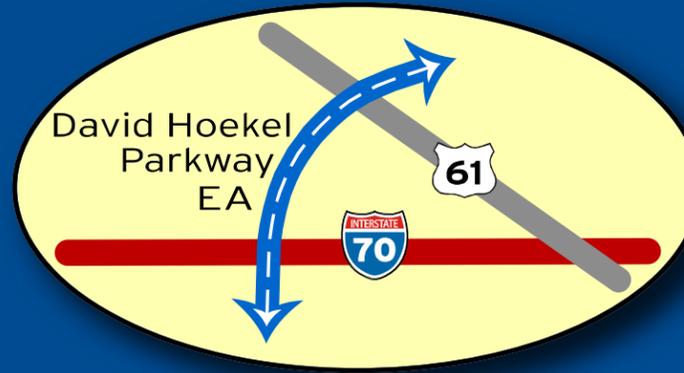


David Hoekel Parkway
City of Wentzville
St. Charles County
MISSOURI

FINAL Environmental Assessment

November 2014



David Hoekel Parkway
Wentzville, Missouri

Environmental Assessment



**FEDERAL HIGHWAY ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT**

FOR

David Hoekel Parkway

Wentzville, St. Charles County, Missouri

Submitted pursuant to 42 U.S.C. 4332 (2) (c)
and 49 U.S.C. 303

By the

U.S. Department of Transportation
Federal Highway Administration

The Federal Highway Administration has determined that this project will not have any significant impact on the human and natural environment. This finding of no significant impact is based on the attached environmental assessment, which has been independently evaluated by the FHWA and determined to adequately and accurately discuss the need, environmental issues and impacts of the proposed project. It provides sufficient evidence and analysis for determining that an environmental impact statement is not required. The FHWA takes full responsibility for the accuracy, scope and content of the referenced environmental assessment.

11/20/14
Date of Approval


Responsible Official

Program Development Team Leader
Title

**David Hoekel Parkway
Wentzville, St. Charles County, Missouri**

**FINAL
ENVIRONMENTAL ASSESSMENT**

Submitted pursuant to 42 U.S.C. 4332 (2) (c)
and 49 U.S.C. 303 by the

U.S. Department of Transportation
Federal Highway Administration

The Missouri Department of Transportation
and
The City of Wentzville, Missouri

Cooperating Agency:
U.S. Army Corps of Engineers

11/20/14
Date of Approval

Nov 17, 2014
Date of Approval



For FHWA



For MoDOT

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

Raegan Ball
Program Development Leader
Federal Highway Administration
3220 W. Edgewood, Ste. H
Jefferson City, MO 65109

Edward Hassinger
MoDOT Chief Engineer
105 W. Capitol Avenue
P.O. Box 270
Jefferson City, MO 65102

Susan Mueller
Public Works Director
City of Wentzville
200 Fourth Street
Wentzville, MO 63385

The City of Wentzville, Missouri, in coordination with the Missouri Department of Transportation (MoDOT), and the Federal Highway Administration (FHWA), proposes constructing a new 6.3-mile roadway connection between I-70 and US 61 in St. Charles County. The City has designated this project as the David Hoekel Parkway. The proposed project would function as a four-lane divided roadway with limited access. The study area for the proposed action is located within St. Charles County on the northwestern corner of the greater St. Louis metropolitan area.

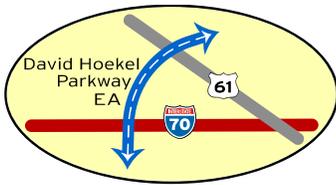


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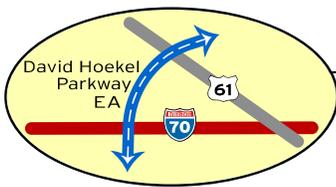
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EXECUTIVE SUMMARY

A. Introduction

The City of Wentzville, Missouri, in coordination with the Missouri Department of Transportation (MoDOT) and the Federal Highway Administration (FHWA), proposes to construct a new roadway connecting I-70 and US 61 in St. Charles County. Known as the David Hoekel Parkway, the roadway would function as a four-lane divided arterial roadway with controlled access. This Environmental Assessment (EA) complies with the National Environmental Policy Act (NEPA) and evaluates viable alternatives developed to satisfy the purpose and need of the project.

The Selected Alternative for the David Hoekel Parkway EA was first conceived within several previous plans and studies conducted by the City of Wentzville. Each of these studies included public involvement activities to solicit public input on the project. The City first identified the need for a new roadway in the City's adopted Comprehensive Plan of 1999 (*A Community's Vision*). In 2001 the City studied this potential new corridor further by conducting the *I-70/US 61 Beltway Corridor Preservation Study*. The study area for the Corridor Preservation Study primarily focused on connections between I-70 and US 61 within the western portion of the City of Wentzville. The study included recommendations for a new roadway corridor and defined the footprint for the corridor, allowing the City to coordinate with proposed and planned development to preserve right-of-way for a future roadway.

Following the recommendations of the Corridor Preservation Study, the City prepared the *I-70 Break-in-Access (BIA) Study* for the project's Access Justification Request (AJR) with I-70. This study analyzed the effect of adding a new interchange to the I-70 corridor within Wentzville. The City completed the BIA/AJR study in November 2004 with a recommendation to construct a new interchange connection at the proposed location. In 2006, based on feedback received from MoDOT, the City developed a VISSIM traffic supplement to the original 2004 BIA/AJR to provide more detailed traffic simulation analysis for the project, and specifically for the weigh station located within the study limits. In 2006, MoDOT reviewed the revised BIA/AJR and traffic supplement and provided a letter of conditional approval of the new I-70 interchange access to the City of Wentzville. At that time, the FHWA reviewed the BIA/AJR and its traffic supplement, but a decision was made that no approvals of the BIA/AJR could be granted prior to completion of the NEPA process. Subsequent to this decision, the City of Wentzville, in coordination with MoDOT and FHWA, initiated the David Hoekel Parkway EA. In parallel with the EA, the BIA/AJR has been updated in 2014 to be consistent with the Selected Alternative for the EA and meet the most recent federal requirements of the AJR process. The final approval of the BIA/AJR by the FHWA will be concurrent with the completion of the NEPA process for the David Hoekel Parkway project.

The Selected Alternative is approximately 6.3 miles in length. The logical termini for the project encompasses the intersection just south of I-70 at Jackson Road/S. Point Prairie Road and the proposed tie-in east of US 61 at Route P, in order to provide local access and connectivity within Wentzville and Flint Hill.

B. Purpose and Need

The purpose of the David Hoekel Parkway is to provide the community with a safe and efficient roadway that is both cost-effective and environmentally sound. The new connection will:

- **Improve access and connectivity** between I-70 and US 61 in western Wentzville and the St. Louis region within St. Charles County,
- **Reduce congestion** and improve the travel capacity in the study area to meet future travel demands,
- **Improve traffic safety** to help address high crash locations within the study area,
- **Support local and regional growth** while addressing anticipated increases in local and regional travel demand and travel times that would accompany population and housing growth,
- **Support sustainable development** by providing and coordinating transportation connections with planned and proposed development, and
- **Promote a multimodal transportation system** by ensuring the project accommodates the needs of other transportation modes.

The goals identified for the project are consistent with those for the St. Louis region as outlined in the East West Gateway Council of Government's (EWGCOG) Regional Transportation Plan 2040.

C. Project Alternatives

The identification of viable project alternatives involved a screening and detailed evaluation process with the public and federal, state and local agencies. The alternatives development process for the project is shown in Figure ES-1.

Figure ES-1
Alternatives Development Process



The process identifies alignment alternatives for the proposed roadway that are reasonable and feasible from a technical, environmental and economic standpoint. Based on the screening of Initial Alternatives, the alternatives development process defines and evaluates the range of alternative alignments in sufficient detail to identify the feasible and prudent alignments (i.e., **Reasonable Alternatives**). A more detailed evaluation of the Reasonable Alternatives then identifies the alternative alignment that best serves the stated purpose and need. The alternative that best accomplishes the purpose and need for the project, while providing acceptable impacts to both the natural and man-made environments, is designated as the **Identified Preferred Alternative**. The **Identified Preferred Alternative** is then presented within the approved Draft EA and at the Draft EA public meeting for agency and public review and comment. After all comments on the public meeting and Draft EA have been received and addressed, and pending a Finding of No Significant Impact (FONSI), the Identified Preferred Alternative is approved by the FHWA as the **Selected Alternative**.

1. NO-BUILD ALTERNATIVE

The No-Build Alternative is represented by not taking action to construct the proposed David Hoekel Parkway. Under the No-Build Alternative, the community would continue to rely on the existing roadway system that is currently serving the community in and around the project corridor, plus any committed or reasonably anticipated transportation improvements in the study area. Routine operation and maintenance activities to the existing local road system would continue as scheduled. At this time, the forecasted improvements near the study area include the expansion of Interstate Drive, south of I-70, from Wilmer Road to Hepperman Road along I-70 at the southern end of the study area. The City of Wentzville plans to design and construct a new five-lane arterial road for Interstate Drive. The No-Build also assumes the future widening of I-70 to six lanes prior to 2040, as shown in the EWGCOG's Regional Transportation Plan 2040 within its fiscally constrained list of projects.

2. BUILD ALTERNATIVES

The build alternatives under consideration for the project would involve a new connecting roadway, including interchanges at I-70 and US 61 and signalized intersections, between I-70 and US 61 on the west side of Wentzville, Missouri. The alternatives were analyzed based on estimated project costs, facility type, design requirements, physical constraints and potential impacts to the natural and man-made environments.

Two concepts of roadway design were considered for the build alternatives: 1) a controlled access, freeway-type concept providing fast and efficient access between I-70 and US 61, and 2) a more residential-type parkway concept providing greater access to population centers and key destination points throughout western Wentzville. This decision was based on an evaluation of how effectively each facility satisfied the requirements of the project's purpose and need. The decision was made to construct a parkway versus a freeway-type concept for this project.

The design criteria selected for the build alternatives were determined based on the need to satisfy the six elements of the project's purpose and need, state and local roadway design requirements, and land use considerations within the study area. Factors influencing the design criteria included the current and future projected traffic volumes, the selection of facility type, the existing vertical and horizontal constraints of the corridor, and design criteria guidelines presented in the American Association of State Highway and Transportation Officials (AASHTO) design guidelines, MoDOT specifications within the Engineering Policy Guide (EPG), and City of Wentzville design standards.

At the beginning of the NEPA process, initial build alternatives were developed and analyzed. The corridor was divided into five separate sections with designations A through E. Several alternative alignments were then developed within each section and screened. Initial build alternatives considered for the project are shown in Exhibit II-1 in Chapter II. The initial alternative development and screening process is described in Chapter II – Alternatives Considered.

3. REASONABLE BUILD ALTERNATIVES

Based on the screening results of the initial build alternatives, three full-corridor alternatives were deemed viable to carry forward for further consideration within the EA as Reasonable Alternatives. The full-corridor alternatives were developed by combining the most reasonable and feasible alignments from each of the separate initial sections A through E. Each Reasonable Build Alternative would improve access and connectivity for the traveling public. They would reduce traffic congestion, improve traffic safety, support regional growth and sustainable development and promote a multimodal transportation system. Located within the

study area, each alternative begins at Jackson Road south of I-70 and terminates beyond US 61 in Flint Hill, Missouri. The alternatives range from approximately 6.3 miles to 6.9 miles in length, and all are within approximately 2,000 feet of one another. Each Reasonable Build Alternative is shown on Exhibit II-2 in Chapter II.

- **Build Alternative 1** would follow the existing alignment of Point Prairie Road south of Scotti Road, and a portion of the existing alignment of Peine Road north of Scotti Road.
- **Build Alternative 2**, the Selected Alternative, would extend north over I-70, traveling through an area dedicated for the proposed roadway at the northeast corner of Peruque Valley Park, and avoiding the residential subdivisions immediately north of I-70 and west of Point Prairie Road.
- **Build Alternative 3** and Build Alternative 2 would follow the same alignment from Jackson Road to Scotti Road. However, Alternative 3 splits east and extends along Scotti Road for approximately 3,000 feet before turning northeast and crossing Dry Branch creek at three different locations before reaching US 61.

Both of the interchange designs show the new roadway going over I-70 and US 61. Interchange concepts can be seen in Appendix A. A single point diamond interchange was selected for I-70 resulting from the need to limit the size of the interchange footprint, allow the I-70 south outer road to remain open to traffic, and avoid impacts to the existing and future land uses. The single point diamond interchange would provide greater potential for land development north of the interchange, it would result in fewer impacts to nearby parcels, particularly the Crossroads Baptist Church, and would increase the efficiency of the anticipated traffic flow.

At US 61, a tight diamond, modified diamond and a double roundabout (i.e., dog bone roundabout) interchange concept were considered for the David Hoekel Parkway's connection with US 61. Within the Draft EA, a tight diamond interchange concept was initially selected. Subsequent to the preparation of the Draft EA, a decision was made to modify the original interchange concept to a modified diamond interchange at US 61. As part of the revised Alternative 2, the alternate location would provide a shorter connection to Route P, would result in significant project cost savings, and would minimize impacts to McCoy Creek and Dry Branch. The EA has been updated to include the evaluation of the new alternate as a part of the Selected Alternative.

4. ALTERNATIVES ANALYSIS

The Reasonable Alternatives Screening Matrix (Exhibit ES-1), shown at the end of the Executive Summary, details comparisons of the No-Build and Reasonable Build Alternatives. The Reasonable Alternatives were compared and screened based on a 200-foot corridor width for each alternative.

As a result of widening Point Prairie Road, **Alternative 1** would result in greater impacts to residential units and community cohesion, and would also result in greater constructability constraints, difficult traffic management during construction, and greater utility conflicts than the other build alternatives.

Alternative 2 would result in the least impacts to streams and floodplains, the least impacts to residential units, minimal impacts to businesses, and the least amount of constructability constraints throughout the alignment. Alternative 2 also has the lowest estimated project cost since it provides a more direct connection across US 61 to the east to Route P.

While **Alternative 3** shares the alignment with Alternative 2 south of Scotti Road, the alignment north of Scotti Road would result in greater stream and floodplain impacts along Scotti Road

and greater impacts to prime farmland and floodplains south of Peine Road as compared to Alternatives 1 and 2.

5. SELECTED ALTERNATIVE

The Selected Alternative for the project is Alternative 2. Alternative 2 would result in the least impacts to the natural and man-made environment and is lower in cost in comparison to the other build alternatives. The alternative would result in the least impacts to streams and floodplains, the least impacts to residential units, minimal impacts to businesses, and the least amount of constructability constraints throughout the alignment. It would also accommodate economic development plans, maintain neighborhood cohesion, and provide connections to existing facilities to improve traffic flow in the northwestern portion of Wentzville. In addition, Alternative 2 has been coordinated with local land use planning and corridor preservation initiatives and the local community has been supportive of this alternative through both the previous and current planning efforts for the David Hoekel Parkway. For these reasons, this alternative has been designated as the **Selected Alternative**. The Selected Alternative is shown on Exhibit II-4 in Chapter II. Plan plates showing the Selected Alternative in greater detail are included in Appendix A, along with the interchange configurations for I-70 and US 61.

D. Affected Environment and Environmental Consequences

The following is a summary of the environmental factors considered and the impacts of the Reasonable Alternatives, including the Selected Alternative. In addition, Exhibit ES-1 (at the end of this summary) and Exhibits III-1 through III-4 (at the end of Chapter III) pertain to this impacts discussion.

The Reasonable Build Alternatives 1, 2 and 3 were compared and screened based on a 200-foot corridor width for each alternative. The 200-foot corridor includes the roadway travel lanes, sidewalks on each side, and construction easements on each side to allow for cut and fill operations.

1. SOCIAL AND ECONOMIC IMPACTS

a. Neighborhood and Community Cohesion

Alternative 1 would have a moderate impact on existing neighborhoods and community cohesion and Alternatives 2 and 3 would have a low to moderate impact. The Selected Alternative (Alternative 2) would not sever or disrupt any existing established neighborhoods or communities. It would, however, travel through three developing residential subdivisions that have been planned to accommodate the Selected Alternative. The alignment is also adjacent to three other subdivisions: two existing and one under development. Based on the above considerations, the Selected Alternative would not have a negative impact on neighborhoods and community cohesion. It could have positive impacts on the neighborhoods by providing better access to other community facilities, as well as the regional transportation system including I-70 and US 61.

b. Changes in Traffic Patterns

While there were three different Reasonable Build Alternatives identified for the project, the traffic projections did not vary by alternative because the limits of the project were relatively fixed due to spacing constraints with adjacent interchanges on I-70 and US 61. Additionally, each alternative provided the same overall connectivity and access to the local Wentzville transportation network. Average daily traffic projections for the Reasonable Build Alternatives are shown to be an average of 26,000 west of US 61 in Wentzville and approximately 5,000

east of US 61 in Flint Hill in 2040. Truck percents for the Reasonable Build Alternatives were assumed to be approximately five percent of the vehicle mix.

Since the Reasonable Build Alternatives would provide a new route for motorists to travel, some reductions in traffic demand can be expected in other corridors or at other interchanges. There is not anticipated to be a significant change in through-traffic volumes on I-70 or US 61 as a result of the new roadway. This is because the Selected Alternative is anticipated to mainly change travel patterns within the City of Wentzville and interchange entering and exiting locations to access I-70 and US 61. In addition, a significant amount of bypass traffic between I-70 and US 61 along the Selected Alternative is not anticipated. The roadway is planned to be a four-lane parkway with a posted speed of 45 mph and several signalized intersections. It will not be a freeway bypass and the City has proposed imposing truck restrictions through Wentzville in the near term. However, the existing I-70 interchanges at Wentzville Parkway (25 percent traffic reduction), Route W/T (seven percent traffic reduction), and Point Prairie Road (56 percent traffic reduction) are anticipated to experience traffic relief due to a change in travel patterns.

c. Public and Community Facilities, Parks and Recreation Areas

There are four public parks (all of which are owned by the City of Wentzville and designated as park land) in or adjacent to the study area: Rotary Park, Peine Road Park, Peruque Valley Park, and an unnamed park along Peruque Creek. The FHWA has determined that all four of these parks are Section 4(f) eligible; however, none of them have been the recipient of Section 6(f) funds. Only Alternative 1 would negatively impact public park land. It would impact a small portion (0.2 acre) of an unnamed and undeveloped City park. None of the public (or private) parks/recreation areas would be negatively impacted by the other Reasonable Alternatives. Although the Selected Alternative (Alternative 2) would pass through the eastern edge of Peruque Valley Park, the land has a corridor dedicated specifically for the Selected Alternative alignment. As such, there is no conversion of existing park use to transportation use, and thus no Section 4(f) impact.

There are two schools within or adjacent to the study area: Peine Ridge Elementary School is adjacent to, but outside of the study area, and St. Theodore Catholic School is located in Flint Hill within the study area. None of the Reasonable Alternatives would have negative impacts on either of these schools; however, they would both benefit from the improved access that the project would provide to the region.

Three existing churches are located in the study area: the Crossroads Free Will Baptist Church, the Agape Word Center, and St. Theodore Catholic Church. None of the existing churches would be directly impacted by the Reasonable Alternatives; however, the Selected Alternative (Alternative 2), would cross an access drive leading to a parcel that is owned by the Faith United Church of Christ, thereby removing access to the property. The property is currently vacant and there are no current plans filed with the City of Wentzville at this time for a church to be constructed on the property. Access can be restored to this parcel by providing a new access road from the church property that travels along the north side of the proposed alignment and intersects with the Selected Alternative at the proposed intersection with existing Peine Road.

There are four known cemeteries in the study area, none of which would be impacted by the Reasonable Alternatives.

The City's police facility is located outside of the study area; however, two fire/ambulance facilities (Fire Station No. 2 and a new Emergency Medical Service (EMS) facility) that serve the immediate area are located within the study area. None of the safety/emergency facilities would

be directly impacted by the Reasonable Alternatives. However, Fire Station No. 2 on Mette Road and the new EMS facility on N. Point Prairie Road would benefit from improved access to US 61 and the Selected Alternative. Response times for emergency vehicles and police personnel would improve as a result of providing smoother flowing transportation facilities in the vicinity of the corridor.

d. Pedestrian and Bicyclist Considerations

The City of Wentzville's Comprehensive Plan includes a map showing the St. Charles County Trails and Greenways Development Plan. This map indicates on-street bike lane routes and separated paths that are designated as either existing, planned, or possible (future) routes. While the plan shows no existing bike/pedestrian paths or bike lanes within or adjacent to the corridors of the Reasonable Alternatives, there are identified future separate paths and others that are designated as future bike lanes (on-street). The Selected Alternative would include a walking/bicycling path along its entire length that will connect with any future paths that are in place when the roadway is constructed.

e. Demographics and Social Characteristics

For comparisons, the census data in Chapter III was gathered for the City of Wentzville, St. Charles County, the City of St. Louis, and the State of Missouri. Between 2000 and 2010 the City of Wentzville's population increased approximately 321 percent. St. Charles County had a 27 percent increase from 2000 to 2010. Both growth rates were significantly higher than Missouri at seven percent, and the City of St. Louis which had a decline in population of about eight percent, for the same time period. Table III-1 in Chapter III shows the population from the Census 2010.

In estimates for the year 2010, the study area contained the lowest percentage (3.7 percent) of adults over 25 years of age with less than a high school education. The percentage of non-whites was somewhat similar for Wentzville and St. Charles County at 10 percent and 9.3 percent respectively. The City of St. Louis had the highest percentage of non-whites at about 56 percent, while the State of Missouri had a non-white population of about 17 percent.

In the year 2010, the City of St. Louis and the State of Missouri had the lowest percentage of occupied housing units at 80.7 percent and 87.6 percent respectively. St. Charles County had the highest occupancy rate at 95.2 percent, while Wentzville had the next highest occupancy rate of 94.8 percent.

f. Economic Characteristics and Environmental Justice

Based on Year 2010 figures, the highest median home value was in Wentzville at \$210,900, while the lowest was in the City of St. Louis at \$119,900.

In all of the areas studied, the highest estimated percentage of employees was in the educational, health and social services category. The other two industries that employed substantial numbers of people were estimated to be retail trade and manufacturing. In addition, Wentzville showed a substantial estimated number of people employed in the finance, insurance, and real estate industry. The industry with the lowest estimated number of employees across all of the areas was agriculture, forestry, fishing and hunting, and mining. This is not surprising considering the suburban nature of most of the areas.

The City of St. Louis had the lowest median household income at \$32,688 in the year 2010 estimate, as well as having the highest percentage of persons below the poverty level at 27.8 percent. Wentzville had the highest median household income at an estimated \$69,339 and the

lowest number of persons below poverty level at an estimated three percent. The estimated per capita income for Wentzville was estimated to be \$26,262, which was higher than St. Louis and the State, but lower than St. Charles County.

The Environmental Justice evaluation, which includes the census data presentation, indicates that the study area is not considered to have a low-income population or minority population that would require special considerations under the guidance of Environmental Justice procedures. As such, none of the Reasonable Alternatives would result in disproportionately high or adverse effects for minority and/or low income populations within the project area.

2. LAND USE IMPACTS

It is anticipated that areas within and adjacent to the study area, would not experience major land use changes from those identified on future land use plans as a result of implementing the Selected Alternative. Since the Selected Alternative is an integral part of the Wentzville and Flint Hill future land use plans, the project is therefore consistent with the plans. The Selected Alternative is located in an area that is currently experiencing residential growth, and development will occur in the currently undeveloped areas according to the Cities' plans.

3. FARMLAND IMPACTS

Alternative 1 would impact 9.4 acres of Prime Farmland, Alternative 2 would impact 9.9 acres and Alternative 3 would impact 15.3 acres. As stated, the Selected Alternative (Alternative 2) would impact 9.9 acres of Prime Farmland (including Prime Farmland if drained) and would also impact 51.3 acres of Farmland of Statewide Importance. Impacts to farmland were also analyzed through coordination with the Natural Resource Conservation Service (NRCS) by utilizing the *Farmland Conversion Impact Rating for Corridor Type Projects* (Form SCS-CPA-106). The Total Points scored for the Reasonable Alternatives were as follows: Alternative 1 scored 84, Alternative 2 (Selected Alternative) scored 82, and Alternative 3 scored 93. None of these scores exceeded the 160-point threshold established for consideration of farmland protection measures under the Farmland Protection Policy Act (7 CFR, Part 658). In order to minimize farm severances and impacts to farmland, the majority of the proposed alignment extends along property lines, through land that has been planned for other land use development or land that has been taken out of farm production.

4. RIGHT-OF-WAY IMPACTS

The screening for the Reasonable Alternatives involved an estimate of impacts to properties affected by a 200-foot corridor that would accommodate temporary construction easements for grading operations and roadway embankment.

Through the screening process, it was determined that **Alternative 1** would have the potential of impacting 48 single-family residential properties (18 by total acquisition and 30 by partial acquisition), five businesses (two by total acquisition and three by partial acquisition), one multi-family residential property by partial acquisition, and four community properties by partial acquisition. **Alternative 2** would have the potential of impacting 16 single-family residential properties (three by total acquisition and 13 by partial acquisition); one business would be impacted by partial acquisition, one multi-family residential property by partial acquisition, and three community properties by partial acquisition. **Alternative 3** would have the potential of impacting 20 residential properties (four by total acquisition and 16 by partial acquisition), one partial impact to a business, and no impacts to public properties.

In the Selected Alternative (Alternative 2), three single-family residences would be acquired. Six of the partially impacted residential properties would require new access roads or drives and

the other seven would experience only small portions of land acquisition such as undeveloped edges along property lines or corners of properties. The one property containing a multi-family complex (Peine Lakes Apartments) would be impacted at the east edge by a small portion of land acquisition.

The one business that would be impacted by partial acquisition is the Flint Hill Soccer Fields. Three community properties (Faith United Church of Christ property (currently vacant with no plan filed with the City of Wentzville to construct a church), a neighborhood swimming pool area, and a city sewage lift/pump station) would be impacted by small portions of land acquisition that would not affect any structures or future development on the properties. Nineteen undeveloped parcels would be impacted by partial acquisition. Two of the 19 properties would lose their current means of access, thereby requiring new access. One property, located on the south side of I-70, could obtain access from another proposed road (Interstate Drive), and the other parcel would require a new access drive.

In an effort to make the property acquisition process as equitable as possible, regulations of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. 4601) and the requirements of Title VI of the Civil Rights Act of 1964, would be followed to ensure adequate consideration and compensation for the persons whose property is acquired for the project.

5. GEOLOGY

The study area is located within the Dissected Till Plains of the Central Lowlands physiographic province. The topography is characterized by glaciated, open rolling hills with steep valley slopes. Local relief in the area varies from elevation of 696 feet at the south near I-70 to 475 feet where McCoy Creek leaves the study area near the north. General subsurface conditions consist of varying thicknesses of glacial and alluvial soils. The soil thickness is 50 feet or less and consists mostly of glacially derived silty clay loam. No known caves, springs, sinkholes or other karstic features are noted in the study area. In addition, there is no active mining or records of past mining in the study area. However, the project is within some areas that have the potential of being affected by earthquakes in the New Madrid Seismic Zone.

6. WATER RESOURCES IMPACTS

a. Stream Impacts

Through the screening process of the Reasonable Alternatives within the 200-foot corridor, it was determined that potential impacts would occur to streams, potential wetlands, and ponds. Those estimated impacts are summarized in the evaluation matrix in Exhibit ES-1. Alternative 1 would potentially impact nine streams totaling approximately 2,572 linear feet, Alternative 2 would potentially impact eleven streams totaling approximately 2,043 linear feet, and Alternative 3 would potentially impact 15 streams totaling approximately 3,691 linear feet.

Field investigations were performed for the Selected Alternative (Alternative 2). The impacts to each water resource were determined and are summarized in the text below and in Appendix D.

