0	0	0	0	1 *+1*	3 *-3*	0 *-1*	8 *+4*	4 *+1*	5 *+4*	14 *+12*

Source: National Association of Realtors' Multiple Listing Service, www.realtor.com, June 29, 2010

The Study Team made a minor a change to the estimated footprint for the Preferred Strategy near the 18th Street interchange, adding approximately 1.5 acres of anticipated right-of-way. This did not change the estimated relocations. During the Second Tier Studies, the footprint for the Preferred Strategy and the required right of way will be refined to avoid and/or minimize relocations where practicable. In addition, a detailed relocations analysis will be conducted and available replacement housing, commercial sites, and community facility sites will be identified.

Los Alamos Market y Concina at 17th and Summit

3.2.3 Environmental Justice

Based on comments received on the Draft FTEIS, MoDOT clarifies that the No-Build Strategy is expected to result in reduced LOS and increased congestion throughout the entire Study Area, not only through the identified EJ areas. The potential decrease in air quality would not be disproportionately high on minority and low-income populations.

3.2.4 Hazardous Materials

In response to a comment from the EPA, the definition of hazardous was revised to read, "Hazardous wastes as regulated by the EPA are defined as 'waste with properties that make it dangerous or potentially harmful to human health or the environment. Hazardous wastes can be liquids, solids, contained gases, or sludges. They can be byproducts of manufacturing processes or simply discarded commercial products, like cleaning fluids or pesticides'".

City Environmental, Inc. TSDF

The Draft FTEIS identified five hazardous waste sites within the Study Area. MoDNR provided additional information on the City Environmental site referenced in the Draft FTEIS. The MoDNR stated that the City Environmental site is no longer an active Hazardous Waste Treatment Storage or Disposal Facility (TSDF) site. The EPA, in coordination with the MoDNR, filed a claim with the bankruptcy court for environmental claims, including continuation of long-term groundwater monitoring at the former City Environmental facility. Shallow groundwater at the site remains

contaminated with certain chemicals in excess of drinking water maximum contamination levels. This status of this site has been revised in **Table 3.2** to reflect that it is inactive.

The MoDNR also requested that the Beazer East hazardous waste facility (former Koppers Wood Treating Facility) be included in the list of hazardous waste sites within the Study Area. Wood treating was performed at this facility for decades. A considerable amount of contaminated soil has been removed from the property, and groundwater contamination remains (EPA, 2003). While the building and address of this site fall outside of the study corridor, the Beazer East property does extend into the Study Area. **Table 3.2** has been revised to include this site and **Figure 3.1** shows the location of the hazardous waste sites.

Table 3.2 Hazardous Waste Sites in the Study Area

Site	Hazardous Waste Site Type	Status
Philips Solvent Recovery Services	TSDF & LQG*	Active
City Environmental	TSDF	Inactive**
Hanna Rubber Co.	Superfund	Delisted
Exide Battery Sales	Superfund	Delisted
Benton Apartments	Superfund	Delisted
Beazer East (former Koppers Wood Treating Facility)	RCRA Corrective Action***	Inactive**

* LQG = large quantity generator, generates more than 2,200 pounds of waste per month
** Inactive = No active operations on facility property except for environmental monitoring and cleanup activities
*** RCRA Corrective Action = Cleanup on site is being conducted in accordance with the Resource Conservation and Recovery Act (RCRA)

More detailed Study Area contamination surveys will be conducted during the Second Tier Studies. These studies may include further database searches, aerial photography analysis, and site walkovers to identify and verify the presence and potential boundaries of sites with contamination. Sites containing recognized environmental conditions, such as dry cleaners, gas stations, underground storage tanks, etc., will also be identified during the Second Tier Studies. Measures to

avoid sites known to contain contamination will be made. Potential mitigation measures to address the potential for contamination in the areas affected by construction will also be developed during the Second Tier Studies.

3.2.5 Air Quality

The Kansas City area air quality monitoring region is currently designated as a maintenance area for ozone. This area includes Platte, Jackson, and Clay Counties in Missouri. The EPA is currently in the process of identifying areas that may no longer be in attainment of the current (2008) standard for ozone concentration levels. In January 2010, the EPA extended the deadline for designations of areas as attainment, non-attainment, or maintenance areas with respect to the 2008 standard for ozone. The new deadline is March 2011 (EPA, 2010a). It is possible that the Kansas City region's attainment status for ozone may be removed because it exceeds the current standard for ozone and more stringent standards for 8-hour ozone concentrations.

What is an attainment area?

An attainment area is a geographic area with air quality that meets or exceeds the National Ambient Air Quality Standards (NAAQS).

Table 3.3 was updated with the National Ambient Air Quality Standards (NAAQS) as of June 30, 2010.