The Selected Alternative (Alternative 2) would involve 11 stream crossings resulting from fill material for culverts or embankment material placed within the ordinary high water mark (OHWM) of the stream. Where streams are bridged, impacts would be avoided or minimized. A total of 2,043 linear feet of stream channel would be filled by culverting or embankment, equating to 0.49 surface acres of impacts, based on the average OHWMs of the streams impacted. The US Army Corps of Engineers has determined that an individual Section 404 Permit will be required for the project.

The Selected Alternative corridor is aligned through three new subdivisions that have the potential for containing mitigation areas directly adjacent to the parkway corridor: Keeneland Trails, Stonemoor, and Westhaven (Peine 240). Through research at the St. Charles County Recorder of Deeds office, it was determined that the properties encompassing the stream corridors adjacent to the Selected Alternative preserved corridor do not have deed restrictions associated with them. However, one stream corridor at the south end of the Stonemoor residential development contains a mitigation area (trees planted in the stream's riparian area) that would be impacted by the construction limits of the Selected Alternative.

b. Wetland Impacts

Through the screening of the Reasonable Alternatives within the 200-foot corridor, it was estimated that Alternative 1 would impact 0.4 acre of National Wetlands Inventory (NWI) designated potential wetlands, and that Alternatives 2 and 3 would each impact 0.6 acre of NWI designated potential wetlands.

Based on the preliminary findings of the field investigations, it was determined that there are no jurisdictional wetland areas within the limits of construction of the Selected Alternative (Alternative 2). Therefore, the Selected Alternative would not result in impacts to jurisdictional vegetated wetland areas. Although there would be impacts to 0.27 acre of fringe wetlands around six upland ponds, the ponds and their associated fringe wetlands were determined to be non-jurisdictional.

c. Pond Impacts

Through the screening of the Reasonable Alternatives within the 200-foot corridor, it was estimated that Alternative 1 would impact one potentially jurisdictional pond, and that Alternatives 2 and 3 would have no impacts to potentially jurisdictional ponds. The Selected Alternative (Alternative 2) would result in fill material being discharged into the open water areas of six upland ponds, totaling 0.27 acre of impacts; however, these ponds were determined to be non-jurisdictional.

d. Compensatory Mitigation

During the project design phase, specific impacts to "Waters of the U.S." will be assessed to determine if those impacts can be avoided or minimized, and to determine the applicability of an individual Section 404 Permit. At that time, if stream mitigation is required, an evaluation will be performed based on the Missouri Stream Mitigation Method, if appropriate, in order to determine mitigation credits required and appropriate mitigation options for stream impacts.

In a letter dated September 18, 2008 (see Appendix I), the USACE stated that impacts to the mitigation area along the stream corridor at the south end of the Stonemoor residential development will require a 2:1 replacement ratio. Coordination will take place with the USACE and appropriate resource agencies during the permitting process to develop appropriate mitigation strategies. Where appropriate, possible mitigation strategies for stream impacts could include new channel construction (stream relocation to partially offset filled streams), utilizing in-stream grade control structures, stabilizing disturbed banks with a combination of live vegetation and riprap or erosion control mats (bioengineering techniques), incorporating native seeding and plantings along the stream banks and buffer zones, buying credits in a mitigation bank, or by providing an in-lieu fee for stream mitigation at other locations through programs such as the Stream Stewardship Trust Fund.

7. WATER QUALITY IMPACTS

The National Pollutant Discharge Elimination System (NPDES) permit, administered by the Missouri Department of Natural Resources (MDNR), requires that slopes and ditches be properly designed to prohibit or reduce erosion. To protect the environment from sedimentation and construction pollutants during the building phase, the control of water pollution is to be accomplished by the use of the City's and MoDOT's Best Management Practices (BMPs). The BMPs can include measures such as the use of temporary berms, ditch checks, slope drains, sediment basins, rain gardens, straw bales, silt fences, seeding, mulching, and drainage basins. The City of Wentzville will also consider detention areas within the median to collect and filter roadway run-off.

There are three public drinking water wells, approximately eight privately registered wells, and 53 domestic water wells scattered throughout or adjacent to the study area. Most of these are assumed to be constructed in the Mississippian aquifer and are used for residential or limited agricultural use. There are no surface water intakes to public drinking water sources within the study area. If wells are discovered to be impacted during the construction of the roadway, mitigation measures will include proper sealing of the wells to prevent ground water pollution from construction and from future road maintenance.

8. FLOODPLAIN IMPACTS

Through the screening of the Reasonable Alternatives within the 200-foot corridor, it was estimated that Alternative 1 would impact approximately 18.6 acres of the 100-year floodplain, Alternative 2 would impact approximately 11.0 acres, and Alternative 3 would impact approximately 30.5 acres.

Encroachments on the 100-year floodplain of Peruque Creek, the McCoy Creek Tributary, and Dry Branch would be the result of encroachment of embankment fill for the roadway or fill at bridge abutments. After further analysis of the impacts within the construction limits of the Selected Alternative (Alternative 2), it was determined that a total of 11.0 acres of floodplain would be affected. The Selected Alternative would include bridges and culvert extensions that would be designed to avoid a rise in the regulatory floodway. The City's Comprehensive Land Use Plan indicates that the floodplain areas would remain undeveloped. The floodplains are currently being preserved as common space in new developments that occur near the floodplain. All practical measures to minimize impacts to the floodplain have been incorporated into the development of the Selected Alternative and construction would incorporate features necessary to meet the National Flood Insurance Program (NFIP), Federal Emergency Management Agency (FEMA), State Emergency Management Agency (SEMA), St. Charles County and City of Wentzville floodplain guidelines. The municipalities are responsible for obtaining a floodplain development permit from SEMA during the design phase, in addition to a "No-Rise" certificate and statements as to the effects of possible flooding.

9. BIOLOGICAL RESOURCES IMPACTS

a. Forest Impacts

The majority of the study area is a mixture of both developed and undeveloped land. The undeveloped land includes remnant woodlands, open pasture, and open utility corridors. Based on the screening of the Reasonable Alternatives within the 200-foot corridor, it was estimated that Alternative 1 would impact 37.7 acres of woodlands, Alternative 2 (Selected Alternative) would impact 40.3 acres of woodlands, and Alternative 3 would impact 41.9 acres of woodlands. As mitigation for woodland impacts, the City of Wentzville will consider incorporating tree plantings along the corridor where practicable.

b. Wildlife Impacts

The study area is located near the edge of an urban area that is becoming developed and much of the natural habitat that previously occurred has been fragmented. Wildlife habitat in the study area includes grassland/open pasture, wooded areas, and the aquatic environments of streams and ponds. Some wildlife may have difficulty withstanding the loss of their limited habitat and there could also be a slight increase in wildlife mortality after construction due to the addition of the new roadway. However, wildlife in the area has or is beginning to adapt to the conditions of ongoing development in the area and the direct influence on mortality rates brought on by any of the Reasonable Alternatives is not anticipated to be greater than that caused by current land use development.

c. Threatened and Endangered Species Impacts

At the beginning of the NEPA process a letter was sent to the Missouri Department of Conservation (MDC) and the United States Fish and Wildlife Service (USFWS) inviting them to a project scoping meeting and to participate in a Resource Management Group, and requesting input concerning species listed as federally endangered or threatened that could occur in or near the study area. The USFWS did not attend the Resource Management Group meetings or submit a reply to the project coordination letter. According to the MDC, there are no known locations, recorded occurrences, or designated critical habitat of federal state-listed species within the study area, nor any records of unlisted species/habitats of conservation concern. However, in 2007, the MDC's Heritage Review Report indicated that the federal and state-listed endangered Indiana bat (*Myotis sodalists*) could potentially occur in the area. In a subsequent MDC Heritage Review Report (January 24, 2014), the Indiana bat was not included. However, a USFWS Information, Planning and Conservation (IPaC) official review response was generated on January 24, 2014, indicating that gray bats (federal and state endangered), Indiana bats (federal and state endangered), and northern long-eared bats (federal proposed endangered as of October 2013) occur throughout Missouri and may occur within the project boundary.

Gray bats roost in caves or mines year-round, however, none exist in the study area. The Indiana bat and the northern long-eared bat occupy caves or mines for hibernation in winter, but during spring and summer their maternity roost sites tend to be in living, injured (e.g. split trunks and broken limbs), dead or dying trees, with loose exfoliating bark or cracks or cavities. Preferred roost trees are generally located in riparian and upland forest openings. In general, there is not a substantial difference among the Reasonable Alternatives regarding impacts to woodlands that could be potential bat summer habitat. The Selected Alternative has been aligned to avoid as much of the floodway and floodplain as practicable, thereby minimizing impacts to the wooded riparian areas. Most of the unavoidable impacts would be in areas that have already been fragmented by development, as the project is located within a growing urban area.

10. CULTURAL RESOURCES IMPACTS**a. Previous Investigations**

A cultural resource investigation was conducted in the study area in 2007-2008 in order to identify any significant cultural resources that could be impacted by the project. A records and literature search (archival review) was performed and revealed that no properties on the National Register of Historic Places (NRHP) exist within the study area. In addition, none of the bridges or culverts within the study area has been determined to be significant. As a result, none of the Reasonable Alternatives would impact any existing NRHP sites.

Subsequent to the 2007-2008 archival review, modifications have been made to the design of the proposed US 61 interchange of the Selected Alternative, resulting in changes to the project limits. As such, a subsequent records and literature search was performed in December of 2012 at the State Historic Preservation Office (SHPO) to identify any cultural resources reported since the original cultural resources survey was conducted in 2007-2008. The archival search revealed that no properties have been placed on the NRHP and no cultural resource surveys by other entities were conducted within the previous project area or the new proposed interchange area in the four years since the previous survey. In addition, a field survey with shovel testing and visual observations of the new areas in the current archaeological APE was performed. This survey indicated that these areas were previously disturbed and no additional archaeological sites were identified.

b. Archaeological Survey

The initial archaeological survey was performed in 2008 for only the Preferred Alternative (Alternative 2) construction limits. The archaeological survey identified nine archaeological sites and two isolated finds. Three of the archaeological sites have been determined by the SHPO to be potentially eligible for listing in the NRHP: Site 23SC2140, Site 23SC2141 and Site 23SC2146.

Site 23SC2140 – The artifacts recovered from shovel tests indicate that tools were being manufactured at this site, as well as repaired, and that the site may have been used as habitation. The entirety of this site would be impacted by the Selected Alternative alignment.

Site 23SC2141 – This farmstead site was first occupied by at least 1840 and the farmstead continued to be used into modern times. Intact remains dating to the 19th and early 20th century likely exist and could provide important insights into the lives of the early farmers of this region. This site would be impacted by the Selected Alternative along its western edge, which does not include any of the building sites.

Site 23SC2146 – This site consists of a farmstead dating back to 1834. Although the residence and a nearby outbuilding had recently been razed, five other outbuildings continue to stand. The outbuilding likely served as a summer kitchen and a slave quarters. Also present just north of the proposed construction easement is the family cemetery. It is likely that yard features and intact artifacts are still associated with this historic farmstead. The Selected Alternative would avoid this site.

No additional archaeological sites were identified during the 2012 cultural resources survey.

c. Architectural Survey

There were no architectural properties or districts currently listed on the NRHP or currently recommended for the National Register in the architectural study area. The initial 2008 architectural survey resulted in the identification of 255 previously unrecorded properties, no previously recorded architectural properties, nine previously recorded non-significant bridges and culverts, and no previously unrecorded bridges. None of the properties were determined to be eligible for listing in the National Register. One private family cemetery was encountered, which is located at the east terminus of the project. This private cemetery would not be impacted by the Selected Alternative.

During the subsequent 2012 cultural resources survey, a reevaluation was required of all properties within the original architectural APE that had reached the 45 year mark since 2008. In addition, six additional properties, located within the architectural APE of the modified

proposed US 61/David Hoekel Parkway interchange, were also surveyed. Only one of the additional parcels had a building within the current architectural APE that was 45 years or older. None of those properties were recommended as eligible for the NRHP.

d. Impacts and Recommendations

The Selected Alternative alignment would have no impact on architectural properties that are listed or eligible for listing in the NRHP. The Selected Alternative would impact two archaeological sites and will be further refined as the final alignment within the alternative is determined after the design phase. At that time, the extent of impacts to the archaeological sites will be determined. If any potentially eligible sites are impacted by the construction limits of the project, further archaeological testing will be conducted to determine if they are eligible for the NRHP. If an archaeological site is determined eligible, appropriate procedures will be followed to comply with Section 106 of the National Historic Preservation Act of 1966, including an assessment of adverse effects and, if appropriate, measures to avoid, minimize, or mitigate adverse effects through a Memorandum of Agreement (MOA).

11. HAZARDOUS MATERIAL SITE IMPACTS

The Phase I hazardous waste assessment identified potential hazardous material sites on 11 properties with ten of the sites located within the study area. The sites were determined to have a low potential for contamination. None of the Reasonable Alternatives would impact any existing hazardous material sites. However, the Selected Alternative would have a partial impact to the property on which a sewage lift station is located, adjacent to Route P, and would impact a sewage lift station east of US 61. Any unanticipated hazardous material encountered during construction of the proposed project would be handled in accordance with federal, state, and local laws and regulations.

12. AIR QUALITY IMPACTS

The St. Louis Metropolitan Area is currently designated as a non-attainment area for particulates (annual PM_{2.5}) and ozone (O₃). The O₃ nonattainment is Subpart 2/Moderate. Under the provisions of the Clean Air Act Amendments (CAAA) of 1990, the EWGCOG, as the Metropolitan Planning Organization (MPO) for the region, is the agency responsible for making sure a transportation project conforms to the air quality goals stipulated in the State Implementation Plan (SIP). The conformity determinations for both air pollutants have been conducted by the East-West Gateway Council of Governments (EWGCOG) using the latest SIP submittals.

The Selected Alternative for the David Hoekel Parkway project was evaluated within EWGCOG's Air Quality Conformity Determination modeling for the region, approved by the Federal Highway Administration on September 2, 2011, and was found to be in conformity with the requirements of the Clean Air Act Amendments of 1990, the relevant sections of the Final Conformity Rule 40 CFR Part 93, and the Missouri State Conformity Regulations 10 CSR 10-5.480. The finding is documented in the *Air Quality Conformity Determination and Documentation (8-Hour Ozone & PM_{2.5}) for the Regional Transportation Plan 2040 and 2012-2015 Transportation Improvement Program*. The conformity analysis for the project has been incorporated into subsequent updates of the RTP 2040, TIP and Air Quality Conformity Determination within the Amendment to the FY 2014-2017 TIP.

(<http://www.ewgateway.org/pdf/files/library/AQ/AQConformityDoc/AQConformityDoc-FY2014.pdf> (David Hoekel Parkway project listed on page A-46)).

The EWGCOG will update and reanalyze the project's air quality conformity modeling within the next air quality conformity determination for the St. Louis region in order to reflect the final

project description of roadway and interchange improvements for the Selected Alternative. The project will not be constructed until the new air quality conformity determination for the region, with inclusion of the project, is approved. As with the 2011 air quality conformity determination, it is anticipated that the project will not adversely impact the air quality for the region and that the region will remain in conformity with the requirements of the Clean Air Act Amendments of 1990, the relevant sections of the Final Conformity Rule 40 CFR Part 93, and the Missouri State Conformity Regulations 10 CSR 10-5.480 since the project has not changed significantly since that time.

The EPA and the FHWA issued a joint guidance on March 29, 2006 on how to perform qualitative hot-spot analyses in $PM_{2.5}$ and PM_{10} nonattainment and maintenance areas, and the criteria necessary to meet the $PM_{2.5}$ and PM_{10} hot-spot analysis requirements established in the March 10, 2006, final transportation conformity rule (71 FR 12468). Based on an analysis of the final rule, 40 CFR 93.123(b)(1), and criteria recently adopted by the interagency group, it was determined that the Selected Alternative was not considered a “project of air quality concern” and does not meet the criteria stipulated for requiring a $PM_{2.5}$ or PM_{10} hot-spot analysis as defined in the final rule.

In the design year (2040), it is expected there would be reduced Mobile Source Air Toxins (MSAT) emissions in the study area due to the EPA’s MSAT reduction programs. On a regional basis, it is anticipated that the EPA’s vehicle and fuel regulations, coupled with fleet turnover, would over time cause substantial reductions that, in almost all cases, would cause region-wide MSAT levels to be substantially lower than today.

13. NOISE IMPACTS

The FHWA’s Noise Abatement Criteria (NAC) and MoDOT’s FHWA-approved interpretation of the NAC, as detailed in MoDOT’s Traffic Noise Policy, were used in the analysis of the acoustic impact of the proposed project. The analysis was conducted according to the guidelines as presented in the Code of Federal Regulation, Title 23 Part 772, which provides procedures whereby the acoustic impact of the Selected Alternative can be assessed and the needs for abatement measures determined. Although MoDOT’s current noise policy has incorporated changes that were made to 23 CFR 772 by FHWA, which went into effect July 13, 2011; MoDOT’s previous noise policy that was in effect prior to that date was used for this noise analysis because this proposed project had reached the practicable alternatives stage prior to that date.

Noise mitigation measures for traffic noise impacts will be considered when the predicted noise levels approach or exceed those values for the appropriate activity category of the Noise Abatement Criteria or when the predicted traffic noise levels substantially exceed the existing noise levels. MoDOT has defined the NAC approach or exceed criteria for Activity Category “B” as being equal to or greater than 66 dBA $L_{eq}(h)$ for noise sensitive receivers such as residences, churches, schools, libraries, hospitals, nursing homes, apartment buildings, condominiums, etc. MoDOT has defined an increase of 15 decibels or more over the existing noise as being substantial.

The noise analysis discussed in this section, and the Noise Study in Appendix H of the EA document, were prepared based on a US 61 interchange at Peine Road and an alignment segment east of US 61 that was similar to the Alternative 1 alignment. However, subsequent modifications were made to the design of the proposed US 61 interchange of the Selected Alternative. The noise sensitive receptors in the vicinity of the new proposed interchange remain the same as those of the previous interchange design, and the conclusions at the end of this section are still applicable to the modified interchange area.

Existing noise levels were developed from field measurements that were conducted at seven representative sites in the study area. Existing design year $L_{eq}(h)$ noise levels within the project study area ranged from 40 to 64 dBA $L_{eq}(h)$. The FHWA Traffic Noise Model, (TNM[®] 2.5) was then used to model design year 2030 L_{eq} noise levels. One hundred eighteen (118) representative receiver locations were selected to illustrate the noise impacts adjacent to the proposed project. These noise levels were compared to the existing noise levels to determine if MoDOT's 15 decibel increase criteria would be exceeded, and to the NAC noise levels. Exceeding either criterion is, by definition, an impact.

Future design hour noise levels would exceed the NAC at sixteen of the 118 representative receivers. These receivers represent one clubhouse, one swimming pool, 10 apartments, and 19 residences. Future $L_{eq}(h)$ noise levels at these receivers would range from 66 to 71 dBA. The change in noise levels at these locations would be an increase in a range of four to 28 decibels.

In addition to those receivers that would be exposed to noise levels above the NAC, 16 additional receivers would be exposed to future design hour noise levels that would substantially exceed existing noise levels. These receivers represent 39 existing and permitted residences. Future $L_{eq}(h)$ noise levels at these receivers would range from 55 to 65 dBA. The noise levels at these locations would be an increase in a range of 15 to 25 decibels. It should be noted that MoDOT's noise policy requires mitigation only for existing receivers, not for receivers in buildings constructed after the proposed roadway is built.

Based on the completed noise study, only five of the seven noise barriers analyzed within the project limits would meet MoDOT's definition for feasible and reasonable noise mitigation. This indicates that noise barriers could be considered for the project. Public informational meetings will be conducted throughout the project development process, from planning, to design, to construction; to solicit comments, opinions and concerns from local officials and the public. Upon completion of the public information meetings, should the majority of benefitted residents concur that noise walls are desired, the City of Wentzville will install the noise barriers that are feasible and reasonable adjacent to the Selected Alternative. The final recommendations will be made after the final design and public involvement processes are complete.

14. VISUAL QUALITY IMPACTS

All of the Reasonable Alternatives would have similar impacts regarding views *from* the road and views *of* the road. The most notable high quality views *from* the road would occur in the areas where the new roadway crosses the riparian corridor of Peruque Creek and tributaries of McCoy Creek where the elevated roadway would provide views of the streams and adjacent woodlands. High quality views from the road would also occur near upland wooded areas. However, when new development takes place in those areas, much of the woodland would likely be removed. The proposed project would have an overall moderate impact along the riparian corridors and wooded uplands. The visual "change" would be moderate since these areas have already been altered by fragmentation and clearing, and would continue to be altered as new development occurs. The sensitive visual receptors that are, and will be, concentrated in the existing and future residential developments will be subject to undesirable views of the road, since no road has previously existed there.

15. CONSTRUCTION IMPACTS

The City would coordinate with the public and with utility companies to address concerns during the final design and phasing of construction activities. The City's and MoDOT's standard specifications for street construction include, but are not limited to, air, noise, and water pollution

control measures, and traffic control and safety measures to minimize construction impacts. Pollution control measures, both temporary and permanent, would be enacted under the project construction specifications. If drilling and blasting are necessary for construction, a carefully planned and executed drilling and blasting program would be prepared to minimize vibration impacts. During construction of the project, construction methods and operations would be conducted in accordance with MDNR regulations. During all phases of construction, access will be maintained to residential housing and subdivisions in the study corridor.

E. Commitments

The following sections include a list of commitments and permits necessary for implementation of the Selected Alternative. Chapter IV provides more detail on these commitments for further reference.

1. PROPOSED PROJECT COMMITMENTS

The following is a summary of all project and regulatory commitments that will be implemented by the City of Wentzville. Federal authorization for construction will not be granted until the necessary regulatory obligations have been satisfactorily completed.

- The project will not be constructed until it is listed within the fiscally constrained element of the East-West Gateway Council of Government's long-range transportation plan for the St. Louis region, and the air quality conformity determination for the project has been updated.
- The City will acquire all properties needed for this project in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 as amended.
- The City will restore access to properties if impacted by the project.
- The City will construct a (minimum) 6-foot wide bicycle/pedestrian path adjacent to the roadway.
- The City will implement its Storm Water Management Plan (SWMP) and Best Management Practices (BMPs) to prevent or minimize adverse impacts to water quality.
- All construction activities will comply with the existing rules and regulations of governmental agencies having jurisdiction over streams and water supplies in the area.
- The City will complete updated wetland/waters of the U.S. field delineations and obtain jurisdictional determinations from the USACE prior to initiating final design.
- During the design phase, the Selected Alternative corridor will be evaluated for the presence of suitable roost trees for Indiana bats or northern long-eared bats. The City will coordinate with the USFWS and the MDC and only allow clearing of potentially suitable roost habitat outside the restriction dates specified by the USFWS and MDC.
- The extent of impacts to the two archaeological sites will be determined in the design phase. If impacted, further (Phase II) archaeological testing will be conducted to determine if they are eligible for the NRHP. If an archaeological site is determined eligible, appropriate procedures will be followed to comply with Section 106 of the National Historic Preservation Act of 1966.
- Any previously unknown hazardous waste sites that are found during project construction will be handled in accordance with federal and state laws and regulations.
- Painted structures to be removed shall be tested prior to demolition to determine proper disposal for the waste generated during the project.

- All structures that will be demolished will be inspected for asbestos. The City will ensure that these materials, depending on their condition and quantity, are removed and disposed of according to current regulations and procedures.
- If substantial changes in horizontal or vertical alignment occur during the stages of design and construction, noise abatement measures will be reviewed and a final Noise Report will be prepared, if needed. The final recommendations regarding noise abatement measures will be made after the final design and public involvement processes are complete. Upon completion of the public information meetings, should the majority of benefitted residents concur that noise walls are desired, the City will install the noise barriers that are feasible and reasonable adjacent to the project.
- A Traffic Management Plan (TMP) will be developed during project design and be included in the construction contract.
- Pollution control measures outlined in the Missouri Standard Specifications for Highway Construction will be used to minimize impacts associated with the construction of the project. Best management practices will be employed to minimize or mitigate potential impacts.
- Emissions from construction equipment will be controlled in accordance with emission standards prescribed under state and federal regulations.
- The City will send a news release out to local newspapers and radio stations giving local commuters information about construction activities that could impact their daily travels.
- It is expected that limited day- and/or night-time lane closures would be needed to make roadway tie-ins, but the City will require the contractor to utilize appropriate traffic control during these times and to keep back-ups to a minimum.
- Construction of bridge piers nearby the railroad will require flaggers for trains during construction operations. All flagging costs will be borne by the City.
- The City's utility engineers and representatives of the utilities will work out details of individual utility relocations on a case-by-case basis.
- The Contractor to the City will locate and protect all temporary storage facilities for petroleum products, other fuels, and chemicals to prevent accidental spills from entering the streams within the project vicinity. Petroleum products will be stored outside of the floodplain. The contractor will clean-up any such spills.
- The Contractor to the City will avoid disposing of construction-related materials into any location where water runoff has the potential to wash pollutants into streams or wetlands.
- The Contractor to the City will identify all borrow and waste sites prior to initiating construction, and obtain all necessary environmental clearances, approvals, and permits for use of all borrow and/or waste sites.

2. PERMITS REQUIRED FOR CONSTRUCTION

Preliminary findings indicate that the only potential jurisdictional "Waters of the U.S." impacted by the proposed project are the streams that would be crossed. Fill material placed below the OHWM of these streams may require a Section 404 permit from the USACE and Section 401 Water Quality Certification from MDNR. If the loss of surface area of water resources is less than ½ acre, a project may qualify for authorization through a Section 404 Nationwide Permit number 14, which authorizes discharges in "waters of the U.S." as a result of linear transportation projects.

The National Pollutant Discharge Elimination System (NPDES) permit (Section 402 of the federal Clean Water Act and the Missouri Clean Water Act), administered by MDNR, requires that slopes and ditches be properly designed to prohibit or reduce erosion.

Portions of the proposed project occur in areas that are designated by FEMA as Special Flood Hazard Areas (SFHA). Any development associated with this project that occurs within a SFHA must meet the requirements of the State of Missouri Executive Order 98-03. This will require a “No-Rise” certification for development in a regulatory floodway, and obtaining a floodplain development permit from SEMA prior to construction or development.

The MDNR also requires a Land Disturbance Permit for projects that disturb an area of one acre or more.

F. Public Involvement

The public involvement process began with the development of the City of Wentzville’s Comprehensive Plan, *A Community’s Vision*, in 1999 and continued through the subsequent studies, including the I-70/US 61 Beltway Corridor Preservation Study and I-70 Break-in-Access/Access Justification Request Study. The public engagement initiated in those previous studies has continued throughout the David Hoekel Parkway EA study process.

The public involvement program for the EA was structured to: 1) maximize effectiveness in communicating with the public, 2) make record of and respond to the key issues and concerns of the various members of the public and stakeholders involved, and 3) achieve awareness of and informed consent on the Preferred Alternative recommended for the project. A wide range of public engagement tools were used for the project including public meetings held at key milestones throughout the project, newsletters/project fact sheets describing the project and its process and project materials posted on the City’s web site.

1. PUBLIC MEETINGS

Three public meetings were held throughout the study process to provide the general public an opportunity to review and provide comments on the study. An initial public meeting was held on August 23, 2007 at the Wentzville Law Enforcement Center to introduce the project’s goals and purpose and need to the general public, as well as to explain how this project tied in with the previous studies that had been conducted for the David Hoekel Parkway. An open house format was used for the public meeting to allow attendees to review project information and ask questions of the study team representatives.

A second public meeting was then held on December 4, 2007, at the same location to share the project alternatives’ development and analysis process with the local community.

The public and agency review and comment period on the Draft EA document began on November 9, 2009 and ended on December 18, 2009. A third public meeting was held during this comment period to discuss the Draft EA and share the Identified Preferred Alternative for the project. The meeting was held on December 8, 2009 at Wentzville Law Enforcement Center. In general, the public comments on the project have been favorable, indicating approval for the project and the Selected Alternative. More detail on the public comments at meetings and through project contact resources can be found in Chapter V, Comments and Coordination.

2. PROJECT CONTACT RESOURCES

In order to provide the general public resources to contact the David Hoekel Parkway study team, a project post office box, telephone hotline and email address were developed. The project contact information for these resources is included below:

David Hoekel Parkway Team
P.O. Box 447
Wentzville, MO 63385-0447
(866) 461-0062
DHParkwayEA@hntb.com

Project information is also posted as part of the City of Wentzville's official web site on <http://www.wentzvillemo.org/preservation-projects.aspx>. Postings included copies of newsletters and public meeting exhibits and the final public meeting transcript, which included relevant project information. A copy of the Draft EA was also posted to the website for public review and comment after FHWA approval of the Draft EA.

G. Agency Coordination

Resource agency coordination has been ongoing throughout the development of the David Hoekel Parkway EA. A Resource Management Group (RMG) was formed for the project and agency coordination meetings to identify issues and concerns affecting the definition and evaluation of the alternative improvements occurred throughout the study.

On August 23, 2007, an environmental scoping meeting with various agencies and interested groups was held at the Wentzville Law Enforcement Center in Wentzville, Missouri. A second RMG meeting was then held on December 4, 2007, for the EA at the same location. The meeting focused on the alternatives development and screening process for the study. The resource agency's involvement for the meeting provided input on the study alternatives and screening matrix criterion that fell under their area of particular expertise. More detail on these meetings and agency comments on the study can be found in Chapter V, Comments and Coordination.

The FHWA sent correspondence to the following tribes in order to advise them of the proposed roadway and the preparation of the EA, and invite them as consulting parties: Otoe-Missouria Tribe of Indians, Oklahoma; Sac & Fox Nation, Oklahoma; Sac & Fox Nation of Missouri in Kansas and Nebraska; Omaha Tribe of Nebraska; Iowa Tribe of Oklahoma; Osage Tribe, Oklahoma; Iowa Tribe of Kansas and Nebraska; Kaw Tribe of Oklahoma; and Sac & Fox Tribe of the Mississippi in Iowa. Only the Osage Tribe and the Kaw Tribe returned letters indicating their acceptance of the invitation to be a consulting party.

The FHWA extended a special invitation to the USACE to serve as a cooperating agency for the project, which the USACE accepted.

H. Public and Agency Review

1. PUBLIC REVIEW

The official comment period for public and agency review of the Draft EA commenced on November 9, 2009 and ended on December 18, 2009. A legal notice was placed in *The Wentzville Journal* on November 11, 2009 and the document was made available for public inspection and copying at the City of Wentzville Public Works Department, Wentzville City Hall,

and Corporate Parkway Library. In addition, the Draft EA was also made available online at: <http://www.wentzvillemo.org/preservation-projects.aspx>.

As described in Section F, the City of Wentzville conducted an open-house public meeting for the David Hoekel Parkway Draft EA on December 8, 2009 from 4:00 p.m. to 7:00 p.m. at the Wentzville Law Enforcement Center. The purpose of the meeting was to provide the public an opportunity to review and comment on the approved Draft EA and the Identified Preferred Alternative. Sixty people attended the meeting and comment forms were available for those that wanted to leave comments on the project.

Generally, those who attended the meeting were happy with the Identified Preferred Alternative alignment and want to see the project move forward to the design and construction phase. Six written comments were received the night of the public meeting, all of which were requests for pages from the Draft EA document. The requested pages were sent to those individuals. One additional person mailed in their comments to the project mailing address. This comment dealt with concern over additional flooding within the project area.

A public meeting transcript was also developed for the Draft EA final public meeting. The public meeting transcript is summarized in Chapter V, Comments and Coordination, and can be reviewed on the City of Wentzville's website at <http://www.wentzvillemo.org/preservation-projects.aspx>.

2. AGENCY REVIEW

Two agencies provided comment letters during the public and agency review period: the Missouri Federal Assistance Clearinghouse and the Missouri Department of Natural Resources. Neither of the agencies provided substantive comments that would alter the recommendation of Alternative 2 as the Selected Alternative for the project. The two agency letters, a summary of public and agency Draft EA review comments and study team responses to the comments can be found in Chapter V, Comments and Coordination. The two agency comment letters can also be found in Appendix I.

Evaluation Factors	Units	No-Build	Build Alternatives		
			Alternative 1	Alternative 2	Alternative 3
Engineering Issues					
Compliance with Purpose & Need	Yes/No	No	Yes	Yes	Yes
Project Length	Miles	N/A	6.93	6.30	6.82
Project Construction Costs (2013 Dollars)					
Roadway Construction (+ Interchanges I-70 and US 61)	\$ Millions	\$0.0	\$61.0	\$48.6	\$60.8
Bridge/Structures	\$ Millions	\$0.0	\$4.1	\$6.1	\$7.6
Right-of-Way Acquisition	\$ Millions	\$0.0	\$11.9	\$7.0	\$8.7
Miscellaneous Costs	\$ Millions	\$0.0	\$7.2	\$5.5	\$7.6
Total Project Cost Estimate (+ 20% Contingency)	\$ Millions	\$0.0	\$97.2	\$78.1	\$98.4
Constructability Issues					
Difficulty of Construction	Rating	1	4	3	4
Traffic Accommodation During Construction	Rating	1	4	2	2
Access Impacts to Adjacent Properties	Rating	1	4	2	3
Impacts to Existing Utilities	Rating	1	4	3	3
Environmental Issues					
Prime Farmland Impacts	Acres	0	9.4	9.9	15.3
Stream Impacts	Linear Feet	0	2,572	2,043	3,691
Stream Crossings	No.	0	9	11	15
Wetland Impacts (NWI-Mapped)	Acres	0	0.4	0.6	0.6
Pond Impacts (jurisdictional only)	Acres	0	2.22	0	0
Floodplain Impacts	Acres	0	18.6	11.0	30.5
Forest Impacts (wooded remnants)	Acres	0	37.7	40.3	41.9
High Quality Natural Community Impacts	Acres	0	0	0	0
Threatened & Endangered Species Critical Habitat	No. Species	0	0	0	0
Cultural Resources (Adverse Effect)					
NRHP Listed Architectural Resources	No.	0	0	0	0
NRHP Listed Archeological Sites	No.	0	0	0	0
NRHP Eligible Architectural Resources	No.	0	0	0	0
NRHP Eligible Archeological Sites	No.	0	0	0	0
Hazardous Material Sites (Med. or High Contamination)	No.	0	0	0	0
Social and Economic Issues					
Right of Way Acquisition Impacts					
Single-Family Residential (Total Impacts)	No.	0	18	3	4
Single-Family Residential (Partial Impacts)	No.	0	30	13	16
Multi-Family Residential (Apts.) (Total Impacts)	No. Units	0	0	0	0
Multi-Family Residential (Apts.) (Partial Impacts)	No.	0	1	1	0
Businesses (Total Impacts)	No.	0	2	0	0
Businesses (Partial Impacts)	No.	0	3	1	1
Public/Community Facilities (Total Impacts) *	No.	0	0	0	0
Public/Community Facilities (Partial Impacts) *	No.	0	4	3	0
Parkland Impacts - Section 4(f)/6(f)	Acres	0	0.2	0	0
Minority or Low-Income Community Impacts	Rating	1	1	1	1
Neighborhood/Community Cohesion	Rating	1	3	2	2
Consistency with Community/Land Use Plans	Rating	5	3	1	3

NOTE: Impacts are based on a 200-foot wide corridor for each alternative, and impacts could be minimized as the alternative moves forward into design.

The 200-foot corridor includes roadway travel lanes, sidewalks on each side, and temporary construction easements on each side.

* Includes churches, cemeteries, schools and other public/semi-public properties. Parkland impacts are given separately.

Selected Alternative

Rating Scale: 1 Low Impact 2 Low/Moderate Impact 3 Moderate Impact 4 Moderate/High Impact 5 High Impact



David Hoekel Parkway EA
Reasonable Alternatives
Screening Matrix
Exhibit ES-1



CHAPTER I

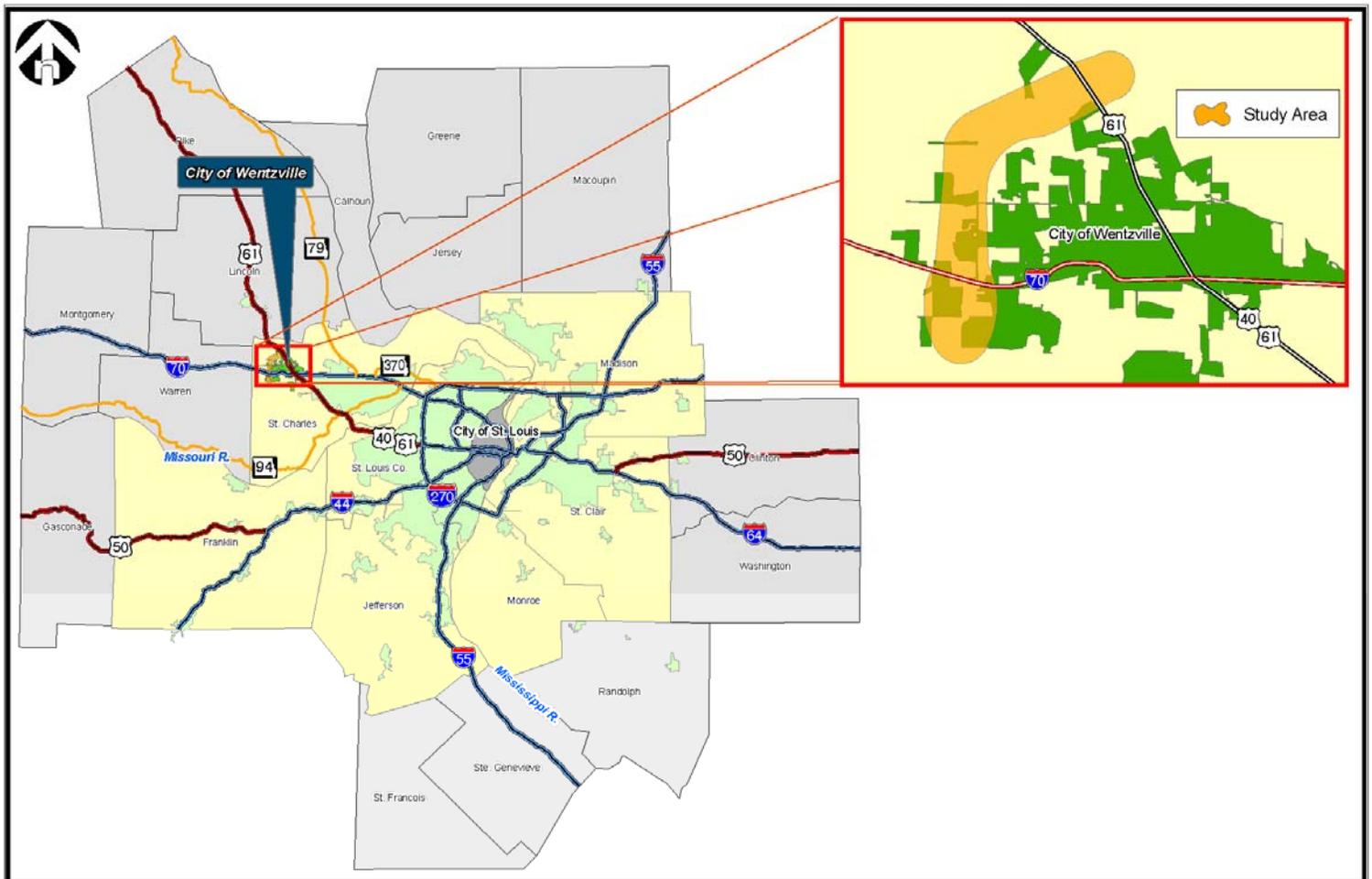
Purpose and Need for Action

A. Project Overview and Background

This chapter of the Environmental Assessment (EA) document provides a description of the purpose and need for the proposed David Hoekel Parkway project and the transportation-related issues addressed by the project.

The City of Wentzville, Missouri, in coordination with the Missouri Department of Transportation (MoDOT), and the Federal Highway Administration (FHWA), proposes to construct a new roadway connecting I-70 and US 61 in St. Charles County. The City has designated this project as the David Hoekel Parkway. As proposed by the City's Comprehensive Plan, the project would function as a four-lane divided arterial roadway with controlled access. This EA complies with the National Environmental Policy Act (NEPA) and evaluates viable alternatives developed to satisfy the purpose and need of the proposed project. The study area for the project is located within St. Charles County on the northwestern corner of the greater St. Louis metropolitan area, as shown in Figure I-1.

Figure I-1: Project Location Map



1. PROJECT LIMITS AND TERMINI

The proposed David Hoekel Parkway project would provide a new four-lane divided roadway with controlled access on the western half of the City of Wentzville between I-70 and US 61. With an anticipated posted speed of 45 mph and 2040 ADTs in the range of 16,000 – 25,000 vehicles per day, the project would be designed to move higher volumes of traffic through the city, as well as to provide connectivity to the local and regional roadway network. At the same time, its design would include aesthetic considerations such as sidewalks, bicycle and pedestrian paths or lanes and landscaping to fit with the character of the study area. The study corridor is approximately 6.9 miles in length. About one mile of the study corridor to the east of US 61 is located within the city limits of Flint Hill, Missouri. The project limits are shown on the study area map in Figure I-2.

The logical termini for the project are shown to encompass the intersection just south of I-70 at Jackson Road/S. Point Prairie Road and the proposed tie-in just east of US 61 at Route P, in order to provide local access and connectivity within Wentzville and Flint Hill.

Figure I-2: Study Area Map



As part of the project, a new interchange connection would be located at I-70 and the proposed David Hoekel Parkway study corridor. This new interchange would be located halfway between the Route W/T interchange and the Wentzville Parkway interchange, maintaining over two miles spacing between each interchange. A new interchange connection would also be located at US 61 and the study corridor for the project near the existing at-grade crossings with Peine Road and Route P. Other access points along the study corridor would be provided at key roadways at-grade through signalized or stop-controlled intersections.

2. PROJECT BACKGROUND

The proposed roadway location for the David Hoekel Parkway was first conceived within several previous plans and studies conducted by the City of Wentzville. Each of these studies included public involvement activities to get public input on the proposed project. The City first identified the need for a new roadway corridor for the western portion of the City in the City's Comprehensive Plan in 1999. In 2001 the City studied this potential new corridor further by conducting the I-70/US 61 Beltway Corridor Preservation Study. The study area for the Corridor Preservation Study primarily focused on connections between I-70 and US 61 within the western portion of the City of Wentzville. The study included recommendations for an Identified Preferred Alternative and defined the footprint for the corridor, allowing the City to coordinate with proposed and planned development to preserve right-of-way for a future roadway.

Following the outcomes of the Corridor Preservation Study, the City prepared an I-70 Break-in-Access (BIA) Study, also referred to as an Access Justification Request (AJR), for the proposed project's connection with I-70. This study analyzed the effect of adding a new interchange to the I-70 corridor within Wentzville. The City completed the initial BIA/AJR study in November 2004 with a recommendation to construct a new interchange connection at the proposed location. In 2006, based on feedback received from MoDOT, the City developed a VISSIM traffic supplement to the original 2004 BIA/AJR to provide more detailed traffic simulation analysis for the project, and specifically for the weigh station located within the study limits. In 2006, MoDOT reviewed the revised BIA/AJR and traffic supplement and provided a letter of conditional approval of the new I-70 interchange access to the City of Wentzville. At that time, the FHWA reviewed the BIA/AJR and its traffic supplement, but a decision was made that no approvals of the BIA/AJR could be granted prior to completion of the NEPA process. Subsequent to this decision, the City of Wentzville, in coordination with MoDOT and FHWA, initiated the David Hoekel Parkway EA.

This EA represents the next step in the project development process. The EA document builds upon the analysis and stakeholder coordination that was initiated within the previous studies. The City of Wentzville is participating in the environmental documentation for the EA with the Missouri Department of Transportation (MoDOT) and the Federal Highway Administration (FHWA). Although the ground work has been done by the City of Wentzville in previous studies to preserve a corridor, this EA document will evaluate the need for, location, and roadway configuration to determine the least environmentally damaging alternative and whether it is appropriate for federal funding.

In parallel with the EA, the BIA/AJR has been updated in 2014 to be consistent with the Selected Alternative for the EA and meet the most recent federal requirements of the AJR process. The revised BIA/AJR received conceptual approval from the FHWA on April 2, 2014 and the final approval will be concurrent with the completion of this National Environmental Policy Act (NEPA) process for the David Hoekel Parkway project and its Finding of No Significant Impact (FONSI).

B. Purpose and Need

The purpose of the David Hoekel Parkway is to provide the community with a safe and efficient roadway that is both cost-effective and environmentally sound. The new connection will:

- **Improve access and connectivity** between I-70 and US 61 in western Wentzville and the St. Louis region within St. Charles County,
- **Reduce congestion** and improve the travel capacity in the study area to meet future travel demands,
- **Improve traffic safety** to help address high crash locations within the study area.
- **Support local and regional growth** while addressing anticipated increases in local and regional travel demand and travel times that will accompany population and housing growth,
- **Support sustainable development** by providing and coordinating transportation connections with planned and proposed development, and
- **Promote a multimodal transportation system** by ensuring the project accommodates the needs of other transportation modes.

The goals identified for the project are consistent with the goals for the St. Louis region outlined within the East West Gateway Council of Government's (EWGCOG) Regional Transportation Plan 2040.

1. IMPROVE ACCESS AND CONNECTIVITY

As envisioned by the City of Wentzville in their Comprehensive Plan, the David Hoekel Parkway would serve as an outer loop around the current and future city limits of Wentzville connecting I-70 to US 61. Once open to the public, it would serve the local traffic accessing the northwest land uses of Wentzville, but it would also carry a regional significance by providing new access between I-70 and US 61. In this manner, regional traffic has more access options throughout the region and system redundancy for incident management.

The project would also provide a new system linkage between residential housing in the Wentzville area of St. Charles County, and jobs and activity centers in the St. Louis region and central business district (CBD). An additional access option would help address anticipated increases in system congestion and commute times to and from Wentzville. Traffic is projected to grow by approximately 1.8 percent per year through 2040 on I-70, and three percent per year on US 61 within the study area through 2030, and then transition to more modest growth of 0.5 percent per year between 2030 and 2040.

In addition, the population of Wentzville has more than quadrupled between the U.S. Census 2000 and 2010, from a population of nearly 7,000 to approximately 29,000 people, making Wentzville one of the fastest growing cities in Missouri. In Section B.2, Reduce Congestion, the effects of these growth projections and projected traffic trends on the existing roadway network and commuting times are described.

Additionally, limited availability and affordability of housing options near major employment centers and major activity centers have led to the growth and expansion of the metropolitan area outside the St. Louis inner core, including growth within St. Charles County and the local Wentzville area. According to American Community Survey estimates for 2006-2010, about 71,000 St. Charles County resident workers commuted to St. Louis County for work. In St. Charles County, about 21 percent of workers traveled between 30 and 40 minutes to work,

compared to about 16 percent of workers statewide. As a result, there is a need to provide safe and efficient access to-and-from a number of major employment and activity centers to housing located within the Wentzville area of St. Charles County.

Major employment centers within St. Charles County are located along the US 40/I-64, I-70 and Route 94 corridors. The US 40/I-64 corridor consists mainly of high technical/technological businesses, as well as the GM plant located within Wentzville at the US 40/I-64/I-70 interchange. The I-70 corridor is mainly comprised of industrial employment centers on the north side of I-70, especially along the Route 370, Route 79 and Route A/Wentzville Parkway corridors. The south side of the I-70 corridor and the Route 94 corridor has heavy commercial and retail centers. Moving beyond St. Charles County to St. Louis County and the urban core of St. Louis, the major employment centers continue along the I-70 and US 40/I-64 corridors, as well as around the I-270 and I-44 corridors. Major employment centers for the region include the Earth City area and Boeing area located in close proximity to the I-70/I-270 connection; the Westport area located just south of this connection along I-270; and the Chrysler/Maritz/Fenton area located northwest of the I-270/I-44 connection. Other commercial and business employment centers include the Clayton and St. Louis CBD.

2. REDUCE CONGESTION

It is an important goal of the proposed project to help alleviate anticipated congestion levels in the Wentzville area and provide a more efficient transportation network for the City of Wentzville and the surrounding region. Today, there are a limited number of transportation corridors that provide traveler mobility through Wentzville. As discussed above, Wentzville is one of the fastest growing cities in Missouri and the expectation is that existing corridors will be at or over capacity by the year 2040, which is the design year for this project.

Currently I-70 has four interchanges in the Wentzville area including Route A, US 61, Route Z, and Wentzville Parkway, as well as the Route W/T interchange in Foristell. I-70 is currently four lanes west of US 61; however I-70 is planned to be widened through the study area to six lanes as part of MoDOT's I-70 First and Second Tier Environmental Impact Statement (EIS), as well as within EWGCOG's *Regional Transportation Plan 2040*.

The conclusions from the I-70 Second Tier EIS were reevaluated within a Supplemental EIS between 2007-2009. The I-70 Supplemental EIS (Record of Decision in August 2009) was conducted by MoDOT to consider the potential of constructing truck-only lanes on I-70 between Kansas City and St. Louis to separate heavy trucks from passenger vehicles. This could result in the existing I-70 corridor through Wentzville being widened in the future to four lanes each direction – two lanes for trucks and two lanes for passenger vehicles each direction. Due to funding constraints, MoDOT is currently evaluating if the I-70 corridor would ultimately be widened with dedicated truck lanes or a general-capacity 6-lane widening improvement. Traffic analysis conducted in this EA assumes that I-70 will be widened to six lanes by 2040, which is consistent with the EWGCOG's *RTP 2040* fiscally constrained project list for the region, as well as the decisions made by FHWA and MoDOT within the I-70/David Hoekel Parkway AJR for the 2040 No-Build Alternative. However, a wide enough potential impact area was evaluated within the impact analysis in the EA in case a decision is made at a future time by MoDOT to move forward with the truck-only lanes concept rather than the six lane widening concept for I-70.

US 61, north of I-70, is a partially controlled four-lane expressway with some at-grade access. South of I-70, US 61 shares its alignment with I-64/US 40. Two interchanges are located along US 61 within the study area at I-70 and Route A/Wentzville Parkway. The US 61 corridor within Wentzville is not being considered for future widening by MoDOT at this time. However, within its long-term planning for the corridor, MoDOT is planning to convert some existing at-grade crossings along the corridor to grade-separated interchanges, J-turns or other geometric

improvements to address operational and safety concerns. The US 61/David Hoekel Parkway/Route P crossing location is one of the locations where MoDOT has committed to construct a grade-separated interchange as part of a cost share agreement between MoDOT, St. Charles County and the City of Wentzville.

The mainline and interchanges along I-70 within St. Charles County, especially the I-70/Wentzville Parkway interchange, are experiencing increased traffic growth and travel demand and are projected to be congested (e.g., interchange movements with level of service E or F operating conditions during the A.M. or P.M. peak hour) by year 2020 if no other improvements are made. In addition, the US 61 corridor within the Wentzville area is beginning to experience system congestion for traffic flow in and out of Wentzville due in part to the at-grade crossings located along the corridor. The existing at-grade crossings on US 61 at both Peine Road and Route P are operating at congested (level of service F) conditions today and will continue to worsen through 2040 if no improvements are made. By 2040, the US 61 corridor is projected to be operating near or at capacity on most segments and experiencing delays during the peak periods of the day.

The existing 2012 two-way average daily traffic (ADT) volumes (MoDOT, 2012) and forecasted volumes for 2040 at key locations along I-70 and US 61 within the general limits of the David Hoekel Parkway study area are shown in Table I-1. The study team prepared the 2040 travel demand forecasts for I-70 and US 61, in coordination with the EWGCOG's regional travel demand model, MoDOT's traffic projections from the I-70 Second Tier and Supplemental EIS and the I-70/David Hoekel Parkway AJR Study. Traffic projections were found to compare favorably among these data sources for the projections.

It can be seen in Table I-1 that traffic on I-70 is anticipated to grow by over 60 percent at the proposed I-70/David Hoekel Parkway interchange location through year 2040. US 61 traffic is anticipated to grow by roughly 30% between Route A and Route P (US 61/David Hoekel Parkway interchange location) through 2040. With the anticipated traffic growth rates intensifying existing traffic conditions, increased travel demand is expected through the year 2040 on these connecting corridors to the proposed project.

Table I-1: Existing (2012) and Forecasted (2040) Daily Two-Way Traffic Demand

Location	2012 ADT	Projected 2040 No Build ADT
I-70 Corridor		
I-70 west of Route W/T	46,757	82,778
I-70 between Route W/T and Wentzville Pkwy.	51,588	84,666
I-70 between Wentzville Parkway and Route Z	72,154	100,829
I-70 between Route Z and Route 61	83,439	112,025
I-70 east of Route 61	74,679	110,722
US 61 Corridor		
US 61 between Route P and Route A	47,444	60,966
US 61 between Route A and I-70	48,844	69,585
US 61 south of I-70	46,451	73,790

Source: Existing 2012 ADT volumes provided by MoDOT.

Projected 2040 ADT volumes were developed by the study team using the East-West Gateway Council of Governments' travel demand model, the I-70/David Hoekel Parkway AJR Study, and the I-70 Second Tier and Supplemental EIS.

Traffic volumes are projected to grow by approximately 1.8 percent per year through 2040 on I-70, and 3.0 percent per year on US 61 within the study area through 2030, and then transition to more modest growth of 0.5 percent per year between 2030 and 2040.

The study team completed a Level of Service (LOS) analysis of roadway capacity and operations along the I-70 and US 61 corridors and at interchange ramps to assess existing and future projected levels of congestion. Traffic planners and engineers use LOS as a qualitative measure to characterize operational conditions and traveler perception of ease of travel. Traffic conditions are graded on a scale of LOS A through F. LOS A is the most favorable driving condition, LOS D or E is considered acceptable by MoDOT during peak travel times in urban settings, and LOS F represents a failure of traffic operations. Table I-2 provides a description of LOS characteristics.

Table I-2: Level of Service Characteristics for Freeways

Level of Service	Characteristics	Level of Service	Characteristics
 A	Free flow; low volumes and high speeds; most drivers can select own speed	 D	Approaching unstable flow; lower speeds
 B	Stable flow; speeds somewhat restricted by traffic; service volume used for design of rural highways	 E	Unstable flow; low, varied speeds; volumes at or near capacity
 C	Stable flow; speed controlled by traffic; service volume used for design of urban highways	 F	Forced flow; low speeds to stoppages; volume exceeds capacity

Source: *Highway Capacity Manual 2000*, Transportation Research Board.

Table I-3 shows the I-70 mainline and interchange ramp locations and their associated levels of service in the existing year 2012 and the forecasted year 2040. The analysis reflects what is considered a No-Build condition for the study area, meaning it looks at what future traffic operational conditions are projected to be in the study area if the proposed project was not built. The LOS analysis looked at a future No-Build scenario where only committed (funded) projects are constructed by 2040. For the No-Build condition, the I-70 corridor was assumed to be widened to six lanes and the I-70 truck weigh station was assumed to remain open between Foristell and Wentzville, as shown in the EWGCOG’s 2040 RTP.

It can be seen in Table I-3 that the I-70 corridor through the study area operates in good to fair levels of service today and through the design year 2040 during the peak periods if the I-70 corridor is widened to six lanes by 2040. However, if I-70 is not widened, there are projected to be traffic operational problems at the Wentzville Parkway interchange and along the I-70 corridor prior to 2040, which could impact regional and local traffic movements in the City of Wentzville. Increased commercial and business development at the Wentzville Parkway interchange and significant population growth within the City of Wentzville continues to place a greater traffic burden on the Wentzville Parkway interchange, irrespective of the I-70 corridor.