Table 3.3 National Ambient Air Quality Standards (NAAQS) as of June 3, 2010

Pollutant	Primary Standard [1]		Secondary Standard [2]	
	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide (CO)	9 ppm (10 mg/m^3)	8-hour [3]	None	
	35 ppm (40 mg/m^3)	1-hour [3]		
Lead (Pb)	0.15 µg/m^3 (2008 std)	Rolling 3-Month Average	Same as Primary	
	1.5 µg/m^3 (1979 std)	Quarterly Average	Same as Primary	
Nitrogen Dioxide (NO2)	53 ppb [4]	Annual (Arithmetic Average)	Same as Primary	
	100 ppb	1-hour [5]	None	
Particulate Matter (PM $_{10}$)	150 µg/m^3	24-hour [6]	Same as Primary	
Particulate Matter (PM $_{2.5}$)	15.0 µg/m^3	Annual [7] (Arithmetic Average)	Same as Primary	
	35 µg/m^3	24-hour [8]	Same as Primary	
Ozone (O_3)	0.075 ppm (2008 std)	8-hour [9]	Same as Primary	
	0.08 ppm (1997 std)	8-hour [9]	Same as Primary	
Sulfur Dioxide (SO_2)	0.030 ppm	Annual (Arithmetic Average)	0.5 ppm	3-hour [3]
	0.14 ppm	24-hour [3]		
	75 ppb [10]	1-hour	None	

Source: EPA, June 2010 (www.epa.gov/air/criteria.html, June 3, 2010)

[1] Primary Standard means the level of air quality that provides protection for public health with an adequate margin of safety.

[2] Secondary Standard means the level of air quality that may be necessary to protect the public welfare from unknown or anticipated adverse effects.

[3] Concentration is not to be exceeded more than once per year.

[4] The official level of the annual NO_2 standard is 0.053 ppm, equal to 53 ppb, which is shown in this table for the purpose of clearer comparison to the 1-hour standard

[5] To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb (effective Jan. 22, 2010).

[6] Concentration is not to be exceeded more than once per year on average over 3 years.

[7] To attain this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m^3.

[8] To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 30.0 µg/m^3.

[9] To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm (for the 2008 standard) or 0.08 ppm for the (1997 standard).

[10] To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb (Final Rule signed June 2, 2010).

3.2.6 Floodplains, Streams, and River Crossings

The 100-year floodplain map provided for the Blue River I-70 Bridge crossing has been revised. The U.S. Army Corps of Engineers (USACE) Blue River Channelization Project has significantly changed the 100-year floodplain at the I-70 Bridge crossing.

What is a "100-year flood?"

The phrase "100-year flood" is a short way of saying "a flood with a high degree of probability of occurring in any 100-year period". The 100-year flood is equivalent to a 1% flood and both are used interchangeably.

The City of Kansas City, Missouri reports that the Blue River Channelization Project in the vicinity of the I-70 Bridge crossing is complete. However, the updates to Federal Emergency Management Agency (FEMA) Flood Hazard maps are not available. Updates to the FEMA Flood Hazard maps are expected in 2013 or later. The floodplain revisions were manually drawn on **Figure 3.1** to represent the revised floodplain in order to calculate the estimated floodplain impacts. In addition, **Figure 3.1** legend was relabeled from "Hydrology" to "Water Features".

The resulting potential floodplain impacts are estimated to be 21 acres for the Preferred Strategy. This would be an increase of one acre compared to the estimate in the Draft FTEIS. The Sub-Area impacted the most by this strategy is the I-435 Sub-Area with some additional impacts in the suburban Sub-Area and the I-470 Sub-Area. The majority of the potential impacts are related to crossing the Blue River.

Little Blue River

The I-70 FTEIS Preferred Strategy must be designed to avoid all adverse effects to the Blue River Channelization Project. The Second Tier Studies will further develop the detail of the Preferred Strategy to adhere to USACE requirements.

The regulations adopted by the City of Kansas City, Missouri and City of Independence Missouri forbid changes within the designated floodplain that increase flood height by more than one foot during a 100-year flood without mitigation measures, as determined by approved FEMA methods.

3.2.7 Wetlands

Based on comments received on the Draft FTEIS, MoDOT confirms that as the project continues into Second Tier environmental documentation and reaches the design phase,

efforts will be made to avoid and minimize detrimental effects on wetland resources. The Study Team will adhere to the USACE permit process when the project advances to that point.

What is the National Wetlands Inventory?

The National Wetlands Inventory is an inventory of the nation's wetlands.

The National Wetlands Inventory (NWI) mapping used in this study was developed in the 1980's and has not been updated since publication. Field investigations were conducted by a qualified wildlife biologist who verified that the wetland features presented in the Draft FTEIS have potential to be identified as regulatory jurisdictional wetlands.

The USACE makes official determinations of regulatory jurisdiction over wetlands with oversight by EPA when necessary. The NWI mapping and limited field investigations presented in the Draft FTEIS identified potential wetlands that should be further investigated by the appropriate agency during the Second Tier Studies.

The definition of hydric soil presented on **Page 3.14-2** of the **Draft FTEIS** was a simplified version of the preferred definition. The definition of hydric soil preferred by the U.S. Army Corps of Engineers is: "a soil formed under conditions of saturation, flooding, or ponding for long enough during the growing season to develop anaerobic conditions in the upper part".

Indiana Bat

3.2.8 Wildlife, Plants, and Threatened and Endangered Species

The Indiana bat (*Myotis sodalist*) was added as a species that could potentially be found within the Study Area and one that must be reviewed in greater detail as part of the Second Tier environmental study. The Indiana bat inhabits forested areas along stream channels (riparian zone). The Federal Highway Administration and the U.S. Fish and Wildlife Service should complete consultation concerning all threatened and endangered species that may be adversely affected by the proposed project.

3.2.9 Indirect and Cumulative

The following updates to other studies affecting the study area occurred since the Draft FTEIS. The South Loop Link Study is now completed and is no longer an on-going study. The recommendations from the I-35 Feasibility Study are not finalized and will not be included as an attachment or an appendix in the I-70 First Tier Condensed Final EIS. The I-35 Feasibility Study name was changed to the I-35 Operational Study during the course of the study. The I-470 Purpose and Need Study is now completed.