**Table I-3: I-70 Mainline and Interchange Ramp Level of Service
(Existing 2012 and Projected 2040)**

I-70 Location	Existing (2012)	No-Build (2040) 6-Lane I-70
	AM/PM	AM/PM
Eastbound		
EB W/T off-ramp	A / B	C / C
EB W/T off-ramp to W/T on-ramp	A / B	C / C
EB W/T on-ramp to weigh station off-ramp	A / A	B / B
EB Weigh station off-ramp to weigh station on-ramp	A / A	C / C
EB Weigh station on-ramp	A / A	B / B
EB Weigh station on-ramp to Wentzville Parkway off-ramp	B / B	C / C
EB Wentzville Pkwy off-ramp	A / B	C / B
EB Wentzville Pkwy off-ramp to Wentzville Pkwy on-ramp	A / A	C / B
EB Wentzville Pkwy on-ramp	B / B	E / D
Westbound		
WB Wentzville Pkwy off-ramp	B / D	C / F
WB Wentzville Pkwy off-ramp to Wentzville Pkwy on-ramp	A / B	B / C
WB Wentzville Pkwy on-ramp	A / B	B / B
WB Wentzville Pkwy on-ramp to Weigh Station off-ramp	A / B	C / C
WB Weigh station off-ramp	A / B	B / C
WB Weigh station off-ramp to weigh station on-ramp	A / B	B / B
WB Weigh station on-ramp	A / A	B / B
WB Weigh station on-ramp to W/T off-ramp	A / B	B / B
WB W/T off-ramp	A / B	B / B
WB W/T off-ramp to W/T on-ramp	A / B	C / B
WB W/T on-ramp	A / B	B / B

Source: Study team VISSIM analyses for I-70AJR and EA.



Indicates at capacity during the peak times of the day.



Indicates failing during the peak time of the day.

The I-70/Wentzville Parkway interchange is heavily used today by travelers due to its central location in the City of Wentzville and due to new commercial and retail development near the interchange. The study team expects conditions at the freeway, ramps, and intersections at this interchange to worsen drastically by year 2040. By 2040, the Wentzville Parkway interchange is projected to be operating at capacity (LOS E) for the eastbound on-ramp in the morning and over capacity (LOS F) for the westbound off-ramp in the afternoon. Improvements such as additional turn lanes were considered at the Wentzville Parkway and Route W/T interchanges. While the congestion at Route W/T may be mitigated with the additional local improvements, the congestion at the Wentzville Parkway cannot be reasonably reduced to meet the purpose and need and improve area operational conditions during the peak hours. The westbound ramp and ramp terminal at the I-70/Wentzville Parkway interchange are unable to accommodate the traffic demand, resulting in congestion on I-70. Even with three right turn lanes, two left turn lanes,

and a two-lane exit, the off-ramp still backs up onto the I-70 mainline in the PM peak and results in queues for more than one mile (approximately 5,800 feet). It is anticipated that this congestion would persist for approximately three hours during the daily PM peak period.

Table I-4 shows the level of service results for the US 61 corridor in the existing year 2012 and the forecasted year 2040. Existing 2012 design hour data was provided by MoDOT for calculating the design hour LOS. Design hour is the peak hour on an average day in the peak direction of traffic flow. Roadways and traffic controls should be designed to adequately serve the design hour traffic volume where practicable.

**Table I-4: US 61 Mainline Level of Service
(Existing 2012 and Projected 2040)**

US 61 Location	Existing (2012)	No-Build 4-Lane US 61 (2040)
	Design Hour	Design Hour
US 61 Mainline		
NB US 61 between Route P and Route A	C	D
SB US 61 between Route P and Route A	C	D
NB US 61 between Route A and I-70	C	E
SB US 61 between Route A and I-70	C	E
NB US 61 south of I-70	C	E
SB US 61 south of I-70	C	E

Source: Study team analyses for US 61 mainline; data provided by MoDOT and the East-West Gateway travel demand model.

 Indicates at capacity during the peak times of the day.

It can be seen that the US 61 Corridor operates with acceptable levels of service on the mainline for existing conditions, but is approaching (LOS D) or at-capacity (LOS E) by year 2040.

3. IMPROVE TRAFFIC SAFETY

Crash statistics for I-70 and US 61 within the study area were reviewed over the latest available five-year period from 2007 to 2011. Crash information for this analysis was obtained through MoDOT’s traffic management database and reports. Please review the traffic accident and safety data disclaimer in the Appendix K. Table I-5 shows the number of crashes on the I-70 and US 61 corridors by crash type. MoDOT categorizes their crash information by property damage only, injury and fatal crash types. Ten fatal crashes occurred in the study area over the five-year period. The greatest number of crashes occurred on I-70 between the Route W/T and Wentzville Parkway interchanges, but it should be noted that this is also the longest segment evaluated within the analysis. According to MoDOT’s crash statistics, out of control, rear end, and passing were the most frequent types of crashes on I-70 and on US 61.

The US 61 Corridor also experienced 17 crashes related to turning movements and speed differentials at the at-grade crossings of Route P and Peine Road. Of these crashes, nine resulted in injuries, including one fatal crash. This indicates that the at-grade crossings on US 61 at Route P and Peine Road are safety issues for the study area that could be improved by a grade-separated interchange at US 61 and the proposed project. While crashes could still occur at interchange ramps, the severity of those crashes would likely be lessened due to the interchange because it will eliminate the at-grade crossings that exist today. The at-grade

crossings result in speed differentials between crossing vehicles and vehicles going through at speeds of 60 to 70 miles per hour on US 61. Additionally, due to the traffic volumes on US 61, especially during the a.m. and p.m. peak periods of the day, there are insufficient gaps for safe crossing of US 61.

**Table I-5: Existing Total Number of Crashes
(Years 2007-2011)**

Mainline Section	Property Damage	Injury	Fatal	Total
I-70 Corridor	EB / WB	EB / WB	EB / WB	EB / WB
I-70 Between Route W/T and Wentzville Parkway	136/172	32/28	2/3	170/203
I-70 Between Wentzville Parkway and Route Z	54/69	18/11	0/1	72/81
I-70 Between Route Z and US 61	73/34	15/14	2/1	90/49
US 61 Corridor	NB / SB	NB / SB	NB / SB	NB / SB
US 61 Between Route P and Route A	33/26	9/7	1/0	43/33
US 61 Between Route A and I-70	25/44	9/16	0/0	34/60
Total	666	159	10	835

Source: MoDOT crash data for 2007 to 2011

A review of historical crash information from the I-70 EA and AJR studies was also conducted to see what the trend in crashes has been for the study area along I-70. Table I-6 shows that the total number of crashes, including fatalities, increased during the mid-2000s in comparison with the previous five-year period. From 2007 to 2011, the total number of crashes decreased, but the number of fatal crashes tripled from the previous five-year period.

**Table I-6: Historical Crashes on I-70
(Years 1999-2011)**

Years	Property Damage	Injury	Fatal	Total
1999-2003	642	172	1	815
2003-2007	707	151	3	861
2007-2011	538	118	9	665

Based on the crash data presented in Table I-5, crash rates were calculated as shown in Table I-7. The five-year statewide average crash rate on similar urban interstate facilities is 121.87 for interstates and 147.86 for US highways, per hundred million vehicle miles traveled (MoDOT 2012). Crash rates are above the five-year statewide average rate for half of the sections along the I-70 mainline, particularly for the section between Wentzville Parkway and Route Z, which includes the heavily-utilized east-facing Wentzville Parkway ramps.

The US 61 corridor is below the statewide average rate; however, as stated above, a high percentage of the crashes are injury or fatal severity crashes due in large part to the conflicts with the existing at-grade crossings of US 61. In addition, MoDOT has established a *travel safe zone* along a five-mile section of US 61 between Route A and Dietrich Road near the Lincoln County line to promote greater awareness among travelers of the corridor's expressway configuration and fluctuating travel speeds due to the entering and exiting of vehicles at the at-grade crossings. This has helped improve the safety awareness of the US 61 corridor since the zone was established.

If the existing conditions are perpetuated, maintaining the existing transportation system would expose motorists to the same crash risk or rate that currently exists. The maintenance of the existing freeway “as is” is called the No-Build Alternative. Because the No-Build Alternative would keep the facility as is, no substantial improvements to safety would occur to reduce the crash rates. Because the rate at which the crashes occur remains the same as existing, but the amount of traffic using the facility increases, the total amount of crashes would be expected to increase over time for the No-Build Alternative.

**Table I-7: Crash Rates for I-70 / US 61 Mainlines
Existing Average Annual Rate of Crashes
(2007 – 2011)**

Mainline Section	Crash Rate (HMVMT)	Crash Rate (HMVMT)	Compared to Statewide Average Rate	Compared to Statewide Average Rate
I-70 Corridor	EB	WB	EB	WB
I-70 Between Route W/T and Wentzville Parkway	94	112	0.8	0.9
I-70 Between Wentzville Parkway and Route Z	160	175	1.3	1.4
I-70 Between Route Z and US 61	204	114	1.7	0.9
Total I-70	123	123	1.0	1.0
US 61 Corridor	NB	SB	NB	SB
US 61 Between Route P and Route A	60	46	0.4	0.3
US 61 Between Route A and I-70	79	132	0.5	0.9
Total US 61	67	79	0.5	0.5

Statewide Average equals 121.87 for interstates and 147.86 for US highways in urbanized areas. Number of crashes per hundred million vehicle miles traveled (HMVMT).
Source: MoDOT, 2012.

4. SUPPORT LOCAL AND REGIONAL GROWTH

Planners expect the recent trend of aggressive population, housing and traffic volume growth to continue within the study area. St. Charles County is one of the fastest growing counties in the St. Louis metropolitan area, as well as in the state of Missouri with an average of 2.7 percent annual growth between 2000 and 2010 – almost four times the annual state percent increase. At the same time, the City of Wentzville has experienced significant growth, growing from a city of approximately 7,000 to over 29,000 between 2000 and 2010 (over 320 percent growth). Population and housing projections show that this trend will continue as the metropolitan area continues to expand outward and the housing demand continues to be strong. There is a need from both a local and regional standpoint to plan for the increased travel demand and travel times that will accompany this population and housing growth and provide new transportation options to accommodate this growth.

5. SUPPORT SUSTAINABLE DEVELOPMENT

The Selected Alternative being considered in this EA document is building upon local planning efforts identified in the comprehensive plans of the City of Wentzville and the City of Flint Hill. Within their plan, Wentzville has developed a Thoroughfare Plan and Transportation Master Plan which identifies their ultimate roadway network. The City of Flint Hill has also developed a Transportation Plan in conjunction with their comprehensive plan. The Selected Alternative under consideration in this EA is considered to be the most vital element of these plans.

Residential and commercial development is planned within the majority of the study area. The northwest region is primarily planned for residential while the City plans for commercial uses on the north and south sides of I-70 within the southern portion of the study area and on each side of Meyer Road. Commercial use is also planned adjacent to the proposed US 61 interchange and on the east side of US 61, in the northeast portion of the study area (See Exhibits III-2 and III-3 in Chapter III). These plans and new land uses transform the predominately agricultural landscape and will require transportation access. It is important that the Selected Alternative be coordinated with the land use plans identified for the area and be developed in a way that supports managed and sustainable development for the area.

The City's proposed project has been coordinated with land developers in the Wentzville area since the identification of the potential project in the I-70/US 61 Beltway Corridor Preservation Study. Land developers, especially new residential subdivisions, have coordinated with the City's proposed plans for a future roadway between I-70 and US 61 within the study area to enable it to serve the planned development. The proposed project is needed in the western portion of the City of Wentzville to support the ongoing and planned development.

St. Charles County has coordinated with the City of Wentzville regarding the City's transportation and land use needs. The County's Master Plan contains the proposed roadway and acknowledges the population boom and land use changes Wentzville is projecting to undergo over the next ten to twenty years.

6. PROMOTE A MULTIMODAL TRANSPORTATION SYSTEM

The I-70 and US 61 corridors have statewide and national significance. This is a key reason why the City of Wentzville has adopted as their motto, *Crossroads of the Nation*. These facilities currently carry heavy truck traffic, with roughly 20 percent of I-70 traffic and 15 percent of US 61 traffic made up of heavy trucks on an average day in the study area. The David Hoekel Parkway is being considered in an area planned primarily for residential, with some commercial development, and has not been envisioned as a new freeway connection. Truck traffic on the proposed project is projected to be approximately five percent or less of the vehicle mix. While it is not the principal purpose of the proposed David Hoekel Parkway to carry truck traffic, it is important to ensure that any proposed new corridor would be designed and constructed to accommodate trucking and freight traffic through the area if needed to provide for incident management between I-70 and US 61.

At the same time, a new roadway connection would need to coordinate with planned and proposed transit and bicycle and pedestrian lanes/paths in the study area. Metro owns and operates the St. Louis region's public transportation system. The Metro System includes MetroLink, the region's light rail system; MetroBus, the region's bus system; and Metro Call-A-Ride, a paratransit van system serving the needs of the disabled and elderly. At the present time there are no bus or light rail routes available for St. Charles County in the Wentzville area. The MetroLink's most western connection is the Lambert-St. Louis International Airport and there are currently no plans to expand it to St. Charles County. There are currently no MetroBus or St. Charles Area Transit (SCAT) routes available to serve the study area. However, MetroBus does have plans to include a new fixed bus trunk line along the I-70 corridor to Wentzville in the future. In addition, the East West Gateway has also developed a 2007 report for St. Charles County that discusses future plans for local cities, such as Wentzville, to develop a city bus system like SCAT for their own areas that could serve local city transit needs and tie into the proposed MetroBus trunk line on I-70 to provide regional connectivity. This would provide the Wentzville area the opportunity to be part of a linked transit system for St. Charles County. If, in the future, Metro or SCAT expanded transit service to include the proposed David Hoekel Parkway, the project will be able to accommodate transit needs. The project is proposed to have signalized intersections that allow for the integration of transit stops.

The City of Wentzville Parks and Recreation Department has an Open Space Master Plan and St. Charles County has a Trails and Greenways Development Plan and map that include the project's study area. The Trails and Greenways Plan shows "planned" and "possible" bicycle and pedestrian lanes and separated paths in the study area that could parallel a new roadway corridor (See Exhibit III-1 in Chapter III). It is a component of the Purpose and Need for this project to coordinate with these planned and possible bicycle and pedestrian facilities to offer multimodal options to users as part of the project.

C. Related Plans or Studies

1. WENTZVILLE COMPREHENSIVE PLAN

The City of Wentzville completed the Wentzville Comprehensive Plan, *A Community's Vision*, in 1999. The plan was a twenty-year plan, designed to be updated bi-annually to keep information current, for the future development of Wentzville. Its primary focus included making decisions on future land uses, determining the transportation networks needed to access future land uses, and providing essential utility systems/infrastructure to service land use activities. Within the plan, the City developed a Thoroughfare Plan and Transportation Master Plan that included the concept for the David Hoekel Parkway. Additionally, the City's land use plan showed primarily low to medium density residential use along the study area with some higher density residential and commercial development at the I-70 interchange location and the intersection with Meyer Road.

The 1999 Plan guided the development of Wentzville through October of 2001. In 2001, the plan was updated by an "Amendatory Supplement" and then again in 2006, 2010, 2012 and 2013. These plans are intended to guide the future development and redevelopment of Wentzville. The proposed David Hoekel Parkway project was reinforced in this plan update and the City considers the proposed project to be the most vital element of its Thoroughfare Plan.

In August of 1999, the City of Flint Hill completed a Comprehensive Plan, which was updated in 2009. The plan includes a Transportation Plan that identifies the proposed David Hoekel Parkway, and a Future Land Use Plan that shows mostly commercial and industrial use along the proposed project within Flint Hill (east of US 61).

2. I-70/US 61 BELTWAY CORRIDOR PRESERVATION STUDY

In 2001, the City of Wentzville completed a Corridor Preservation Study for a proposed beltway between I-70 and US 61. In the past, the City had experienced difficulties associated with the implementation of new transportation facilities in areas with recent or planned residential and commercial development. For this reason, the City decided to use a corridor preservation process to coordinate plans for a future roadway corridor with development plans for the area. The City coordinated plans for the corridor identified within the I-70/US 61 Beltway Corridor Preservation Study with land use planning by prohibiting and/or minimizing development in the anticipated corridor footprint.

The goals of the *I-70/US 61 Beltway Corridor Preservation Study* included:

- Identifying and developing technically sound solutions to the City's future transportation needs,
- Defining the corridor necessary for the future construction and operation of the identified solution(s),
- Preserving said corridor prior to future development, and
- Engaging citizens of Wentzville as project stakeholders throughout the study process.

The City conducted the Corridor Preservation Study in two phases. Phase 1 included the corridor from the southern terminus near I-70 to Meyer Road. Phase 2 included the corridor from Meyer Road to the northern terminus near US 61. The City considered several potential alignment alternatives within each corridor phase. Based on comparative analyses and public input, the City chose a preferred corridor and interchange type at I-70. The City of Wentzville Board of Alderman passed a formal resolution supporting the project, including a resolution in 2006 naming the roadway to memorialize a deceased Alderman.

This EA represents the next step in the project development process for the proposed David Hoekel Parkway envisioned in the City's Comprehensive Plan and Corridor Preservation Study. The EA document will build upon the analysis and stakeholder coordination that has been initiated within the previous studies.

3. I-70 BREAK-IN-ACCESS STUDY/ACCESS JUSTIFICATION REQUEST

Following the recommendations of the Corridor Preservation Study, the City prepared the I-70 Break-in-Access (BIA) Study for the project's Access Justification Request (AJR) with I-70. This study analyzed the effect of adding a new interchange to the I-70 corridor within Wentzville between the Route W/T interchange and the Wentzville Parkway interchange. The City completed the BIA/AJR study in November 2004 with a recommendation to construct a new interchange connection at the proposed location.

In 2006, based on feedback received from MoDOT, the City developed a VISSIM traffic supplement to the original 2004 BIA/AJR to provide more detailed traffic simulation analysis for the project and specifically for the I-70 weigh station located within the study limits. In 2006, MoDOT reviewed the BIA/AJR and traffic supplement and provided a letter of conditional approval of the new I-70 interchange access to the City of Wentzville. At that time, the FHWA reviewed the BIA/AJR and its traffic supplement, but a decision was made that no approvals of the BIA/AJR could be granted prior to completion of the NEPA process. Subsequent to this decision, the City of Wentzville, in coordination with MoDOT and FHWA, initiated the NEPA process for the project in 2007 by commencing the preparation of this Environmental Assessment document.

In parallel with the EA, the BIA/AJR has been updated in 2014 to be consistent with the Selected Alternative for the EA and meet the most recent federal requirements of the AJR process. The revised BIA/AJR received conceptual approval from the FHWA on April 2, 2014 and the final approval will be concurrent with the completion of this National Environmental Policy Act (NEPA) process for the David Hoekel Parkway project and its Finding of No Significant Impact (FONSI).

4. REGIONAL TRANSPORTATION PLAN 2040

The study area for the proposed David Hoekel Parkway is located within the metropolitan planning boundary for the St. Louis region within St. Charles County (shown in Figure I-1). The *Regional Transportation Plan (RTP) 2040* is the EWGCOG's long-range transportation plan for the St. Louis metropolitan region. *RTP 2040* represents the fourth major update of the metropolitan transportation plan since it was initially adopted in 1994. Built upon the foundation established in the 1994 plan and subsequent updates, *RTP 2040* is a long-range vision for how the region's surface transportation system will develop over the next 25 years.

Every transportation project in the region financed with federal funds must be included in the long range transportation plan, or be consistent with the principles of the plan. This is because the EWGCOG, as the regional metropolitan planning organization (MPO), administers federal funds for projects to the local jurisdictions within the St. Louis metropolitan planning boundary.

The *RTP 2040* established a set of ten principles, challenging the region to make the connection between transportation and the broader society, which will guide the region’s future growth and prosperity. The ten principles are as follows:

- Preserve and Maintain the Existing System
- Support Public Transportation
- Support Neighborhoods and Communities throughout the Region
- Foster a Vibrant Downtown
- Provide More Transportation Choices
- Promote Safety and Security
- Support a Diverse Economy throughout the Region
- Support Quality Job Development
- Strengthen Intermodal Connections
- Link Transportation Planning to Housing, Environment, Education and Energy

5. I-70 FIRST AND SECOND TIER ENVIRONMENTAL STUDIES

Sponsored by MoDOT, the I-70 First and Second Tier Environmental Studies assessed the need for improving and widening the 200-mile I-70 corridor between metropolitan St. Louis and Kansas City, Missouri. The portion of I-70 included in the David Hoekel Parkway EA was a part of the Second Tier Environmental Impact Statement (EIS) for Section of Independent Utility (SIU) 7 from Route 19 to Lake St. Louis Boulevard. The study concluded with a Record of Decision to widen the I-70 corridor to six lanes.

The conclusions from the I-70 First and Second Tier Environmental Studies were reevaluated within a Supplemental EIS between 2007-2009 (Record of Decision in August 2009). This I-70 Supplemental EIS (SEIS) was conducted to consider the potential of constructing truck-only lanes on I-70 between Kansas City and St. Louis to separate trucks from passenger vehicle traffic. This could result in the existing I-70 Corridor through Wentzville being widened in the future to four lanes each direction – two lanes for trucks and two lanes for passenger vehicles each direction. The David Hoekel Parkway EA coordinated with the I-70 SEIS to ensure that the proposed project and its proposed new interchange with I-70 was consistent with the plans for I-70 within the I-70 SEIS.

MoDOT currently has a Record of Decision on widening I-70 with dedicated truck lanes. The Department is reconsidering that decision and may be more likely to propose a general-capacity six-lane widening of I-70 in the future. The EWGCOG’s RTP 2040 shows a six-lane widening of the I-70 Corridor through Wentzville by 2040 as a committed project.

D. Planned and Committed System Improvements

Several other projects are planned for the St. Louis region, St. Charles County and within Wentzville. These projects include:

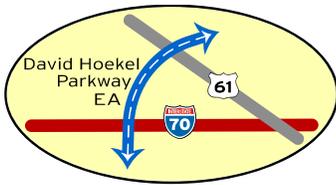
- ***Bicycle and Pedestrian Lanes/Paths*** - The City of Wentzville Parks and Recreation Department has an Open Space Master Plan and St. Charles County has a Trails and Greenways Development Plan which identify planned bicycle and pedestrian lanes and/or separated paths in the project study area that could be located adjacent or parallel to the proposed roadway.
- ***US 61/Peine Road/Route P Interchange*** - MoDOT recently approved a cost share agreement in March 2013 between MoDOT, the City of Wentzville and St. Charles County to construct a grade-separated interchange at US 61, Peine Road and Route P

to improve the at-grade crossings along the corridor. The project also includes safety and geometric improvements, such as J-turns, at other at-grade crossings on US 61 to the north and south of the interchange location. The project is included in the FY 2015-2019 Statewide Transportation Improvement Program (STIP) and the FY 2015-2018 Transportation Improvement Program (TIP) as a committed project.

- **Route P Improvements** – Road and safety improvements for Route P, from US 61 to MO M, are planned but not funded.
- **Wentzville Parkway Widening Improvements** – The FY 2014-2018 STIP/TIP includes improvements to the Wentzville Parkway to make it a five-lane section with a center turn lane and signal interconnection from William Dierberg Drive to Schroeder Creek Boulevard, just north of the I-70/Wentzville Parkway interchange. Construction is to be complete at the end of 2014.
- **Interstate Drive Extensions** – The City of Wentzville has recently constructed the portion of Interstate Drive from Wilmer Road to Hepperman Road as a new three-lane arterial road with plans to widen it to a five-lane arterial road in the future. The extension of Interstate Drive from Hepperman Road to South Point Prairie Road, and from Route Z to Quail Ridge Parkway at I-64 has been funded. The City of Wentzville's Thoroughfare Plan shows a future extension of Interstate Drive, which will intersect with the David Hoekel Parkway, from South Point Prairie Road to Route T, although it is not yet funded.
- **I-70 Improvements** – I-70 improvements listed in the 2040 Regional Transportation Plan (projects funded within the region's financial constraint) include adding lanes from Foristell (Route W/T) to Wentzville Parkway, and implementing upgrades from Wentzville Parkway to MO Z. This will result in the I-70 corridor being widened to six lanes within the study area for the project.

E. Conclusions

The David Hoekel Parkway project has the support of the local communities of Wentzville, Flint Hill, Foristell, St. Charles County and the EWGCOG. The project is a needed improvement to provide the surrounding community with a safe and efficient roadway that is both cost-effective and environmentally sound. The proposed project's purpose is to improve access and connectivity; reduce congestion; improve traffic safety; support local and regional growth; support sustainable development; and promote a multimodal transportation system. This EA document builds upon the previous work efforts conducted by the City of Wentzville. The subsequent chapters of this EA provide the data and analysis of project alternatives and their social and environmental impacts, and determine the least environmentally damaging alternative for the proposed roadway and whether it is appropriate for federal funding.



Chapter II

Alternatives Considered

This chapter defines the range of alternatives considered for the proposed David Hoekel Parkway in Wentzville, Missouri. The information provides sufficient detail for the analysis and evaluation of the potential effects of the alternatives on the affected environment and their environmental consequences – as described in Chapter III. The chapter includes an overview of the alternatives development process, a description of the Initial and Reasonable Alternatives identified for the proposed project, and their associated design criteria, costs and traffic projections.

A. Overview of Alternatives Development Process

The process identifies alignment alternatives for the proposed roadway that are reasonable and feasible from a technical, environmental and economic standpoint. It entails a screening of **Initial Alternatives** to determine which alternatives warrant further consideration for the project. Based on the screening of these Initial Alternatives, the alternatives development process then defines and evaluates the range of alternative alignments in sufficient detail to identify the feasible and prudent alternatives (i.e., **Reasonable Alternatives**). The Reasonable Alternatives are then carried forward and evaluated with regard to the acceptability of the environmental and social impacts, as presented in Chapter III – Affected Environment and Environmental Consequences. The more detailed evaluation of the Reasonable Alternatives in Chapter III then identifies the alternative alignment that best accomplishes the purpose and need for the proposed roadway while providing acceptable impacts to both the natural and man-made environment. This alternative is designated as the **Identified Preferred Alternative**. The **Identified Preferred Alternative** is then presented within the Draft EA and at the EA public meeting for agency and public review and comment. After all comments on the public meeting and Draft EA have been received and addressed, and pending a Finding of No Significant Impact (FONSI), the **Identified Preferred Alternative** is approved by the FHWA as the **Selected Alternative** for the project.

The process of alternatives screening and ascending level of detailed evaluation assures decision-makers of the fulfillment of the improvement's goals, while developing informed consent with the reviewing agencies, stakeholders and the general public. This screening process was performed in collaboration with the public and agency coordination program as defined in Chapter V – Comments and Coordination. The alternatives development process for the project is shown in Figure II-1.

Figure II-1
Alternatives Development Process



B. No-Build Alternative

The No-Build Alternative is represented by not taking action to construct the proposed David Hoekel Parkway. Under the No-Build Alternative, the community would continue to rely on the existing roadway system that is currently serving the community in and around the proposed project corridor, plus any committed or reasonably anticipated transportation improvements in the study area. Routine operation and maintenance activities to the existing local road system would continue as scheduled. At this time, the forecasted improvements near the study area include the expansion of Interstate Drive along I-70 at the southern end of the study area (See Exhibit II-1). The City of Wentzville plans to design and construct a new five-lane arterial road for Interstate Drive, which would connect to the proposed project. The No-Build also assumes the future widening of I-70 to six lanes prior to 2040, as shown in the EWGCOG's *RTP 2040* on its fiscally constrained list of projects.

Through 2040, access and mobility would continue to worsen for travelers in northwestern Wentzville and for regional commuters who access I-70 and US 61 for travel between St. Charles County, St. Louis County and employment centers near the St. Louis City. With traffic on I-70 anticipated to grow by about 60 percent at the proposed I-70/David Hoekel Parkway interchange location by the year 2040 and traffic on US 61 anticipated to grow by roughly 30% between Route A and Route P (US 61/David Hoekel Parkway interchange location) through 2040 (Source: MoDOT St. Louis District and EWGCOG), current traffic congestion and traveler safety would continue to decline under the No-Build Alternative, resulting in increased traveler costs and safety concerns. Additionally, the existing I-70 interchanges with Wentzville Parkway and Routes W/T would not be relieved by a new interchange connection at I-70 with the proposed David Hoekel Parkway. As a result, economic and housing opportunities in the study area may not develop or be fully enhanced under the No-Build Alternative.

For these reasons, the No-Build Alternative would not address the improvement needs in the study area as identified in the purpose and need. However, the No-Build Alternative will serve as a basis for comparison for the analysis of the benefits and impacts of the build alternatives within the EA.

C. Build Alternatives

The build alternatives under consideration for the proposed David Hoekel Parkway would involve a new connecting roadway, including interchanges and intersections, between I-70 and US 61 on the west side of Wentzville, Missouri. The alternatives were analyzed based on estimated project costs, facility type, design requirements, physical constraints and potential impacts to the human and natural environment. The build alternatives' potential alignments are constrained at the connection with I-70 due to the required spacing between interchanges located along the I-70 Corridor. Interstate standards require at least two miles of separation between each interchange in an urban area; therefore the build alternatives are shown to intersect with I-70 roughly two miles from the existing I-70/Route W/T interchange to the west and two miles from the existing I-70/Wentzville Parkway interchange to the east. This was also a consideration at US 61, in order to provide adequate spacing between the US 61/Route A/Wentzville Parkway interchange to the south and the proposed project interchange at US 61/Peine Road/Route P, while still serving the travel needs of the cities of Wentzville and Flint Hill.

1. FACILITY CONCEPT

Two concepts of roadway design were considered for the proposed David Hoekel Parkway: a limited access, freeway-type concept providing fast and efficient access between I-70 and US

61, and a more residential-type parkway concept providing greater access to population centers and key destination points throughout western Wentzville. The decision to construct a parkway verses a freeway-type concept was based on an evaluation of how effectively each facility satisfied the requirements of the project's purpose and need, and is summarized as follows:

- **Improve Access and Connectivity.** The parkway facility would provide direct access to cross roads, subdivisions, and key destination points. It would also provide access to I-70 and US 61, connecting the community with the regional transportation system.
- **Reduce Congestion.** The parkway facility would provide an alternative transportation corridor for rapidly expanding areas in Wentzville, relieve growing congestion at other I-70 and US 61 interchanges in the study area, and would reduce local traffic dependence on I-70 and US 61.
- **Improve Traffic Safety.** The project would help address high crash locations within the study area, especially the at-grade crossings of US 61 near Route P.
- **Support Local and Regional Growth.** A major portion of the growth currently occurring in and around Wentzville is taking place directly adjacent to the proposed project study area. A parkway, in comparison to a freeway, is the most suitable facility type to support the existing and projected local and regional population and housing growth in the study area. A parkway would provide new access and connectivity to serve the existing and planned residential and commercial land uses verses primarily serving pass-through traffic between I-70 and US 61.
- **Support Sustainable Development.** By virtue of the primarily residential land use development currently occurring in the study area, a parkway would support sustainable land use development as well as the development needs identified in the City of Wentzville's Comprehensive Plan.
- **Promote a Multimodal Transportation System.** In addition to the pedestrian/bikeway corridor that is included as part of the current design, a parkway facility would provide better access to future public transportation service.

The parkway concept was determined to better serve the City of Wentzville and surrounding communities. The parkway facility satisfies the purpose and need of the proposed project, aligns with the needs published in the City's Comprehensive Plan and Future Land Use Plan, avoids or minimizes effects to human and natural environments, and responds to engineering constraints ultimately affecting the cost of the project.

2. DESIGN CRITERIA

The design criteria selected for the proposed David Hoekel Parkway were determined based on, (1) the need to satisfy the six elements of the project's purpose and need, (2) state and local roadway design requirements, and (3) land use plans for the study corridor. The design criteria were determined by assessing the current and future projected traffic volumes, the selection of facility type, the existing vertical and horizontal constraints of the corridor, and design criteria guidelines presented in the American Association of State Highway and Transportation Officials (AASHTO) design guidelines, MoDOT specifications within the Engineering Policy Guide (EPG) and City of Wentzville design standards.

The study team reviewed traffic forecasting data and evaluations conducted as part of the *I-70/David Hoekel Parkway Access Justification Request*. The study team evaluated link volume/capacity ratios for the proposed roadway facility and the adjacent freeway network on I-70 and US 61 for the proposed roadway. The study team also utilized the existing and future conditions operational analysis (No-Build and Build) of the relevant roadway network elements

within the proposed improvement corridor during AM and PM peak periods. The study team developed the following general design criteria shown in Table II-1 to be used as guidelines in establishing alternatives for the proposed project and associated roadways.

Table II-1: General Design Criteria

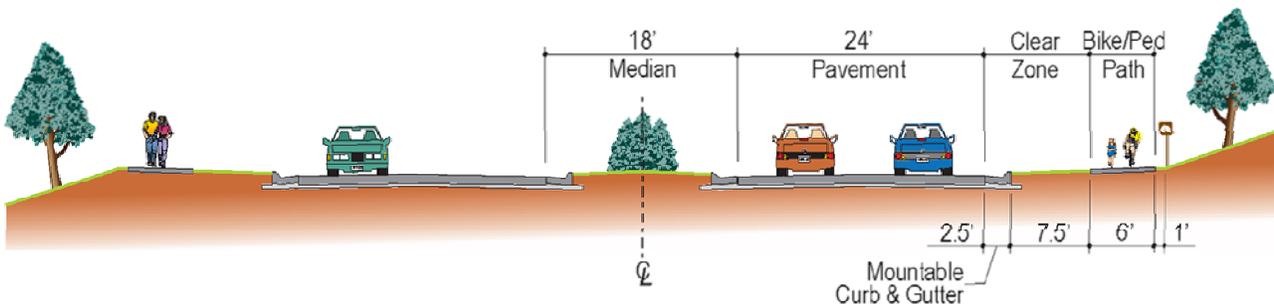
Design Criteria	MoDOT Jurisdiction		City of Wentzville Jurisdiction	
	I-70 & US 61	Ramp	Proposed David Hoekel Parkway	Connecting Roads
Design Speed (mph)	70	50	45	40
Lane Width (ft)	12	18	(4 Lanes) 12	(2 Lanes) 12
Median Width (ft)	I-70 - median barrier US 61 – 52 (grass)	N/A	18	N/A
Sidewalks (ft)	N/A	N/A	6	N/A
Shoulder Width (inside) (ft)	4	N/A	N/A; curb and gutter	varies
Shoulder Width (outside) (ft)	10	8	N/A; curb and gutter	varies
Min. ROW Requirement (ft)	250	N/A	100	70
Width Between Sidewalk and Shoulder (outside) (ft)	N/A	N/A	7.5	N/A
ROW beyond sidewalk (ft)(outside)	N/A	N/A	1	N/A
Max. Gradient (%) ¹	4	5	5	5

¹ Grades less than 500 feet long and one-way down grades may be one percent steeper. For extreme cases in urban areas, at underpasses and bridge approaches, steeper grades for relatively short lengths may be considered during final design.

The proposed David Hoekel Parkway would consist of four 12-foot lanes separated by an 18-foot grass median allowing for left-turn lanes where necessary. The design would also incorporate six-foot sidewalks and/or bicycle/pedestrian paths approximately eight feet from the edge of pavement, and aesthetic treatments, such as landscaping. Construction involves all utility relocation, bridge and culvert placement, drainage structures, traffic signalization, lighting, signage, excavation, recontouring, reseeding, and landscaping. The design criteria identified within the EA is considered to be preliminary and will be reviewed and updated as necessary to meet the most current roadway standards during the design phase of the project.

Figure II-2 shows the proposed typical section for the proposed roadway.

**Figure II-2
Proposed Typical Section**



3. INITIAL BUILD ALTERNATIVES

At the beginning of the NEPA process, initial build alternatives were developed and analyzed. To better organize and more easily analyze all alignment options within the entire six-mile study corridor, the corridor was separated into five distinct sections, as shown on Exhibit II-1.

- **Section A:** From south to north, Section A represents the entire north/south alignment of the corridor and extends from Jackson Road south of I-70 to approximately Scotti Road.
- **Section B:** With the corridor shifting to the northeast, Section B extends for a short distance from approximately Scotti Road to approximately Point Prairie Road.
- **Section C:** Continuing in a northeastern direction, Section C extends from approximately Pointe Prairie Road to a tributary of McCoy Creek.
- **Section D:** This section extends from approximately the tributary of McCoy Creek to US 61.
- **Section E:** Section E extends from US 61 to a connection back to existing Route P in Flint Hill.

4. SCREENING OF INITIAL BUILD ALTERNATIVES

Within the Initial Alternatives' screening process, sections that did not meet the purpose and need for the project or resulted in significant impacts to the natural or man-made environment were eliminated. Sections that were deemed as viable to be considered further for the study area were then carried forward and combined into three full-corridor alternatives (Alternatives 1, 2 and 3) as Reasonable Alternatives. Table II-2 shows the sections carried forward as Reasonable Alternatives and those sections that were eliminated from further consideration. A description of the screening process for each Initial Alternative is provided in the following section.

Table II-2: Initial Alternatives Carried Forward as Reasonable Alternatives

Reasonable Alternatives	Section A	Section B	Section C	Section D	Section E
1	A1	B2	C2	D2	E3
2	A2W	B3	C3	D3, D5	E5
3	A2W	B1	C1	D1S	E1
Eliminated from Further Consideration	A2E	--	--	D1N, D4	E2, E4

Section A

Three alignments within *Section A* were considered. A1 was the eastern most alignment generally following the existing alignment of Point Prairie Road. A1 represents an improvement to the existing roadway system rather than a build alternative on new alignment. A1 was carried forward as a Reasonable Alternative as part of Alternative 1; however it is anticipated to have greater constructability issues than A2W or A2E since it is located along an existing roadway alignment. A2 east (E) and A2 west (W) shared a majority of the *Section A* on new alignment,

separating east and west by approximately 1,000 feet between Peruque Creek and to approximately 2,000 feet north of Goodfellow Road. While A2W was carried forward as part of Reasonable Alternatives 2 and 3, A2E was eliminated from further consideration due to the high number of single-family residential impacts near Keenland Trails and the Bear Creek Golf Club and its resulting impacts on neighborhood cohesion, and higher stream impacts to Peruque Creek and Dry Branch as compared to the other alignments in *Section A*. A2W was considered to have fewer impacts to planned residential subdivisions than A2E because the City had been able to coordinate with developers to preserve property along this alignment through their Corridor Preservation Study.

Sections B and C

Three alignments within *Sections B* and *C* were analyzed. B1/C1 was included as part of Reasonable Alternative 3, B2/C2 was included as part of Reasonable Alternative 1 and B3/C3 was included as part of Reasonable Alternative 2. All alignments within *Sections B* and *C* were carried forward as part of the full-corridor Reasonable Alternatives developed for the study.

Section D

Six alignments within *Section D* were analyzed. D1 north (N) and D1 south (S) shared an alignment until they split approximately 2,000 feet south of US 61 with D1N extending on the north side of Dry Branch creek and D1S extending on the south side of Dry Branch creek. D1N was eliminated from further consideration because it resulted in the greatest impacts to streams and greatest number of stream crossings, including Dry Branch creek, greatest impacts to multi-family residential units, and constructability issues due to the terrain. D1S was carried forward as part of Reasonable Alternative 3. D1S allowed the study to still have consideration of a southern alternative with fewer stream impacts than several of the other alignments within *Section D*. D2 and D3 shared a small section of the alignment just west of US 61 and were carried forward as part of Reasonable Alternatives 1 and 2, respectively. D4, the northern most alignment in *Section D*, was eliminated from further consideration due to increased impacts to wetlands and streams, impacts to prime farmland, and total project costs due to the terrain and required drainage structures. D5, in combination with D3, was included as a part of Alternative 2 to allow for the evaluation of an alternate with a shorter connection across US 61 to Route P.

Section E

Five alignments within *Section E* were considered. *Section E* is interdependent with the sections carried forward in *Section D*. E1, the southernmost alignment, was carried forward as part of Reasonable Alternative 3. E2 was eliminated from further consideration due to impacts to residential and commercial units, the presence of existing utilities, and its connection to D1N, which was eliminated. E3 was carried forward as part of Reasonable Alternative 1. E4, the northern most alignment in *Section E*, was eliminated from further consideration due to impacts associated with McCoy Creek and Dry Branch, increased prime farmland impacts, construction costs, and the elimination of D4. E5 was carried forward as an alternate with a shorter connection to Route P as part of Alternative 2, which minimizes impacts to McCoy Creek and Dry Branch, in comparison with E3.

5. REASONABLE BUILD ALTERNATIVES

Based on the purpose and need for the project, the facility type and design criteria established for the project, and a review of the natural and man-made constraints within the study area, three full-corridor alternatives were deemed viable to carry forward for further consideration within the EA as Reasonable Alternatives. Exhibit II-2 shows the Reasonable Alternatives for the project. Each Reasonable Alternative would improve access and connectivity for the traveling public. They would also meet the purpose and need for the project by reducing traffic

congestion, supporting regional growth and sustainable development, and promoting a multimodal transportation system. Located within the study area, each reasonable alternative begins at Jackson Road south of I-70. Alternatives 1 and 3 terminate approximately one mile beyond US 61 in Flint Hill, Missouri near Townview Drive and are approximately 6.9 miles in length. Alternative 2 terminates just east of US 61 at Route P and is approximately 6.3 miles in length. All of the alternatives are within approximately 2,000 feet of one another. Future grade-separated interchanges are anticipated at the intersection of the proposed project and I-70 and US 61. At-grade intersections, depending on the alternative, are anticipated at Jackson Road, Point Prairie Road south of Peruque Creek, the future Interstate Drive, Goodfellow Road, Meyer Road, Old Bear Run, Scotti Road, Point Prairie Road, Peine Road, the US 61 west outer road, Mette Road, and Route P, in addition to unidentified subdivision access points northeast of the proposed project's intersection with Point Prairie Road north of Meyer Road. A description of each Reasonable Alternative is included in the following section.

a. Build Alternative 1

Build Alternative 1 would follow the existing alignment of Point Prairie Road south of Scotti Road and a portion of the existing alignment of Peine Road north of Scotti Road. This alternative is considered to be the improvement to the existing roadway system. Beginning south of I-70 at Jackson Road, Alternative 1 would avoid Peruque Valley Park to the east and would align with Point Prairie Road as the alignment crosses I-70. Horizontal and vertical alignments of Point Prairie Road would be revised to meet design criteria and provide for a safe facility for the traveling public. North of Scotti Road, the alignment would avoid impacts to a tributary of McCoy Creek and areas containing prime farmland as it crosses US 61. Alternative 1 does have the greatest constructability issues and impacts to existing residential development within the study area, since it impacts residences located in proximity to the existing Point Prairie Road and Peine Road alignments. It also could potentially impact the unnamed, planned park just north of Peruque Creek (See Exhibit II-2). However, the alternative has the least amount of impacts to streams, wetlands and forested areas within the study area.

b. Build Alternative 2

Build Alternative 2 would avoid direct impacts to Peruque Valley Park by traveling through an area specifically dedicated to the proposed David Hoekel Parkway at the northeast corner of the park. The alignment would extend north over I-70 and avoid the residential subdivisions immediately north of I-70 and west of Point Prairie Road. In an attempt to minimize impacts to a tributary and associated floodplain of McCoy Creek, Alternative 2 would involve greater constructability constraints, and associated costs in the portion located north of Scotti Road as compared to the other alternatives. The cost for Alternative 2 is less than the other two reasonable alternatives due to the shorter connection to Route P east of US 61. Alternative 2 was also identified as the City of Wentzville's locally preferred alternative from the previous Corridor Preservation Study and BIA/AJR Study, and the alternative's potential alignment has been coordinated with local developers as proposed new development is planned for the study area. This has allowed this alternative to have the least impacts on residential housing in the study area, due to this prior planning process, as well as minimal business impacts. It also has the least stream and floodplain impacts compared to the other alternatives.

c. Build Alternative 3

Build Alternative 3 would follow the same alignment from Jackson Road to Scotti Road as Build Alternative 2, thereby avoiding direct impacts to Peruque Valley Park. However, Alternative 3 splits east and extends along Scotti Road for approximately 3,000 feet before turning northeast and crossing Dry Branch creek at three different locations before reaching US 61 at Flint Hill, Missouri. As a result, this alternative has more significant impacts to the floodplain and

floodway of Dry Branch creek and greater stream impacts and number of stream crossings. The alternative avoids impacts to St. Theodore Park and Peine Road Park.

d. Proposed Interchanges at I-70 and US 61

The City of Wentzville evaluated different interchange configurations for the I-70 and US 61 interchanges. These interchange configurations can be found in Appendix A. The range of interchange configurations evaluated for I-70 and US 61 are described in the following section.

I-70 Interchange

A modified diamond interchange and a single point diamond interchange were considered for the David Hoekel Parkway's connection with I-70. Following the I-70/David Hoekel Parkway BIA/AJR study for the I-70 interchange, a single point diamond interchange was selected for I-70 resulting from the need to limit the size of the interchange footprint and avoid impacts to the existing and future land uses. Generally, a single point diamond interchange is used in areas of high traffic congestion due to its ability to increase traffic flow and ease congestion in areas of limited right-of-way. Retaining walls would be required along both sides of the southern ramps and along the south side of the northern ramps. The southern retaining walls would be needed to keep the south outer road in service. In addition to the retaining walls, concrete barriers would be required near the eastern and western north outer road connections to keep adequate separation between the northern ramps and the outer road traffic. The single point diamond interchange would provide greater potential for land development north of the interchange, it would result in fewer impacts to nearby parcels, particularly the Crossroads Baptist Church, and would increase the efficiency of the anticipated traffic flow.

US 61 Interchange

At US 61, a tight diamond, modified diamond and a double roundabout (i.e., dog bone roundabout) interchange concept were considered for the David Hoekel Parkway's connection with US 61. Within the Draft EA, a tight diamond interchange concept using alignment option D3 and E3 was selected (See Exhibit II-1 and Appendix A for reference).

Subsequent to the preparation of the Draft EA, a decision was made to modify the original interchange concept to a modified diamond interchange using alignment option D5 and E5 (See Exhibit II-1 and Appendix A for reference). This is because there has been a growing safety issue at the proposed U.S. 61/David Hoekel Parkway interchange location due to the existing at-grade intersection crossing, which has accelerated this section of the project to first priority. As part of the revised Alternative 2, the alternate location would provide a shorter connection to Route P (nearly one mile shorter), would result in significant project cost savings, and would minimize impacts to McCoy Creek and Dry Branch. A cost share agreement between MoDOT, St. Charles County and the City of Wentzville to fund the US 61/David Hoekel Parkway interchange improvements was approved in March 2013 with construction identified for 2016. The previous interchange concept and location is still evaluated as a part of Alternative 1. Both interchange concepts would accommodate increased traffic volumes and would respond to safety needs at this location of US 61 that have already degraded as traffic volumes have increased.

D. Construction Cost Estimates

A construction cost estimate for the project was estimated at a planning level from the proposed typical section, roadway alignment and right-of-way limits. The estimates are preliminary and are based on conceptual alignments for the David Hoekel Parkway. The construction estimates were calculated based on the cost of recent MoDOT projects, 2013 rates for time and materials,

and the best professional judgment of the designers. It should be noted that all construction and material costs provided are opinions of probable construction costs and are based on typical 2013 construction procedures. Right-of-way costs were estimated based on 2013 property value information from the City of Wentzville. While the cost estimates should be assumed to be accurate, contractor workloads, the local bidding environment and property values at the time of bidding may cause the costs to vary. The cost estimates shown in Table II-3 are shown in 2013 dollars for each reasonable alternative to provide a relative comparison in current dollars.

Table II-3: Estimated Construction Costs in 2013 Dollars (Millions)

Item	No-Build Alternative	Alternative 1	Alternative 2	Alternative 3
Roadway Construction Cost Estimate *	\$0.0	\$31.3	\$21.1	\$31.1
Interchange Costs (I-70/US 61)	\$0.0	\$29.7	\$27.5	\$29.7
Bridge/Structures Costs	\$0.0	\$4.1	\$6.1	\$7.6
Right-of-Way Acquisition	\$0.0	\$11.9	\$7.0	\$8.7
Miscellaneous Costs **	\$0.0	\$7.2	\$5.5	\$7.6
Project Contingency (20%) ***	\$0.0	\$13.0	\$10.9	\$13.7
Total Project Cost Estimate	\$0.0	\$97.2	\$78.1	\$98.4

* Roadway construction includes base, surface, grading and drainage items.

** Miscellaneous costs include the costs for mobilization, construction management and administration.

*** Includes a project contingency of 20% on roadway, interchange and bridge construction costs.

E. Traffic Analysis

The traffic characteristics of the Build and No-Build alternatives were assessed in order to assist in the development and refinement of the alternatives. The results of this analysis are presented in the following sections.

1. TRAVEL DEMAND METHODOLOGY

To evaluate the projected traffic for the Build Alternatives (proposed roadway) and the No-Build Alternative, the regional travel demand forecasting model developed and maintained by the East-West Gateway Council of Governments (EWGCOG) was used. This model was used to develop future year traffic volumes (year 2040) with and without the construction of the David Hoekel Parkway. The model was used in developing daily and AM and PM peak hour volume forecasts for the Build and No-Build alternatives.

Both the Build and No-Build condition assumed that the I-70 corridor would be widened to six lanes by 2040 within the study area for the project, as it is a committed project within the EWGCOG's RTP 2040.

While there were three different Reasonable Build Alternatives identified for the project, the traffic projections did not vary by alternative because the limits of the project were relatively fixed due to spacing constraints with adjacent interchanges on I-70 and US 61. Additionally,

each alternative provided the same overall connectivity and access to the local Wentzville transportation network.

The assigned year 2040 model volumes represent the daily number of vehicle trips at a specific point on the roadway network. The 2012 existing and year 2040 volumes for the Build and No-Build alternatives are shown in Table II-4.

Table II-4: Existing (2012) and Forecasted (2040) Daily Two-Way Traffic Demand

Location	2012 ADT	No-Build 2040 ADT 6-Lane I-70	Build 2040 ADT 6-Lane I-70
I-70 Corridor			
I-70 West of Route W/T	46,757	82,778	82,778
I-70 Between Route W/T and Wentzville Pkwy.	51,588	84,666	84,666
I-70 Between Wentzville Parkway and Route Z	72,154	100,829	100,829
I-70 Between Route Z and Route 61	83,439	112,025	112,025
I-70 East of Route 61	74,679	110,722	110,722
US 61 Corridor			
US 61 Between Route P and Route A	47,444	60,966	60,966
US 61 Between Route A and I-70	48,844	69,585	69,585
US 61 South of I-70	46,451	73,790	73,790
David Hoekel Parkway Corridor			
David Hoekel Parkway North of Route N	-	-	16,000
David Hoekel Parkway South of Interstate Dr.	-	-	16,000
David Hoekel Parkway South of I-70	-	-	22,000
David Hoekel Parkway North of I-70	-	-	22,000
David Hoekel Parkway South of Meyer	-	-	20,000
David Hoekel Parkway North of Meyer	-	-	26,000
David Hoekel Parkway South of Dueneke	-	-	26,000
David Hoekel Parkway East of Dueneke	-	-	26,000
David Hoekel Parkway West of US 61	-	-	26,000
David Hoekel Parkway East of US 61	-	-	5,000

Source: Existing 2012 ADT volumes provided by MoDOT.

Projected 2040 ADT volumes were developed by the study team using the East-West Gateway Council of Governments' travel demand model, the I-70/David Hoekel Parkway AJR Study, and the I-70 Second Tier and Supplemental EIS.

Traffic volumes are projected to grow by approximately 1.8 percent per year through 2040 on I-70, and 3.0 percent per year on US 61 within the study area through 2030, and then transition to more modest growth of 0.5 percent per year between 2030 and 2040.

Average daily traffic projections for the proposed roadway are shown to be an average of 22,200 west of US 61 in Wentzville and approximately 5,000 east of US 61 in Flint Hill in 2040. Truck percents for the proposed roadway were assumed to be approximately five percent of the vehicle mix.

It can be seen in the table that there is not anticipated to be a notable change in through traffic volumes on I-70 or US 61 as a result of the proposed roadway. The Build and No-Build traffic projections are shown in the table to remain the same, indicating the change in projected volumes will be negligible. This is because the proposed roadway is anticipated to mainly change travel patterns within the city of Wentzville. The project will provide relief to the Wentzville Parkway interchange by shifting traffic to the new I-70/David Hoekel Parkway interchange. However, motorists' patterns along I-70 and US 61 are not anticipated to change, merely to change interchange entering and exiting locations. In addition, a significant amount of

bypass traffic between I-70 and US 61 along the proposed project is not anticipated. The project is planned to be a four-lane parkway with a posted speed of 45 mph and several signalized intersections. It will not be a freeway bypass and the City has proposed imposing truck restrictions through Wentzville in the near term.

The existing I-70 interchanges at Wentzville Parkway and Route W/T, as well as Point Prairie Road on the City’s local roadway system, are anticipated to experience some traffic relief due to change in travel patterns. Table II-5, below, shows the anticipated change in average daily traffic demand at the two interchanges along I-70 and at Point Prairie Road as a result of the David Hoekel Parkway/I-70 interchange improvement.

Table II-5: Change in 2040 Average Daily Traffic at Adjacent Interchanges with David Hoekel Parkway/I-70 Interchange

Roadway	Wentzville Parkway Interchange (North of I-70)	Route W/T Interchange (North of I-70)	Point Prairie Road (North of I-70)
4-Lane David Hoekel Parkway with new I-70 Interchange	-8,700 vpd (25%)	-1,300 vpd (7%)	-9,500 vpd (56%)

Source: I-70/David Hoekel Parkway AJR/BIA Study.

The most heavily used interchange in the study area, the I-70 interchange at the Wentzville Parkway, is anticipated to receive the greatest congestion relief from the proposed project, as the David Hoekel Parkway would provide an alternate north/south facility providing access to west Wentzville and other key destination points.

2. STUDY CORRIDOR TRAFFIC IMPACTS

An analysis of the level of service (LOS) of freeway mainline segments located between interchanges at Route W/T and Wentzville Parkway for I-70 and Route P and I-70 for US 61 was completed for the AM and PM peak hours of travel. The *Highway Capacity Manual* methodology was used. Table II-6 illustrates the existing and future (year 2040) peak hour volume levels of service expected for the I-70, US 61 and the proposed David Hoekel Parkway.

Table II-6: Mainline Level of Service (Existing 2012 and Projected 2040)

Location	Existing (2012)	No-Build (2040) 6-Lane I-70	Build (2040) 6-Lane I-70
	AM/PM	AM/PM	AM/PM
I-70 Mainline			
EB W/T off-ramp	A / B	C / C	C / B
EB W/T off-ramp to W/T on-ramp	A / B	C / C	C / C
EB W/T on-ramp to weigh station off-ramp	A / A	B / B	B / B
EB Weigh station off-ramp to weigh station on-ramp	A / A	C / C	C / C
EB Weigh station on-ramp	A / A	B / B	B / B
EB Weigh station on-ramp to David Hoekel Pkwy off-ramp	B / B	C / C	B / B
EB David Hoekel Pkwy off-ramp	B / B	C / C	B / B
EB David Hoekel Pkwy off-ramp to David Hoekel Pkwy on-ramp	B / B	C / C	C / B
EB David Hoekel Pkwy on-ramp	B / B	C / C	C / C
EB David Hoekel Pkwy on-ramp to Wentzville Pkwy off-ramp	B / B	C / C	C / C
EB Wentzville Pkwy off-ramp	A / B	C / B	C / B
EB Wentzville Pkwy off-ramp to Wentzville Pkwy on-ramp	A / A	C / B	C / C

EB Wentzville Pkwy on-ramp	B / B	E / D	D / C
WB Wentzville Pkwy off-ramp	B / D	C / F	C / D
WB Wentzville Pkwy off-ramp to Wentzville Pkwy on-ramp	A / B	B / C	C / C
WB Wentzville Pkwy on-ramp	A / B	B / B	B / C
WB Wentzville Pkwy on-ramp to David Hoekel Pkwy off-ramp	A / B	C / C	C / C
WB David Hoekel Pkwy off-ramp	A / B	C / C	B / C
WB David Hoekel Pkwy off-ramp to David Hoekel Pkwy on-ramp	A / B	C / C	C / C
WB David Hoekel Pkwy on-ramp	A / B	C / C	B / B
WB David Hoekel Pkwy on-ramp to Weigh station off-ramp	A / B	C / D	B / B
WB Weigh station off-ramp	A / B	B / C	B / B
WB Weigh station off-ramp to weigh station on-ramp	A / B	B / B	B / B
B / BB / BWB Weigh station on-ramp to W/T off-ramp	A / B	B / B	B / B
B / BB / BWB W/T off-ramp to W/T on-ramp	A / B	C / B	B / B
WB W/T on-ramp	A / B	B / B	B / B
US 61 Mainline			
NB US 61 South of David Hoekel Pkwy. /Route P	B / C	C / D	C / D
SB US 61 South of David Hoekel Pkwy./Route P	C / B	D / C	D / C
NB US 61 Between Route A and I-70	B / C	D / E	D / E
SB US 61 Between Route A and I-70	C / B	E / D	E / D
NB US 61 South of I-70	B / C	D / E	D / E
SB US 61 South of I-70	C / B	E / D	E / D
Proposed Roadway (David Hoekel Parkway)			
NB David Hoekel Pkwy. North of Route N	-	-	A/A
NB David Hoekel Pkwy. South of Interstate Dr.	-	-	A/A
NB David Hoekel Pkwy. Between Interstate Dr. and I-70	-	-	B/B
NB David Hoekel Pkwy. North of I-70	-	-	B/B
NB David Hoekel Pkwy. South of Meyer	-	-	A/B
NB David Hoekel Pkwy. North of Meyer	-	-	B/B
NB David Hoekel Pkwy. South of Dueneke	-	-	B/B
EB David Hoekel Pkwy. East of Dueneke	-	-	B/B
EB David Hoekel Pkwy. West of US 61	-	-	B/B
EB David Hoekel Pkwy. East of US 61	-	-	A/A
WB David Hoekel Pkwy. East of US 61	-	-	A/A
WB David Hoekel Pkwy. West of US 61	-	-	B/B
WB David Hoekel Pkwy. East of Dueneke	-	-	B/B
SB David Hoekel Pkwy. South of Dueneke	-	-	B/B
SB David Hoekel Pkwy. North of Meyer	-	-	B/B
SB David Hoekel Pkwy. South of Meyer	-	-	B/B
SB David Hoekel Pkwy. North of I-70	-	-	B/B
SB David Hoekel Pkwy. Between Interstate Dr. and I-70	-	-	B/B
SB David Hoekel Pkwy. South of Interstate Dr.	-	-	A/A
SB David Hoekel Pkwy. North of Route N	-	-	A/A

Source: Study team analyses for AJR and EA for 2012 and 2040.



Indicates at capacity during the peak times of the day.



Indicates failing during the peak time of the day.

As shown in Table II-6, the Build Alternative (David Hoekel Parkway) operates at acceptable LOS B or better along all mainline roadway segments.

The I-70 corridor through the study area also operates at acceptable LOS in the 2040 Build Alternative in both directions of travel. As shown in the 2040 No-Build analysis, the eastbound on-ramp at Wentzville Parkway operates at capacity (LOS E) during the peak period and the westbound off-ramp fails (LOS F) for approximately three hours during the PM peak period,

resulting in queues more than one mile in length. The 2040 Build Alternative alleviates the AM and PM peak congestion at the Wentzville Parkway interchange that was caused by high ramp volumes. Enough traffic shifts from the Wentzville Parkway interchange to the new David Hoekel Parkway interchange to provide acceptable levels of service. However, as discussed in Chapter I, if the I-70 corridor is not widened from the existing four lanes to six lanes, the corridor will experience poor levels of service prior to 2040.

By 2040, the US 61 corridor is projected to be operating near capacity (LOS D) or at capacity (LOS E) on most segments and experiencing delays during the peak periods of the day both for the No-Build and Build condition. In addition, the existing at-grade crossings on US 61 at both Peine Road and Route P are operating at congested (LOS F) conditions today and will continue to worsen through 2040 if no improvements are made. While the Build Alternative does not include the widening of the US 61 corridor, it does propose a grade-separated interchange to address the at-grade crossing issues at Route P and Peine Road (Future David Hoekel Parkway) with US 61. As shown in Table II-7, the proposed US 61/David Hoekel Parkway interchange operates with acceptable level of service conditions (LOS B/B for east ramp terminal and LOS D/D for west ramp terminal) through the design year 2040 and improves safety conditions for the crossing of US 61. Table II-7 also shows the I-70 interchange ramp terminal levels of service in the existing year 2012 and the forecasted year 2040.

**Table II-7
I-70 and US 61 Interchange Ramp Terminal Level of Service
(Existing 2012 and Future 2040)**

Interchange Ramp Terminals	Existing (2012)	No-Build (2040) 6-Lane I-70	Build (2040) 6-Lane I-70
	AM/PM	AM/PM	AM/PM
I-70			
Route W/T Interchange			
North Ramp Terminal (Westbound)	A / B	C / C	B / C
South Ramp Terminal (Eastbound)	B / C	C / D	B / C
Wentzville Parkway Interchange			
North Ramp Terminal (Westbound)	B / C	B / D	A / B
South Ramp Terminal (Eastbound)	B / B	B / B	C / D
I-70/David Hoekel Parkway Interchange Ramp Terminal (SPDI)			B/B
US 61			
Peine Road At-Grade Crossing	F/F	F/F	N/A
Route P At-Grade Crossing	F/F	F/F	N/A
US 61/David Hoekel Parkway Interchange			
West Ramp Terminal; Unsignalized (Southbound)			D/D
East Ramp Terminal; Signalized (Northbound)			B/B

Source: HNTB VISSIM Model version 5.4 for I-70; HNTB Synchro Model version 8 for US 61

Note: Assumes optimized signal timings at interchanges using Synchro software

 Indicates at capacity during the peak time of the day.  Indicates failing during the peak time of the day.

Within the 2040 No-Build analysis, improvements such as additional turn lanes were considered at the Wentzville Parkway and Route W/T interchanges with I-70. While the congestion at Route W/T may be mitigated with the additional local improvements, the congestion at the Wentzville Parkway cannot be reasonably reduced to meet the purpose and need and improve area operational conditions during the peak hours. The westbound ramp and ramp terminal at the I-70/Wentzville Parkway interchange are unable to accommodate the traffic demand,

resulting in congestion on I-70. The north ramp terminal (Westbound) at the Wentzville Parkway operates at LOS D in the PM peak period, but the analysis shows that it only operates satisfactorily because traffic is congested at the westbound off-ramp from I-70. This causes a metering effect, which prevents the full demand of vehicles from reaching the ramp terminal during the peak period; instead they are slowed on mainline I-70 waiting to exit to Wentzville Parkway. A sensitivity analysis was performed which showed that if the off-ramp were not a constraint and the full demand of vehicles could reach the ramp terminal, it would fail as well. Even with three right turn lanes, two left turn lanes, and a two-lane exit, the off-ramp still backs up onto the I-70 mainline in the PM peak and results in queues for more than one mile (approximately 5,800 feet). It is anticipated that this congestion would persist for approximately three hours during the daily PM peak period.

Without the proposed roadway, the study team expects the LOS to worsen as development in the area continues. The proposed project (I-70/David Hoekel Parkway interchange) would alleviate congestion and provide relief to this and the other I-70 adjacent interchanges as the community of Wentzville continues to grow.

F. Selected Alternative

The Selected Alternative for the project is Alternative 2. The Reasonable Alternatives Screening Matrix, shown in Exhibit II-3, provides comparisons of the No-Build and Reasonable Build Alternatives 1, 2 and 3. The Exhibit highlights Alternative 2 as the Selected Alternative. The Reasonable Alternatives were compared and screened based on a 200-foot corridor width for each alternative. The Selected Alternative (Alternative 2) is also shown on Exhibit II-4. Plan plates showing the Selected Alternative in greater detail are included in Appendix A, along with the interchange configurations for I-70 and US 61.

While all reasonable build alternatives would satisfy the purpose and need of the proposed project, Alternative 2 would result in the least overall impacts to the natural and man-made environment and is lower in cost in comparison to the other build alternatives. Alternative 2 would result in the least impacts to streams and floodplains, the least impacts to residential units, minimal impacts to businesses, and the least amount of constructability constraints throughout the alignment. The alternative would limit residential and business impacts, accommodate economic development plans, maintain neighborhood cohesion, and provide connections to existing facilities to improve traffic flow in the northwestern portion of Wentzville. In addition, this alternative has been coordinated with local land use planning and corridor preservation initiatives, and the local community has been supportive of this alternative through both the previous and current planning efforts for the David Hoekel Parkway. For these reasons, this alternative has been identified as the Selected Alternative.

As described in Section C.5., Alternative 1 would result in greater impacts to residential units and community cohesion compared to the other alternatives as a result of widening Point Prairie Road. Impacts would result in direct residential takes and problems associated with driveway access. Impacts to existing utilities along Point Prairie Road and Peine Road would also be required to a greater extent than that of Alternatives 2 and 3. The connection from the identified US 61/David Hoekel Parkway interchange to a connection back to Route P near Mette Road would be approximately one mile longer than Alternative 2 and have a higher cost to construct. It would also result in greater constructability constraints, difficult traffic management during construction and greater utility conflicts than the other build alternatives. While capable of fulfilling the purpose and need of the proposed project, residential displacements and constructability issues would result in greater impacts to the man-made (built) environment.

Build Alternative 3 would satisfy the purpose and need of the proposed project. While Alternative 3 shares the alignment with Alternative 2 south of Scotti Road, the alignment north of Scotti Road would result in greater impacts compared to the other alternatives. Alternative 3 would result in greater stream and floodplain impacts along Scotti Road and greater impacts to prime farmland and floodplains south of Peine Road as compared to Alternatives 1 and 2. While capable of fulfilling the purpose and need of the proposed project, Alternative 3 would result in greater impacts to the natural environment as compared to the other build alternatives.

More detailed information and study of the beneficial and adverse social, economic and environmental impacts of the Reasonable Alternatives and the Selected Alternative were conducted and summarized within Chapter III – Affected Environment and Environmental Consequences.

G. Project Phasing

The entire David Hoekel Parkway, from I-70 to U.S. 61, would not be built all at once, but rather would be constructed in phases, as described in the funding and phasing plan shown on Exhibit II-5 and in Table II-8. Phase 1 of the project would include the U.S. 61/David Hoekel Parkway from Peine Road to Route P, as well as other complementary at-grade highway safety crossing improvements on U.S. 61. In recent years, there has been a growing, significant safety need at the proposed U.S. 61/David Hoekel Parkway interchange location, which has elevated this section of the overall corridor to first priority, as part of a 2013 City of Wentzville/St. Charles County/MoDOT cost share agreement. The cost share agreement was approved in March 2013 and the agencies have executed the interagency agreement. This cost share agreement secures committed funding for Phase 1 of the overall project and it is included in MoDOT's FY 2015-2019 STIP and EWGCOG's FY 2015-2018 TIP, with funding for construction in 2016.

The future phases of the project are inflated to year of expenditure dollars to account for inflation of construction costs of materials. The proposed new access at I-70/David Hoekel Parkway would be included as Phase 2 of the overall project and would include the David Hoekel Parkway from Meyer Road to the north of I-70, and Interstate Drive to the south of I-70, including the proposed I-70/David Hoekel Parkway interchange. In the funding and phasing plan in Table II-8 for the project, the City and St. Charles County demonstrate their fiscally constrained plan for completing this portion of the Parkway as Phase 2. The interchange would serve traffic volumes to the future parkway and adjacent land uses, and would relieve congestion at the two adjacent interchanges.

The City of Wentzville is committed to constructing all phases of the parkway and its proposed interchanges at I-70 and U.S. 61. The City plans to fund the project with local, city funding sources and through partnerships with St. Charles County. The City has designated the project for future funding within their City Improvement Plan. Additionally, approximately 28 acres of right of way have been dedicated to the future parkway by adjacent developers or purchased by the City of Wentzville as part of the Corridor Preservation Study efforts. This represents 30% of the overall right of way required for the corridor project.

All five phases of the project will be included within the EWGCOG's fiscally constrained element of the St. Louis regional long-range transportation plan prior to initiating construction of the project.

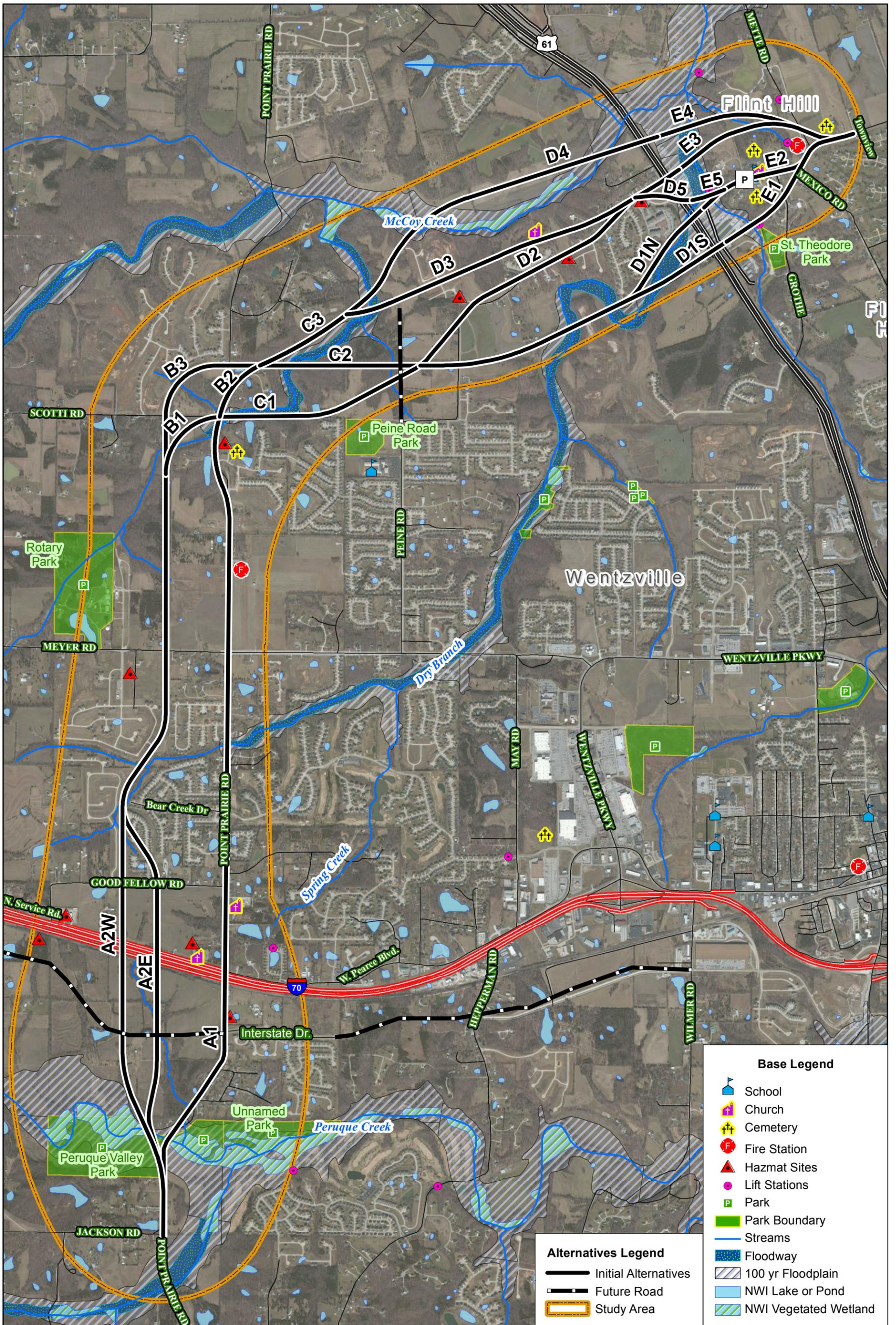
**Table II-8: David Hoekel Parkway Phasing and Funding Plan
(Inflated to year of expenditure dollars)**

Phase	Description	Length (Miles)	Funding Sources	Construction Year	Cost Estimate (Const. Year Dollars)
1	Peine Road to Route P (includes U.S. 61/David Hoekel Parkway Interchange)	0.34	Wentzville \$1.3M (2013) Wentzville \$1.2M (2015) St. Charles County \$3.5M (2013) MoDOT Cost Share \$6.0M (2016) MoDOT Safety Funds \$1.0M (2016)	2016	\$ 11,900,000
2	Interstate Drive to Meyer Road (includes I-70/David Hoekel Parkway Interchange)	1.91	Interchange: St. Charles County (60%) \$12.0M * Wentzville (40%) \$8.0M * Roadway: St. Charles County (80%) \$17.4M ** Wentzville (20%) \$6.4M **	2017-2022	\$ 41,800,000
3	Point Prairie Road to Peine Road	1.80	St. Charles County (80%) \$11.8M ** Wentzville (20%) \$2.9M **	2023-2027	\$ 14,700,000
4	Meyer Road to Point Prairie Road	1.44	St. Charles County (80%) \$9.6M **/** Wentzville (20%) \$2.4M **/**	2028-2032	\$ 12,000,000
5	Jackson Road to Interstate Drive	0.78	St. Charles County (80%) \$10.2M **/** Wentzville (20%) \$2.6M **/**	2033-2037	\$ 12,800,000
Total		6.27			\$ 93,200,000

* Footnote: Anticipate seeking Federal and State Funds to off-set local costs shown above, as opportunities become available in the future as supplemental funding.

** Footnote: Anticipate seeking Federal Funds to off-set local costs shown above, as opportunities become available in the future as supplemental funding.

*** Footnote: Subject to reauthorization of Wentzville City and St. Charles County 1/2 Cent Transportation Sales Tax.



Base Legend

- School
- Church
- Cemetery
- Fire Station
- Hazmat Sites
- Lift Stations
- Park
- Park Boundary
- Streams
- Floodway
- 100 yr Floodplain
- NWI Lake or Pond
- NWI Vegetated Wetland

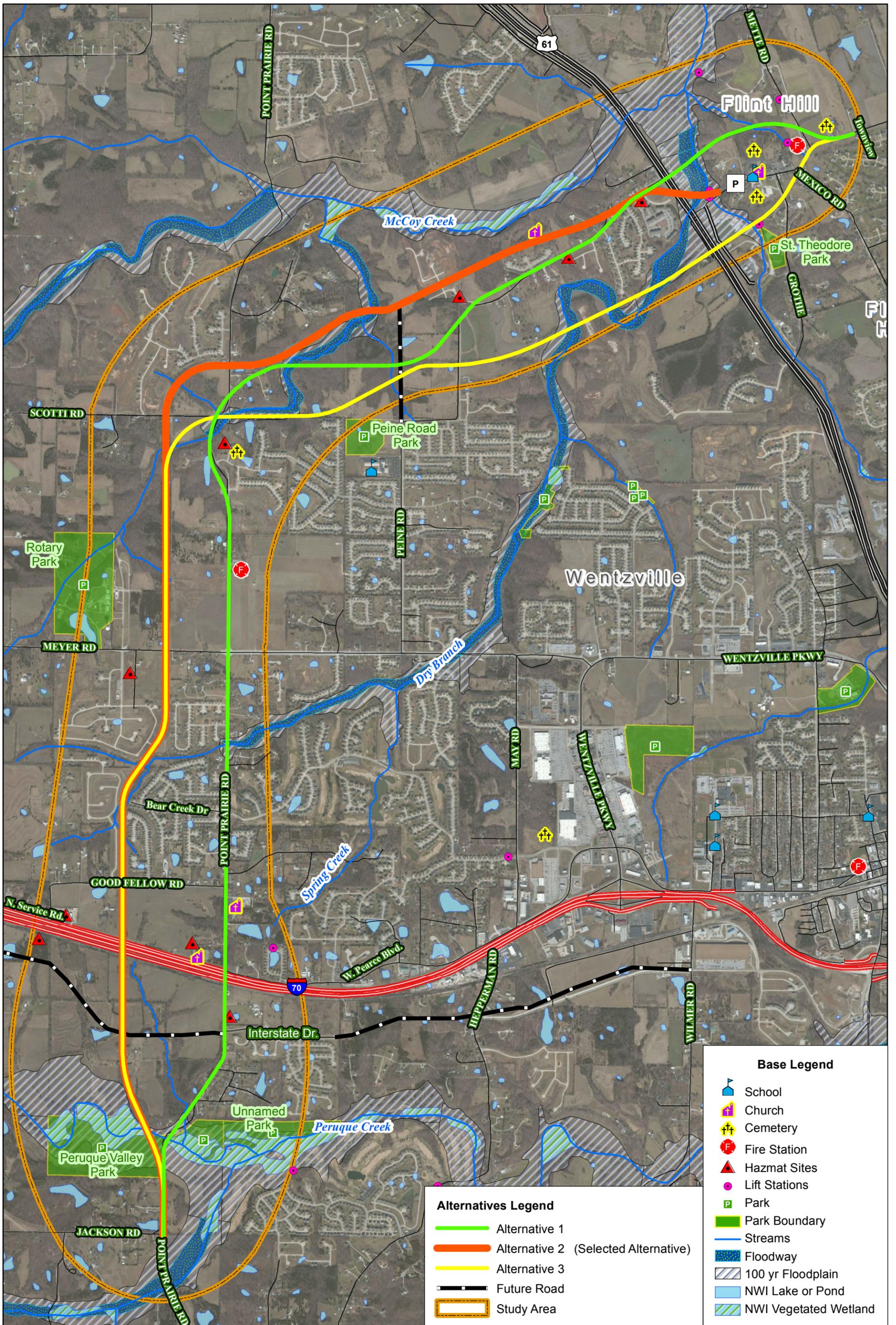
Alternatives Legend

- Initial Alternatives
- Future Road
- Study Area



**David Hoekel Parkway EA
Initial Alternatives**

Exhibit II-1



- Base Legend**
- School
 - Church
 - Cemetery
 - Fire Station
 - Hazmat Sites
 - Lift Stations
 - Park
 - Park Boundary
 - Streams
 - Floodway
 - 100 yr Floodplain
 - NWI Lake or Pond
 - NWI Vegetated Wetland
- Alternatives Legend**
- Alternative 1
 - Alternative 2 (Selected Alternative)
 - Alternative 3
 - Future Road
 - Study Area



David Hoekel Parkway EA
Reasonable Alternatives
Exhibit II-2

Evaluation Factors	Units	No-Build	Build Alternatives		
			Alternative 1	Alternative 2	Alternative 3
Engineering Issues					
Compliance with Purpose & Need	Yes/No	No	Yes	Yes	Yes
Project Length	Miles	N/A	6.93	6.30	6.82
Project Construction Costs (2013 Dollars)					
Roadway Construction (+ Interchanges I-70 and US 61)	\$ Millions	\$0.0	\$61.0	\$48.6	\$60.8
Bridge/Structures	\$ Millions	\$0.0	\$4.1	\$6.1	\$7.6
Right-of-Way Acquisition	\$ Millions	\$0.0	\$11.9	\$7.0	\$8.7
Miscellaneous Costs	\$ Millions	\$0.0	\$7.2	\$5.5	\$7.6
Total Project Cost Estimate (+ 20% Contingency)	\$ Millions	\$0.0	\$97.2	\$78.1	\$98.4
Constructability Issues					
Difficulty of Construction	Rating	1	4	3	4
Traffic Accommodation During Construction	Rating	1	4	2	2
Access Impacts to Adjacent Properties	Rating	1	4	2	3
Impacts to Existing Utilities	Rating	1	4	3	3
Environmental Issues					
Prime Farmland Impacts	Acres	0	9.4	9.9	15.3
Stream Impacts	Linear Feet	0	2,572	2,043	3,691
Stream Crossings	No.	0	9	11	15
Wetland Impacts (NWI-Mapped)	Acres	0	0.4	0.6	0.6
Pond Impacts (jurisdictional only)	Acres	0	2.22	0	0
Floodplain Impacts	Acres	0	18.6	11.0	30.5
Forest Impacts (wooded remnants)	Acres	0	37.7	40.3	41.9
High Quality Natural Community Impacts	Acres	0	0	0	0
Threatened & Endangered Species Critical Habitat	No. Species	0	0	0	0
Cultural Resources (Adverse Effect)					
NRHP Listed Architectural Resources	No.	0	0	0	0
NRHP Listed Archeological Sites	No.	0	0	0	0
NRHP Eligible Architectural Resources	No.	0	0	0	0
NRHP Eligible Archeological Sites	No.	0	0	0	0
Hazardous Material Sites (Med. or High Contamination)	No.	0	0	0	0
Social and Economic Issues					
Right of Way Acquisition Impacts					
Single-Family Residential (Total Impacts)	No.	0	18	3	4
Single-Family Residential (Partial Impacts)	No.	0	30	13	16
Multi-Family Residential (Apts.) (Total Impacts)	No. Units	0	0	0	0
Multi-Family Residential (Apts.) (Partial Impacts)	No.	0	1	1	0
Businesses (Total Impacts)	No.	0	2	0	0
Businesses (Partial Impacts)	No.	0	3	1	1
Public/Community Facilities (Total Impacts) *	No.	0	0	0	0
Public/Community Facilities (Partial Impacts) *	No.	0	4	3	0
Parkland Impacts - Section 4(f)/6(f)	Acres	0	0.2	0	0
Minority or Low-Income Community Impacts	Rating	1	1	1	1
Neighborhood/Community Cohesion	Rating	1	3	2	2
Consistency with Community/Land Use Plans	Rating	5	3	1	3

NOTE: Impacts are based on a 200-foot wide corridor for each alternative, and impacts could be minimized as the alternative moves forward into design.

The 200-foot corridor includes roadway travel lanes, sidewalks on each side, and temporary construction easements on each side.

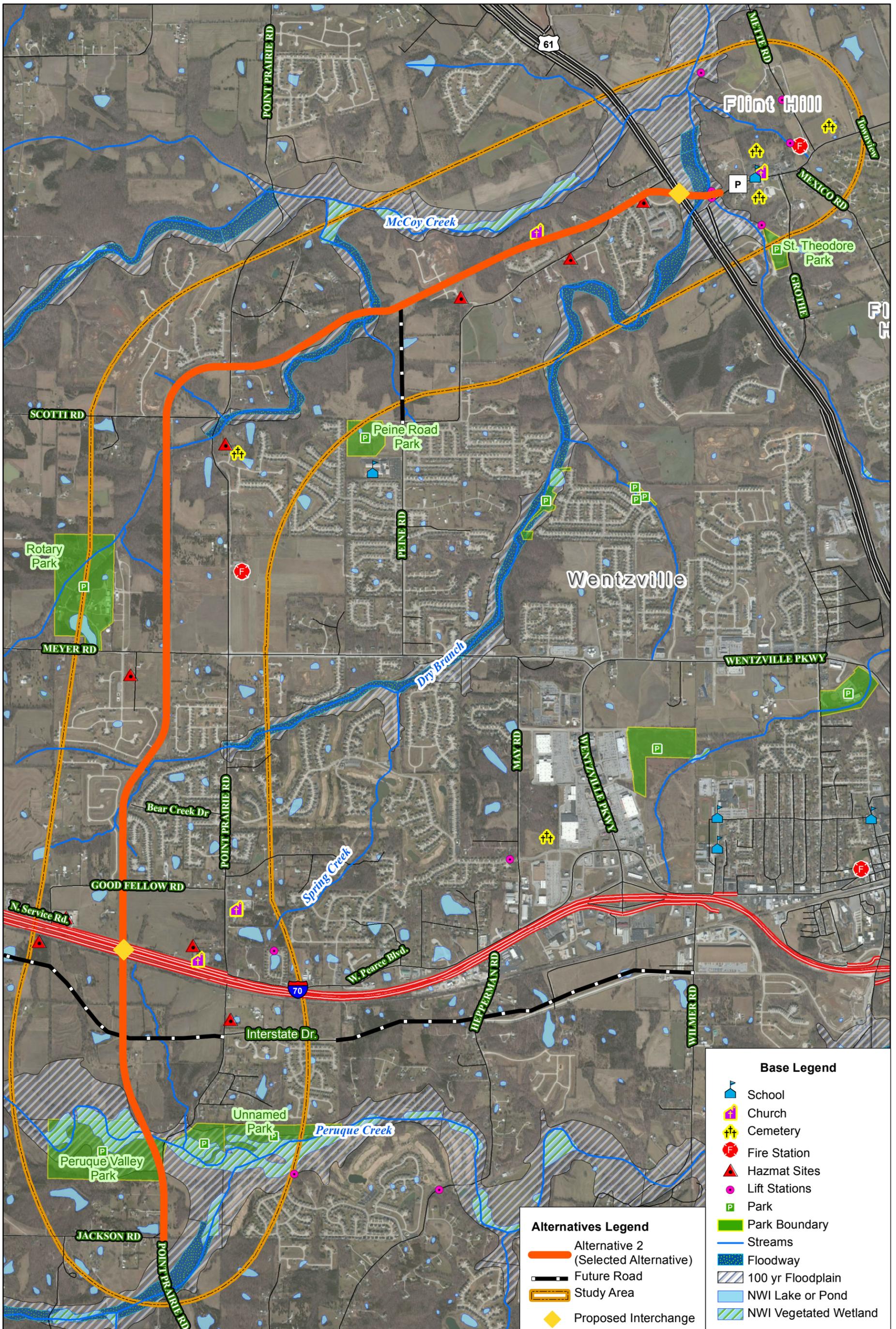
* Includes churches, cemeteries, schools and other public/semi-public properties. Parkland impacts are given separately.

Selected Alternative

Rating Scale: 1 Low Impact 2 Low/Moderate Impact 3 Moderate Impact 4 Moderate/High Impact 5 High Impact



David Hoekel Parkway EA
Reasonable Alternatives
Screening Matrix
Exhibit II-3



Base Legend

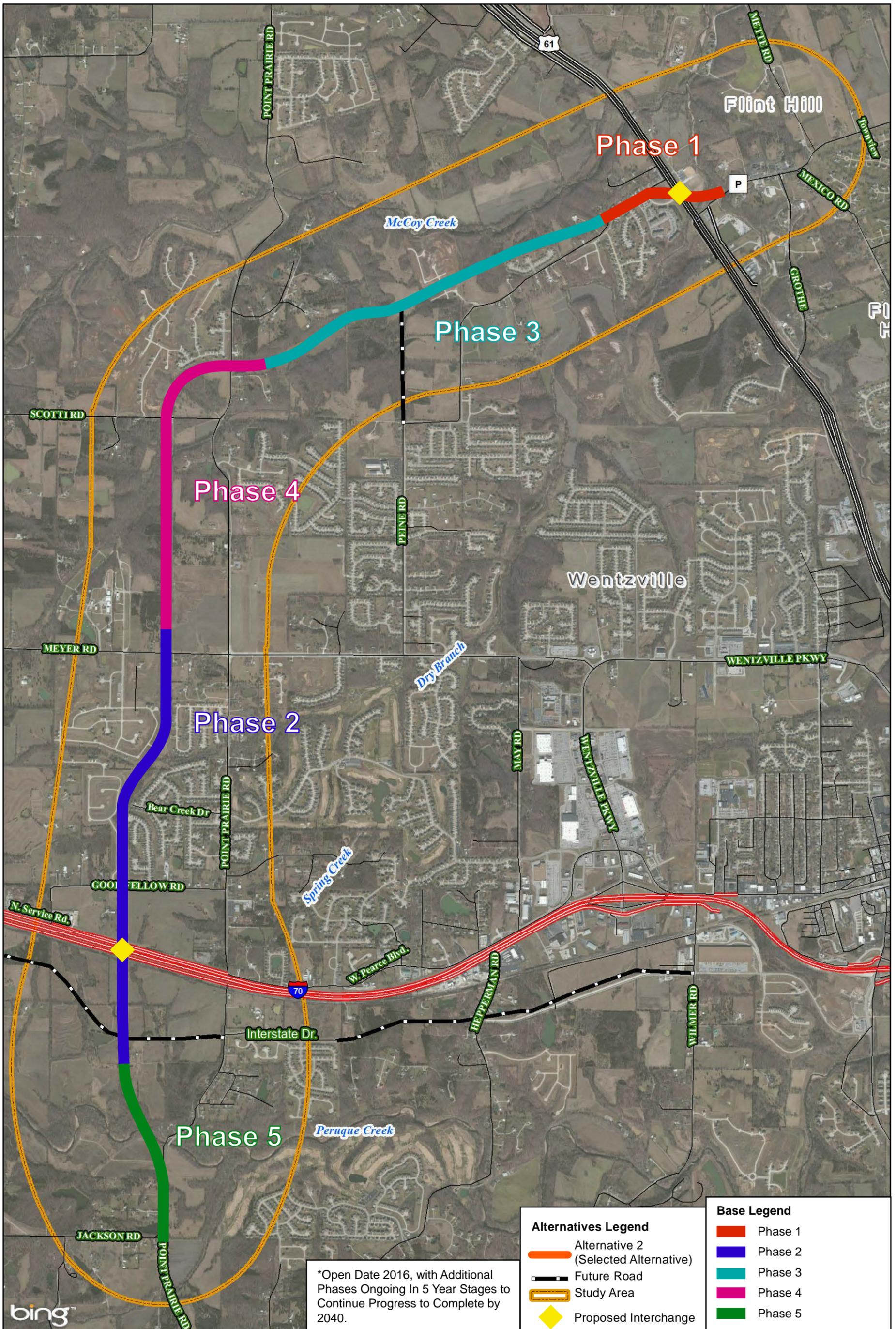
- School
- Church
- Cemetery
- Fire Station
- Hazmat Sites
- Lift Stations
- Park
- Park Boundary
- Streams
- Floodway
- 100 yr Floodplain
- NWI Lake or Pond
- NWI Vegetated Wetland

Alternatives Legend

- Alternative 2 (Selected Alternative)
- Future Road
- Study Area
- Proposed Interchange



David Hoekel Parkway EA
Selected Alternative
Exhibit II-4



*Open Date 2016, with Additional Phases Ongoing In 5 Year Stages to Continue Progress to Complete by 2040.

Alternatives Legend

- Alternative 2 (Selected Alternative)
- Future Road
- Study Area
- Proposed Interchange

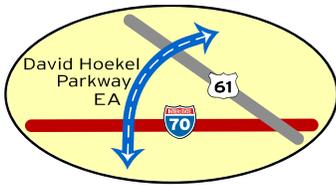
Base Legend

- Phase 1
- Phase 2
- Phase 3
- Phase 4
- Phase 5

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David Hoekel Parkway EA
Exhibit II-5: Phasing Plan



CHAPTER III

Affected Environment and Environmental Consequences

The Reasonable Alternatives Screening Matrix, shown in Exhibit II-3 in Chapter II, details comparisons and summarizes impacts of the No-Build and Reasonable Build Alternatives 1, 2 and 3. Descriptions of the alignments of the alternatives can be found in Chapter II, Alternatives Considered. The three Reasonable Alternatives were carried forward into Chapter III, Affected Environment and Environmental Consequences, in order to evaluate and compare their potential social, economic and environmental impacts. The impacts of each Reasonable Alternative are explained in the following sections, and those of the Selected Alternative corridor are discussed in more detail and shown on Plan Plates in Appendix A. The Reasonable Build Alternatives 1, 2 and 3 were compared and screened based on a 200-foot corridor width for each alternative. The 200-foot corridor includes the roadway travel lanes, sidewalks on each side, and construction easements on each side to allow for cut and fill operations.

Subsequent to the approval of the Draft EA in 2009, an alternate to the US 61 interchange location and type included with Alternatives 1 and 2 has been proposed. As part of the revised Selected Alternative (Alternative 2), the alternate location would provide a shorter connection to Route P, and would minimize impacts to McCoy Creek and Dry Branch. The previous interchange location is still evaluated as a part of Reasonable Alternative 1. The EA has been updated to include the evaluation of the new alternate as a part of the Selected Alternative.

A. Social and Economic Characteristics

1. NEIGHBORHOOD AND COMMUNITY COHESION

Neighborhoods and communities are described as areas where residents share common geographic identities and other ties or interests. The study area is in a mostly rural setting; however it is located at the edge of an area that is experiencing a lot of new development. As such, there are old, as well as new neighborhoods (designated as subdivisions) among the agricultural and wooded areas. The subdivisions/neighborhoods and their general locations are shown on Exhibit III-1 and are as follows:

- *Prairie View Acres* – an established single-family subdivision located south of I-70, east of Point Prairie Road
- *Glenhurst* – a new single-family subdivision (not yet complete) located south of I-70, east of Point Prairie Road.
- *Langtree Estates* – an established single-family subdivision located on the north side of I-70, east of Point Prairie Road.
- *West Plains Estates* – an established single-family subdivision located on the east side of Point Prairie Road, just north of Goodfellow Road.
- *Shannon Glen Estates* – an established single-family subdivision located on the east side of Point Prairie Road, just north of Goodfellow Road.
- *The Fountains at Bear Creek* – a recently completed single-family subdivision located between Meyer Road and I-70, west of Point Prairie Road

- *Keeneland Trails* – a new single-family subdivision (not yet complete) located between Meyer Road and I-70, west of Point Prairie Road
- *Stonemoor* – a new single-family subdivision (not yet complete) located between Meyer Road and I-70, west of Point Prairie Road
- *Shadow Ridge Estates* – a new single-family subdivision (not yet complete), located between Meyer Road and I-70, west of Point Prairie Road
- *Bear Creek* – a single-family and duplex subdivision within the Bear Creek golf course, located between Meyer Road and I-70, east of Point Prairie Road
- *Wentzville Senior Housing* – a new retirement village (not yet complete) located south of Scotti Road, west of Point Prairie Road
- *Wynncrest* – a new single-family subdivision (not yet complete) located south of Scotti Road, east of Point Prairie Road
- *Liberty Grove* – a new single-family subdivision (not yet complete) located south of Scotti Road, east of Point Prairie Road
- *Autumn Valley Lakes* – a single-family subdivision located south of Scotti Road, east of Point Prairie Road
- *Villages at Huntleigh* – construction is just beginning on this single-family subdivision with an area of multi-family attached units on the north side of Scotti Road, west of Point Prairie Road.
- *Westhaven* – construction has not yet begun for this new single-family subdivision, which will be located west/northwest of Peine Road.
- *The Villages at Prairie Bluffs* – a new single-family subdivision (not yet complete) located north of Scotti Road, west of Point Prairie Road
- *Hannah Ridge Estates* – a new single-family subdivision (not yet complete) located west of US 61, northwest of Peine Road
- *Hickory Hollow* – a newly completed single-family subdivision located west of US 61, north of Peine Road.
- An established single-family residential neighborhood, located on the north side of Peine Road, just west of US 61.
- *Majestic Oaks* – a newly completed single-family subdivision located west of US 61, south of Peine Road
- *Peine Lake Estates* – a new single-family subdivision (not yet complete) located west of US 61, south of Peine Road
- *Peine Lakes Apartments* – a newly completed apartment complex located west of US 61, south of Peine Road
- *Timber Trace* – construction is just beginning on this new single-family subdivision, located west of US 61, south of Dry Branch.
- *Town of Flint Hill* – the downtown area of Flint Hill, along Highway P, is a “small-town” mixed-use area composed of residential, commercial, a church, and a school.
- *Town & Country Acres* – an established single-family subdivision, located just to the east of downtown Flint Hill, south of Highway P.

a. Reasonable Alternatives Impacts

No-Build Alternative

The No-Build Alternative would have no impacts to existing neighborhoods and community cohesion.

Alternative 1

Alternative 1 would have a moderate impact on existing neighborhoods and community cohesion. Although the majority of the alignment is on existing roads, and widening of Point Prairie Road and Peine Road would result in several residential impacts to adjacent houses, it would not bisect existing neighborhoods or impact community facilities. However, it would disrupt the existing Hickory Hollow subdivision adjacent to, and on the north side of Peine Road (about 3,600 feet west of US 61) by impacting a row of houses along Peine Road.

Alternative 2

Alternative 2 would have a low to moderate impact to existing neighborhoods and community cohesion. Although it would be aligned adjacent to new or proposed residential subdivisions, it would not sever or disrupt any existing established neighborhoods or communities. The new and proposed subdivisions have been planned to include a dedicated area for a future roadway. As a result, the homes on either side of the alignment are enveloped in their own separate neighborhoods as planned.

Alternative 3

Alternative 3 would also have a low to moderate impact to existing neighborhoods and community cohesion, as the south half of this alternative follows the same alignment as that of Alternative 2, thereby having the same impacts to the new subdivisions between Meyer Road and Goodfellow Road. The north half travels through mostly undeveloped land and along the south side of Flint Hill without severing any existing neighborhoods or impacting any community facilities.

b. Selected Alternative Impacts (Alternative 2)

The Selected Alternative would not sever or disrupt any existing established neighborhoods or communities. It would, however, travel through three new residential subdivisions. Two are currently being developed (Keeneland Trails and Hannah Ridge Estates), and one (Westhaven) is platted but not yet under construction. All three of these subdivisions were planned in cooperation with the City of Wentzville to include a dedicated area for a future roadway. These subdivisions have been designed to accommodate a future roadway, as well as to provide residents access to this roadway. As a result, the homes on either side of the Selected Alternative alignment are enveloped in their own separate neighborhoods, as planned, but do have access to the Selected Alternative.

The Selected Alternative alignment would also travel between two separate developing residential subdivisions (Stonemoor and Shadow Ridge Estates), and adjacent to one developing residential subdivision (Villages at Huntleigh). All three of these areas have been planned to accommodate a future roadway in a dedicated area.

Based on the above considerations, the Selected Alternative would not have a negative impact on neighborhoods and community cohesion. It could have positive impacts on the neighborhoods by providing better access to other community facilities, as well as the regional transportation system including I-70 and US 61. In addition, the Selected Alternative would avoid impacts to the existing community of Flint Hill, as it would terminate at existing Route P just east of US 61. The proposed interchange at US 61 would aid the community of Flint Hill with safe and efficient access to US 61, as well as to the Selected Alternative.

2. CHANGES IN TRAFFIC PATTERNS

The Reasonable Alternatives would provide a new roadway connection between I-70 and US 61, thus providing a new route for travel within the western portion of the City of Wentzville that

does not currently exist. The David Hoekel Parkway is expected to improve existing traffic patterns by providing an important local north/south link for new residential housing to access the I-70 corridor, as well as an important east/west link to US 61. In addition, while the new roadway is not anticipated to carry a large amount of through traffic destined between I-70 and US 61, it does provide system redundancy, which can help with incident management. The David Hoekel Parkway is anticipated to attract an average of 26,000 vehicles per day (vpd) west of US 61 in Wentzville and approximately 5,000 east of US 61 in Flint Hill in 2040. (refer to Chapter II, Section E, Traffic Analysis, for further discussion on traffic circulation and analysis).

a. Reasonable Alternatives Impacts

No-Build Alternative

The No-Build Alternative would result in no changes to existing traffic patterns.

Alternative 1

Most of the Alternative 1 alignment is improvement to the existing roadways and would, therefore, result in only minor changes in traffic patterns. One change would occur near Scotti Road where the alignment would curve to the east and provide a connection with existing Peine Road. Another change would occur at the proposed intersection of US 61/Peine Road where the alignment would travel to the north of Flint Hill and connect with existing Highway P at the eastern terminus of the project.

Alternative 2

The Alternative 2 alignment would change traffic patterns by providing travelers of Point Prairie Road with an alternative north-south route, and an alternative to east-west Peine Road. At the proposed intersection of US 61/Peine Road/Route P, this alignment would provide access to the downtown area of Flint Hill.

Alternative 3

The Alternative 3 alignment would result in similar changes in traffic patterns as those described for Alternative 2. At the proposed intersection of US 61, this alignment would travel to the south of Flint Hill and connect with existing Highway P at the eastern terminus of the project.

b. Selected Alternative Impacts (Alternative 2)

Since the Selected Alternative would provide a new route for motorists to travel, some reductions in traffic demand can be expected in other corridors or at other interchanges. There is not anticipated to be a significant change in through-traffic volumes on I-70 or US 61 as a result of the new roadway. However, the existing I-70 interchanges at Wentzville Parkway (25 percent traffic reduction) and Route W/T (7 percent traffic reduction), as well as Point Prairie Road (56 percent traffic reduction) on the City's local roadway system, are anticipated to experience traffic relief due to change in travel patterns (refer to Table II-5 in Chapter II).

The Selected Alternative would also result in some changes in existing traffic patterns for the local roadway network throughout the study area. These changes are described in the following section:

- At the south end of the project, Point Prairie Road would intersect with the Selected Alternative just south of Peruque Creek, and the Selected Alternative would be aligned on existing Point Prairie Road to intersect with Jackson Road.
- The South Service Road adjacent to I-70 would terminate at Point Prairie Road if I-70 is

expanded for truck-only lanes in the future. Point Prairie Road would then intersect with planned Interstate Drive (a separate project). Interstate Drive will intersect with the Selected Alternative to provide access to the north side of I-70, and will also provide access to the west side of the Selected Alternative.

- On the north side of I-70, the North Service Road (W. Pearce Blvd.) would be realigned to merge with Point Prairie Road and then with Goodfellow Road which would intersect with the Selected Alternative.
- The Selected Alternative would provide new intersections with Meyer Road, Scotti Road, and Point Prairie Road (north of Scotti Road), in addition to a new intersection with the future Peine Road extension.
- Just west of US 61, the Selected Alternative would be aligned immediately adjacent to, and on the south side of existing Peine Road. Peine Road, on the south side of the Selected Alternative alignment, would “T” into the Selected Alternative where the two meet. Peine Road, on the north side of the Selected Alternative alignment, would then become an access road for most of the homes on the north side. The proposed interchange would be accessible from Peine Road and the nearby residential neighborhoods, and from the apartment complex to the southwest. The proposed interchange would also provide a connection to the west outer/service road, and connections on the east side of US 61 with the east outer/service road and with Highway P which leads to the downtown area of Flint Hill.
- On the east side of US 61, the service road would intersect with Highway P and be realigned on the north side of Highway P. Local access to Flint Hill would be maintained off of the east service road and from Highway P.

3. PUBLIC AND COMMUNITY FACILITIES, PARKS AND RECREATION AREAS

The public and community facilities located within the study area include the following: public parks, schools, churches, cemeteries, and public safety/emergency facilities. These are discussed below and are located on Exhibit III-1.

a. Public Parks and Recreation Areas

Publicly-owned parks, recreation areas, and wildlife and waterfowl refuges have special status under the provisions of Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966. Before a transportation project is allowed to proceed with any encroachment on a Section 4(f) property, a specific evaluation must be conducted that tests all proposed alternatives. Before a Section 4(f) property can be used, an evaluation must lead to a finding that there is no feasible and prudent alternative to the taking of that park, recreation area or refuge, and that all possible planning to minimize harm to the Section 4(f) resource has been undertaken. In addition, the National Park Service (NPS) administers the Land and Water Conservation Fund [LWCF, known as Section 6(f) funds] for recreational land acquisition and development.

A review of land use maps, the City/county park inventory map from the City’s 2006 Comprehensive Plan, and a land use survey for the project corridor indicated that there are four public park lands (all of which are owned by the City of Wentzville) in or adjacent to the study area: Rotary Park, Peine Road Park, Peruque Valley Park, and an unnamed park. The FHWA has determined that all four of these parks are Section 4(f) eligible; however, none of them have been the recipient of Section 6(f) funds.

- *Rotary Park* is a City-owned, 72-acre developed park, located north of Meyer Road and west of the Selected Alternative corridor. It contains a playground, amphitheater,

restrooms, sand volleyball courts, horseshoe pits, picnic pavilions, a walking trail, and a lake. It also includes buildings and open areas that are used for the annual St. Charles County Fair.

- *Peine Road Park* is a City-owned, 15-acre undeveloped parcel, and is located east of the Scott Road/Point Prairie Road intersection, near Peine Road. It does not yet have an official name, and development of the park is in the future, as there is currently no funding available for development.
- *Peruque Valley Park* is a City-owned, 75-acre undeveloped parcel located west of S. Point Prairie Road (south of I-70), along Peruque Creek. Although there is currently no funding available for development, the conceptual plans for the park include amenities such as baseball fields, soccer fields, concessions, restrooms, walking trails, and fishing areas. This park land was recently acquired by the City and a corridor for the Selected Alternative has been dedicated along the eastern edge of the property through coordination with the Parks & Recreation Department (see plat in Appendix B).
- *Unnamed park along Peruque Creek* – This city-owned, predominantly wooded park land is located along the north side of Peruque Creek, east of S. Point Prairie Road (south of I-70). Although there is currently no access to this property, future access may be provided off of S. Point Prairie Road. This park is shown on the park inventory map of the City's Comprehensive Plan, and the Parks and Recreation Department is planning for it to someday be used as a trailhead or a stopping place along a future trail that will travel along Peruque Creek.

Although the Golf Club of Wentzville (located at the south end of the study area), Bear Creek Golf Club (located on the east side of Point Prairie Road, south of Meyer Road), the Sandbox volleyball complex (located on the east side of US 61 in Flint Hill), and the soccer field complex (located northeast of the Highway P/US 61 intersection) are recreation areas, they are privately-owned and are, therefore, not Section 4(f) eligible properties. In addition, St. Theodore Park (located at the northeast terminus of the study area) contains two baseball fields, however, it is privately-owned, and therefore not Section 4(f) eligible.

Impacts – The only Reasonable Alternative that would have potential impacts to a public park is Alternative 1. It would impact a small (0.2 acre) portion of the southwest corner of the City's unnamed and undeveloped park, located east of Point Prairie Road at the south end of the study area. The minimal impacts could result in a 'de minimis' finding, thereby possibly avoiding a full Section 4(f) Evaluation. None of the public parks/recreation areas would be impacted by the Selected Alternative (Alternative 2). As stated above, the eastern edge of Peruque Valley Park has a corridor dedicated specifically for the Selected Alternative alignment (see plat in Appendix B). As such, there is no conversion of existing park use to transportation use, and thus no Section 4(f) impact. The soccer field complex would be partially impacted by the Selected Alternative, but it is privately-owned and there would be no Section 4(f) Evaluation required.

b. Schools

There are two schools within or adjacent to the study area. St. Theodore Catholic School is a private K-8 school located at the east terminus of the study area, along Highway P in Flint Hill. There is also one public school, Peine Ridge Elementary School, located adjacent to, but outside of the study corridor, on the west side of Peine Road.

Impacts – None of the Reasonable Alternatives would have negative impacts on either of these schools; however, both of the schools would benefit from the improved access that the parkway would provide to the region.

In addition, the Peine Road extension (connecting to the Selected Alternative) would provide improved access for the Peine Ridge Elementary School.

c. Churches

Three existing churches are located in the study area. The Crossroads Free Will Baptist Church is located just west of Point Prairie Road, on the north side of I-70. The Agape Word Center is located on the east side of Point Prairie Road, about 1/10 of a mile north of I-70. The St. Theodore Catholic Church is located just east of US 61, on the north side of Highway P in Flint Hill. There is also one property that is currently owned by the Faith United Church of Christ of Wentzville. It is located north of Peine Road (north of the Hickory Hollow subdivision), about one-half mile west of US 61. This property is currently vacant and there are no current plans filed with the City of Wentzville for a church to be constructed on the property.

Impacts – None of the Reasonable Alternatives would directly impact any of the existing churches, however, Alternative 1 would have partial impacts to three church properties. The Selected Alternative (Alternative 2) would cross an access road leading to the parcel that is owned by the Faith United Church of Christ, thereby removing access to the property. As stated in the paragraph above, the property is currently vacant. Access can be restored by providing a new access road from the church property that travels along the north side of the Selected Alternative and intersects with it at the proposed intersection with existing Peine Road (see Sheet 12 in Appendix A).

d. Cemeteries

There are four known cemeteries in the study area. One is located behind (north of) St. Theodore Catholic Church at the north terminus of the study area, one is located east of US 61 and south of Highway P, one is located just southeast of the Point Prairie Road/Scotti Road intersection, and one is located at the east terminus of the study area north of Highway P.

Impacts – None of these cemeteries would be impacted by the Reasonable Alternatives.

e. Public Safety/Emergency Facilities

The issue of public safety relates to potential disruptions and improvements to police, fire and emergency service delivery. The City's police facility is located outside of the study area, and all but one of the combined fire/ambulance facilities that serve the immediate area is located outside of the study area. The Wentzville Fire Protection District encompasses the entire project study area. There is one fire station (Fire Station No. 2) in the study area, located at the north terminus of the corridor off of Mette Road in Flint Hill. There is also a new Emergency Medical Service (EMS) facility on North Point Prairie Road (about 1/3 mile north of Meyer Road).

Impacts – None of the safety/emergency facilities would be directly impacted by any of the Reasonable Alternatives. In the long term, the Selected Alternative can be expected to improve local and regional area circulation. The roadway would enhance the overall public safety by providing more direct access to the developing area in which the study area is located. Fire Station No. 2 on Mette Road, and the new EMS facility on N. Point Prairie Road would benefit from improved access to US 61 and the Selected Alternative. Response times for emergency vehicles and police personnel would improve as a result of providing smoother flowing transportation facilities in the vicinity of the corridor.

Construction related activities may temporarily disrupt routes and travel patterns in the short term for police, fire and ambulance services responding to calls near intersections with the Selected Alternative. Communication between the City and their emergency services during

construction would be imperative in order to facilitate the planning of temporary alternate routes for emergency vehicles.

4. PEDESTRIAN AND BICYCLIST CONSIDERATIONS

A major consideration in highway planning and design is the interaction among motorists, pedestrians and bicyclists. The City's Comprehensive Plan includes a map showing the St. Charles County Trails and Greenways Development Plan. This map indicates on-street bike lane routes and separated paths that are designated as either existing, planned, or possible (future) routes. These routes, in relation to the study area, are shown on Exhibit III-1.

No existing bike/pedestrian paths or bike lanes exist within or adjacent to the corridors of the Reasonable Alternatives, however, the trails/greenways plan identifies future separate paths and others that are designated as future bike lanes (on-street). The Trails and Greenways Development Plan shows a future separate path following Peruque Creek near the southern terminus of the project. In addition, future bike lanes are shown along Point Prairie Road (Alternative 1) beginning at Peruque Creek and traveling north. Near the northern terminus of the study area, on the west side of US 61, future separate paths are shown along the riparian corridors of McCoy Creek and Dry Branch. On the east side of US 61, future bike lanes are shown along Route P, and future separate paths are shown along McCoy Creek and Dry Branch. A trail is also planned to follow the Selected Alternative alignment. In addition, the City of Wentzville's future Comprehensive Land Use Plan shows a future trail traveling along Meyer Road to Rotary Park, thereby crossing the Reasonable Alternative corridors at Meyer Road. There are currently no sidewalks along any of the existing streets or roads that would be intersected by the Reasonable Alternatives.

The Reasonable Alternatives would include a 6-foot wide sidewalk and/or bicycle/pedestrian path on each side of the roadway, separated from the roadway by a 7.5-foot wide grass strip (refer to Figure II-2 in Chapter II). The proposed paths will connect with any future paths that are in place when the roadway is constructed.

5. DEMOGRAPHICS AND SOCIAL CHARACTERISTICS

Demographic and social characteristics were developed for this study based on the 2010 U. S. census data. Estimated figures are noted as such in a footnote for applicable tables. The majority of Wentzville's growth from 2000 to 2010 has been within and near the study area. The census data is presented in tables for the City of Wentzville, St. Charles County, the City of St. Louis, and the State of Missouri.

a. Population

Between 2000 and 2010 the City of Wentzville's population increased approximately 321 percent. St. Charles County had a 27 percent increase from 2000 to 2010. Both growth rates were significantly higher than Missouri at seven percent, and the City of St. Louis which had a decline in population of about eight percent, for the same time period. Table III-1 shows the population from the Census 2010.

There was a higher percentage of individuals under the age of 18 in Wentzville in 2010 as compared to the county, St. Louis, and state figures. The percentage of individuals over 64 was lower for Wentzville than it was for the other demographic regions in 2010. Women were in the majority in all areas in 2010, but Wentzville and St. Louis had a slightly higher percentage than the other demographic areas.

Table III-1: Population (2000 & 2010)

Population, Gender and Age	2010 Census Data			
	Missouri	St Louis City	St. Charles County	Wentzville
Total Population	5,988,927	319,294	360,485	29,070
Change from 2000	+393,716	-28,895	+76,602	+22,174
% Change from 2000	+7.0%	-8.3%	+27.0%	+321.5%
% Male	49.0%	48.3%	49.1%	48.5%
% Female	51.0%	51.7%	50.9%	51.5%
% Under 18	23.8%	21.2%	28.4%	33.7%
% 19-64	62.2%	67.8%	60.4%	41.2%
% 65+	14.0%	11.0%	11.2%	7.5%

Source: U. S. Census Bureau 2010

b. Education

Data on educational attainment for areas reviewed is shown in Table III-2. In estimates for 2010, the Wentzville area contained the lowest percentage, 3.7 percent, of adults over 25 years of age with less than a high school education. The remaining areas studied ranged from 5.3 to 12.9 percent of adults with no high school diploma in 2010.

Table III-2: Education (2010 and 2008-2010 Estimates)

Educational Attainment – Persons over 25	2010 Census Data			
	Missouri*	St Louis City*	St. Charles County*	Wentzville**
Over 25 years of age	3,984,849	212,328	238,203	16,579
Less than 9th grade	4.4%	5.6%	2.5%	2.3%
9th thru 12th grade, no diploma	8.7%	12.9%	5.3%	3.7%
High school grad or GED	31.9%	26.2%	27.5%	23.4%
Some college, no degree	22.6%	20.6%	22.5%	30.4%
Associate's degree	6.8%	6.2%	8.2%	8.7%
Bachelor's degree	16.0%	15.9%	22.5%	22.7%
Graduate or professional degree	9.5%	12.6%	11.5%	8.8%

* Source: U. S. Census Bureau, American Community Survey, 1-year estimate for 2010

** Source: U. S. Census Bureau, American Community Survey, 3-year estimate for 2008-2010

An examination of higher education statistics for areas reviewed finds the number of adults over 25 years of age in Wentzville who had a bachelor's degree was estimated to be the highest at 22.7 percent in the year 2010. The other areas ranged from estimates of 15.9 to 22.5 percent of adults with a bachelor's degree in 2010.

c. Minority Populations

The percentage of non-whites was somewhat similar for Wentzville and St. Charles County at 10 percent and 9.3 percent respectively in the year 2010. The City of St. Louis had the highest percentage of non-whites at about 56 percent, while the State of Missouri had a non-white population of about 17 percent.

Table III-3: Minority Populations (2010)

Racial Characteristics	2010 Census Data			
	Missouri	St Louis City	St. Charles County	Wentzville
Total Population	5,988,927	319,294	360,485	29,070
White	4,958,770	140,267	327,018	26,122
Black or African American	693,391	157,160	14,960	1,738
American Indian & Alaskan Native	27,376	838	851	76
Asian	98,083	9,291	7,850	356
Native Hawaiian or Other Pacific Islander	6,261	74	173	1
Other Race	80,457	4,102	3,323	239
Two or More Races	124,589	7,562	6,310	538
Hispanic or Latino (of any race)	212,470	11,130	9,983	788
% Minority (non-white)	17.2%	56.1%	9.3%	10.0%

Source: U. S. Census Bureau 2010

d. Housing Characteristics

The housing characteristics of the City of Wentzville are compared with St. Charles County, the City of St. Louis, and the State of Missouri characteristics in Table III-4.

Table III-4: Housing Characteristics (2010)

Housing Characteristics	2010 Census Data			
	Missouri	St Louis City	St. Charles County	Wentzville
Total Units	2,712,729	176,002	141,016	10,305
Total Vacant Units	337,118	33,945	6,742	538
Total Occupied Units	2,375,611	142,057	134,274	9,767
% Occupied	87.6%	80.7%	95.2%	94.8%
Owner Occupied	1,633,610	64,425	108,219	8,193
Renter Occupied	742,001	77,632	26,055	1,574
Percent Owner Occupied	68.8%	49.5%	80.6%	79.5%
Average Household Size	2.45	2.47	2.64	2.98
Median Home Value	\$134,500	\$119,900	\$196,900	\$210,900
Median Gross Rent	\$682	\$684	\$835	\$666

Source: U. S. Census Bureau 2010

In the year 2010, the City of St. Louis and the State of Missouri had the lowest percentage of occupied housing units at 80.7 and 87.6 percent respectively. St. Charles County had the highest occupancy rate at 95.2 percent, while Wentzville had the next highest occupancy rate of 94.8 percent.

In the year 2010, the highest median home value was in Wentzville at \$210,900, while the lowest was in the City of St. Louis at \$119,900. The county had a median home value of \$196,900. Median gross rent was highest in St. Charles County at \$835 in 2010, and lower, but somewhat similar in the other three demographic areas.

6. ECONOMIC CHARACTERISTICS

a. Employment

The number of persons employed in an area provides a direct measure of economic activity. Employment in higher paying jobs will provide economic stimulus. Table III-5 provides a summary of employment characteristics.

Table III-5: Employment Characteristics (2010 and 2008-2010 Estimates)

Employment Characteristics by Industry	2010 Census Data			
	Missouri*	St Louis City*	St. Charles County*	Wentzville**
Employed Person in CLF (civilian labor force)	2,733,876	143,572	183,021	13,774
Agriculture, Forestry, Fishing and Hunting, and Mining	47,689	190	1,476	77
Construction	161,710	5,094	11,997	903
Employed in Manufacturing	309,768	11,090	23,784	1,521
Wholesale Trade	78,608	2,965	6,027	842
Employed in Retail Trade	330,191	13,080	23,316	1,696
Transportation and Warehousing, and Utilities	139,157	6,670	7,955	738
Information	64,091	4,825	3,880	171
Finance, Insurance, Real Estate, and Rental and Leasing	190,905	8,841	18,062	1,627
Professional, Scientific, Management, Administrative, and Waste Management Services	240,638	15,818	19,141	1,234
Educational, Health and Social Services	660,567	39,784	37,559	2,565
Arts, Entertainment, Recreation, Accommodation and Food Services	248,691	20,117	16,770	1,135
Other Services (except public admin)	129,080	6,386	6,959	640
Public Administration	132,781	8,712	6,095	625

* Source: U. S. Census Bureau American Community Survey, 1-year estimate for 2010

** Source: U. S. Census Bureau American Community Survey, 3-year estimate for 2008-2010

In all of the areas studied, the highest estimated percentage of employees was in the educational, health and social services category (see Table III-5). The other two industries that employed substantial numbers of people were estimated to be retail trade and manufacturing. In addition, Wentzville showed a substantial estimated number of people employed in the finance, insurance, and real estate industry. The industry with the lowest estimated number of employees across all of the areas was agriculture, forestry, fishing and hunting, and mining. This is not surprising considering the suburban nature of most of the areas. Table III-5 provides a summary of estimated employment by industry for 2010.

b. Income and Poverty

Table III-6 identifies estimated income and poverty characteristics. As shown below, the City of St. Louis had the lowest median household income at \$32,688 in the year 2010 estimate, as well as having the highest percentage of persons below the poverty level at 27.8 percent. Wentzville had the highest median household income at an estimated \$69,339 and the lowest number of persons below poverty level at an estimated three percent. The lowest estimated per capita income in 2010 was in the City of St. Louis at \$21,069, and the highest was in St. Charles

County at \$29,170. The estimated per capita income for Wentzville was estimated as \$26,262.

Table III-6: Income and Poverty Characteristics (2010 and 2008-2010 Estimates)

Income and Poverty	2010 Census Data			
	Missouri*	St Louis City*	St. Charles County*	Wentzville**
Population for whom poverty status is determined	5,818,852	311,381	358,980	27,101
Median Household Income	\$44,301	\$32,688	\$64,608	\$69,339
Per Capita Income	\$23,920	\$21,069	\$29,170	\$26,262
Number of Persons Below Poverty Level	888,570	86,635	21,136	806
% of Persons Below Poverty Level	15.3%	27.8%	5.9%	3.0%

* Source: U. S. Census Bureau, American Community Survey, 1-year estimate for 2010

** Source: U. S. Census Bureau, American Community Survey, 3-year estimate for 2008-2010

7. ENVIRONMENTAL JUSTICE AND TITLE VI CONSIDERATIONS

The Executive Order on Environmental Justice 12898 states that, to the extent practicable and permitted by law, neither minority and/or low income populations may receive disproportionately high or adverse impacts as a result of a proposed project. The demographic baseline conditions, as noted in the following sections, were developed using existing sources of information available from the U.S. Bureau of the Census. This demographic baseline condition shows the racial and cultural affiliation, income and poverty levels, tenancy and housing valuation.

The City of Wentzville is committed to making relocation resources available to all residential and commercial displacees without discrimination. Property acquisition and relocation benefits will be made available to all affected property owners, residents and tenants as provided for by the Uniform Relocation Act.

The residents of Wentzville have a socio-economic profile containing racial and ethnic heritage populations and poverty levels that are lower than the State, and income and home ownership levels higher than the State. The Environmental Justice evaluation, which includes the census data presentation, indicates that the study area is not considered to have a low-income population or minority population that would require special considerations under the guidance of Environmental Justice procedures. None of the Reasonable Alternatives would result in disproportionately high or adverse effects for minority and/or low income populations within the project area. In addition, public meetings have been held in order to actively involve the residents in the NEPA process.

The Selected Alternative (Alternative 2) would acquire three single family residences. There are no multi-family or apartment buildings acquired for the Selected Alternative. The apartment complex, which would have a partial acquisition of undeveloped property, and located just west of US 61 and south of Peine Road, is not part of a government housing program.

B. Land Use

1. LAND USE PLANNING

The study area of the Selected Alternative is located within the City limits of Wentzville, with the exception of a small portion at the north terminus which is located in the City of Flint Hill.

In April of 2006, the City of Wentzville approved and adopted a Comprehensive Plan which is intended to act as a guide toward the future development of the City, and which currently includes a 2013 update. The City's Thoroughfare Plan, which was included in the updated Comprehensive Plan, shows a proposed interchange with US 61 at Highway P. The City of Flint Hill relies on their updated Comprehensive Plan (prepared in 2009) to guide planning activities within their community. To ensure the implementation of the Wentzville and Flint Hill comprehensive plans, both cities also employ Zoning Ordinances and Land Use Regulations. The Official Zoning Map of Wentzville is a companion to the Future Land Use Plan, and together, the plan and map guide development and reflect Wentzville's minimum standards for development in the community. In the City of Flint Hill, planning and zoning-related issues are dealt with by the Planning and Zoning Commission.

Existing land use categories located within the study area (see Exhibit III-2) are mostly residential and agricultural/open space. The residential areas are predominantly single-family, with the exception of a multi-family (apartment) complex near the intersection of Peine Road and US 61. There are seven areas that are considered park and/or recreational use: two private golf courses, one private sand volleyball complex, and four areas that are used as public park land. There is a commercial area on the east side of US 61, between Peine Road and Highway P, and a commercial area in downtown Flint Hill along Highway P.

Zoning classifications in the corridor include Agricultural, Single Family Residential, Planned Development Residential, Planned Development Mixed, General Commercial, Highway Commercial, and Industrial. Zoning classifications are designated for only those portions of the study area that is in the corporate limits of Wentzville and Flint Hill. For the most part, existing land uses follow the general zoning classifications. However, the future commercial land uses around I-70 and the future industrial land uses in the Flint Hill area are currently zoned as Agricultural.

2. LAND USE PLANNING IMPACTS

a. Reasonable Alternatives Impacts

No-Build Alternative

The No-build Alternative would not be consistent with future land use plans as it would not allow the development of the David Hoekel Parkway, and development reliant on the parkway, to occur as shown in the future land use plans.

Alternative 1

Alternative 1 would be moderately inconsistent with future land use plans. The location of future commercial areas shown at I-70 is based on the location of a future interchange with the alignment of Alternative 2. With an I-70 interchange at the location of Alternative 1, the future commercial areas would most likely have to be shifted to the east to be consistent with the future land use plans, thereby resulting in the future removal of several existing residential areas on the east side of Point Prairie Road.

Alternative 2

The Alternative 2 alignment would be consistent with future land use plans, as it is shown as a proposed roadway corridor on future land use plans of the City of Wentzville and the City of Flint Hill.

Alternative 3

The Alternative 3 alignment would be moderately inconsistent with future land use plans. The south half of Alternative 3 follows the same alignment as Alternative 2, but the north half is aligned to the south of the other two alternatives. Although it would travel through undeveloped land that is shown as future residential use, it would also travel through some existing residential areas east of US 61, in addition to several floodplain areas west of US 61 that are intended to remain natural.

b. Selected Alternative Impacts (Alternative 2)

Wentzville's future Comprehensive Land Use Plan shows the Selected Alternative corridor as a "proposed road" on the map, as a result of a previous corridor preservation study prepared in April of 2000. Flint Hill's 2009 Comprehensive Land Use Plan has not yet been updated to show the new alternate interchange at Highway P and US 61, although an interchange at that location would be compatible with the adjacent future commercial land uses shown. Their plan currently shows the interchange alternate within the Draft EA and will be updated during their next update of the plan. The City of Flint Hill has provided a letter of support for the project, which is included in Appendix I.

The predominant future land uses within the corridor of the Selected Alternative are Medium Density Residential and Commercial. Other uses include High Density Residential (multi-family), Floodplain, Industrial, and Neighborhood Commercial (see Exhibit III-3). For the most part, the change that is planned to occur between existing land use and future land use would be the conversion of agricultural use to residential use and commercial use.

Regarding the areas within the Selected Alternative corridor and the areas adjacent to the corridor, there would be no anticipated major land use changes from those identified on the future land use plans as a result of implementing the Selected Alternative. Since the Selected Alternative corridor is an integral part of the Wentzville and Flint Hill future land use plans, the roadway is therefore consistent with the plans. The corridor is located in an area that is currently experiencing residential growth, and development will occur in the currently undeveloped areas according to the cities' plans.

C. Farmland

The main land uses within the study area are agricultural, residential, and woodland. The agricultural lands are used for pasture or hay production (tall fescue, green foxtail, purple top), and cultivated crops such as soybeans and corn. No livestock was observed within the study area, with the exception of a couple of horse ranches.

1. FARMLAND SOILS

The Natural Resources Conservation Service (NRCS) defines *prime farmland* as "land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and that is available for these uses". It does not include urban or built-up land. According to the NRCS soil survey for St. Charles County, the soils within the study area that are classified as *prime farmland* soils, including those that are designated as *prime farmland if drained*, and soils classified as *farmland of statewide importance* are listed in Table III-7. The soils designated as *prime farmland* are situated adjacent to the streams, on the nearly level (0% to 2% slope) terraces (some of which are in the 100-year floodplain), and upstream of the floodplain on the nearly level terraces adjacent to the streams. The soils designated as *prime farmland if drained* are situated on ridges and gently sloping areas (0% to 4% slopes) in the south half of the study area, north of I-70, and at the eastern terminus of the corridor. The

soils designated as *farmland of statewide importance* are situated on the moderate slopes of the hillsides throughout much of the corridor.

Table III-7: Farmland Soils

Soil Series Type	Farmland Soil Designation
Kennebec silt loam, 0 to 2% slopes, occasionally flooded	All Areas are Prime Farmland
Weller silt loam, 2 to 5% slopes	All Areas are Prime Farmland
Auxvasse silt loam, 0 to 2% slopes, rarely flooded	All Areas are Prime Farmland
Dockery silt loam, 0 to 2% slopes, occasionally flooded	All Areas are Prime Farmland
Sensabaugh silt loam, 0 to 2% slopes, occasionally flooded	All Areas are Prime Farmland
Westerville silt loam, 0 to 2% slopes, rarely flooded	All Areas are Prime Farmland
Haymond silt loam, 0 to 2% slopes, occasionally flooded	All Areas are Prime Farmland
Mexico silt loam, 1 to 4% slopes, eroded	Prime Farmland if drained
Two-mile silt loam, 0 to 2% slopes, rarely flooded	Prime Farmland if drained
Keswick silt loam, 9 to 14% slopes, eroded	Farmland of Statewide Importance
Armster silt loam, 5 to 9% slopes	Farmland of Statewide Importance
Hatton silt loam, 5 to 9% slopes	Farmland of Statewide Importance
Cedargap silt loam, 0 to 2% slopes, occasionally flooded	Farmland of Statewide Importance
Crider silt loam, 5 to 9% slopes, eroded	Farmland of Statewide Importance
Crider silt loam, 9 to 14% slopes, eroded	Farmland of Statewide Importance

Some of the areas of mapped farmland soils within the study area were removed from the mapping for this project because they are now within the corporate limits, “urban or built-up land”, or are “committed to urban development”. According to information from the City of Wentzville and from field investigations, some areas in the study area that were used for agriculture have recently been developed or are currently being developed as residential areas, while other areas have been planned and are platted for residential development. Therefore, these areas are no longer considered prime farmland or statewide important farmland (see Exhibit III-4).

Through coordination with the St. Charles County NRCS, it was also determined that there are no lands involved in the Conservation Reserve Program (CRP) or the Wetlands Reserve Program (WRP) within the study area (see letter dated December 10, 2007, in Appendix I).

2. FARMLAND IMPACTS

a. Reasonable Alternatives Impacts

The screening for the Reasonable Alternatives within the 200-foot corridors involved impacts to only soils classified as Prime Farmland.

No-Build Alternative

The No-Build Alternative would have no impacts to Prime Farmland.

Alternative 1

Alternative 1 would result in impacts to 9.4 acres of Prime Farmland. Most of the Alternative 1 alignment is improvement to the existing roadways, and the remaining portions of the alignment follow property lines and travel through land that has been planned for other land use

development and has been, or will be, taken out of farm production. Therefore, farm severances are minimal.

Alternative 2

Alternative 2 would result in impacts to 9.9 acres of Prime Farmland. In order to minimize farm severances, this alignment follows property lines and travels through land that has been planned for other land use development and has been, or will be, taken out of farm production.

Alternative 3

Alternative 3 would result in impacts to 15.3 acres of Prime Farmland. In order to minimize farm severances, this alignment follows property lines and travels through land that has been planned for other land use development and has been, or will be, taken out of farm production.

b. Selected Alternative Impacts (Alternative 2)

The area within the corridor of the Selected Alternative would have the following impacts to farmland soils:

- Prime Farmland (including Prime Farmland if Drained) – 9.9 acres
- Farmland of Statewide Importance – 51.3 acres

In order to minimize farm severances and impacts to farmland, the majority of the Selected Alternative alignment follows property lines and travels through land that has been planned for other land use development and has been, or will be, taken out of farm production. There are two parcels of farmed land (one on the south side of I-70, and one about 1100 feet east of N. Point Prairie Road) that would be severed, which would result in a piece of property that would still be farmable, but would no longer be accessible. However, access could be provided to the property south of I-70 from another proposed road (Interstate Drive), and the parcel to the east of N. Point Prairie Road would require an access drive from N. Point Prairie Road. Some larger parcels of severed land had previously been farmed but are currently owned by development companies and, although not yet platted, are planned for future development that will be accessed from the Selected Alternative or from other roads. These parcels include the areas south and north of I-70, designated as Commercial on the Future Land Use plan (Exhibit III-3).

3. FARMLAND CONVERSION IMPACT RATING

Impacts to farmland were also analyzed through coordination with the NRCS by utilizing the *Farmland Conversion Impact Rating for Corridor Type Projects* (Form SCS-CPA-106). The Total Points scored for the Reasonable Alternatives were as follows: Alternative 1 scored 84, Alternative 2 (Selected Alternative) scored 82, and Alternative 3 scored 93. None of these scores exceeded the 160-point threshold established for consideration of farmland protection measures under the Farmland Protection Policy Act (7 CFR, Part 658). The completed form and an explanation of the criteria used to complete the form are provided in Appendix C. (Note: The acreage totals that the NRCS provided on Form SCS-CPA-106 vary somewhat from the acreage totals shown in the text and impact tables of this document. As discussed above, some of the mapped soils were removed from the mapping for this analysis based on recent information from the City concerning new corporate limits and new or planned development. This information was too recent to be included in the NRCS data base).

D. Right-of-Way Acquisition

1. PROPERTY OWNERSHIP

The various impacts of the construction of a major transportation improvement project include the acquisition of real property, including residential, commercial/business, public, and undeveloped land.

a. Residential

The single-family residences in the study area are comprised of predominantly ranch and 2-story houses, with a few 1 ½-story houses and split-levels. Values of these homes (based on the City's parcel database) range from approximately \$72,800 to approximately \$782,000. The median value of the homes in the study area is around \$228,000, based on information from the City's parcel database. Census 2010 data showed a median value of \$210,900, showing that the median value has increased significantly since the Census 2000.

There is one multi-family residential (apartment) complex in the study area: the Peine Lakes Apartments (located at the southwest quadrant of Peine Road and US 61). This complex consists of 1, 2 and 3-bedroom units that lease in the range of \$570 to \$795 per month.

b. Commercial/Businesses

Although the majority of the study area is residential and agricultural/open land, there are also a few scattered businesses in the study area, including the following:

- *Nullynski Race Cars* – located just south of I-70, on the east side of S. Point Prairie Road
- *Hagenhoff Trucking Company* – located 1400 feet west of N. Point Prairie Road, on the north side of Goodfellow Road
- *Four-Stor* (mini-storage) – located 1800 feet east of N. Point Prairie Road, on the north side of I-70
- *Fanning and Sachs Drywall, Inc.* – located in the northwest quad of the Peine Road, and US 61 intersection
- *Gold Star Paving* – located 3500 feet west of N. Point Prairie Road, on the north side of I-70
- *Peine Lake Estates Sales Office* (model home/sales office for residential subdivision) – located on the south side of Peine Road, about 1000 feet west of the Peine Road/US 61 intersection.
- *Sachs Drywall, Inc.* – located on the north side of Peine Road, at the northwest quadrant of the Peine Road/US 61 intersection.
- *Bruns Excavating* – located on the east side of US 61, at the northeast quadrant of the Peine Road/US 61 intersection.
- *The Sandbox* (sand volleyball – privately-owned recreation area) – located on the east side of US 61, at the Peine Road and US 61 intersection
- *Flint Hill Soccer Group, LLC* (seven various-sized soccer fields) – located on the US 61 NE Service Road, on the north side of Highway P
- *Amerigas (propane sales)* – located in the southeast quad of the Highway P and US 61 intersection
- *Hakenwerth Drywall Insulation* – located on the south side of Highway P, about 1400 feet east of the Highway P/US 61 intersection.

- *Boehmer Brothers Utility Supply* – located just east of Hakenwerth Drywall Insulation.
- *Bross Companies Land Development office* – located on the north side of Highway P, about 1600 feet east of the Highway P/US 61 intersection.
- *Mannino’s Market Too* – located on the north side of Highway P, about 2000 feet east of the Highway P/US 61 intersection.
- *Back Yard Resale & Antiques* – located on the north side of Highway P, just east of Mannino’s Market.
- *Wentzville Park Associates, LLP* – located north of Highway P, behind Mannino’s Market.

c. Public and Community Facilities

The public and community properties include public parks, schools, churches, cemeteries, and public safety/emergency facilities, and are discussed in Section A.3.

d. Undeveloped Land

The undeveloped properties consist of individually-owned agricultural land, and open land (planned to be developed) that is owned by development companies.

2. PROPERTY IMPACTS

The screening for the Reasonable Alternatives involved an estimate of impacts to properties affected by a 200-foot corridor that would accommodate temporary construction easements for grading operations and roadway embankment.

Right-of-way impacts can include *total acquisition* (i.e. the entire parcel or lot, or primary structure, is acquired for right-of-way), or *partial acquisition* (i.e. only a portion of the parcel or lot is acquired for right-of-way). With a *partial acquisition*, a habitable residence or viable commercial business would remain and the primary structure would not be acquired.

a. Reasonable Alternatives Impacts

No-Build

The No-Build Alternative would have no property impacts.

Alternative 1

This alternative would have the potential of impacting approximately 48 single-family residential properties, which includes 18 total acquisitions and 30 partial acquisitions. One multi-family residential property would be partially impacted (land only). Five businesses would be impacted, including two by total acquisition (Peine Lake Estates Sales Office and The Sandbox) and three by partial acquisition (Bruns Excavating, Flint Hill Soccer Group LLC, and Wentzville Park Associates LLP). In addition, partial impacts would occur to the land of three church properties, and one property with a neighborhood pool. Impacts would also occur to a small (0.2 acre) portion of the southwest corner of the City’s unnamed and undeveloped public park, located east of Point Prairie Road at the south end of the study area.

Alternative 2

This alternative would have the potential of impacting approximately 16 single-family residential properties, which includes three total acquisitions and 13 partial acquisitions. One multi-family residential property would be partially impacted (land only). One business property would be

impacted by partial acquisition (Flint Hill Soccer Group LLC). In addition, partial impacts would occur to the land of one church property, and one property with a neighborhood pool.

Alternative 3

This alternative would have the potential of impacting approximately 20 single-family residential properties, which includes four total acquisitions and 16 partial acquisitions. No impacts would occur to multi-family residential properties. There would be only one partial impact to a business property (Amerigas Propane), and no impacts to public or community properties.

b. Selected Alternative Impacts (Alternative 2)

A summary of the property acquisition for the Selected Alternative can be found in Table III-8, and the property impacts can be seen on the plan plates in Appendix A.

In some locations within the study area (areas of new or planned development), as a result of coordination between the City and developers, land has been dedicated for the right-of-way of the Selected Alternative alignment. For the purposes of this environmental document, these areas were considered as partial acquisition impacts of undeveloped land.

Total Acquisition

The Selected Alternative would require the total acquisition of the following properties:

- **Residential** – Three single-family residences would be acquired. One residence is located at the corner of N. Point Prairie Road and W. Pearce Boulevard, which is the north service road (see Sheet 4 in Appendix A). A second residence is located on the south side of Scotti Road and is already owned by the City of Wentzville (see Sheet 8 in Appendix A). The third residence is located on the south side of Peine Road and north of Pine Needle Drive (see Sheet 12 in Appendix A). This residence's access drive would be taken away and there would be no other practical location where access could be provided.
- **Commercial/Business** – No commercial/business properties would require total acquisition.

There would be no total acquisition of public/community properties or undeveloped properties.

Partial Acquisition

The Selected Alternative would require the partial acquisition of the following properties:

- **Residential** – Thirteen single-family residential properties and one multi-family residential property would be impacted by partial acquisition. Six of the single-family properties would require new access roads or drives, while the other seven properties would be impacted by only small portions of land acquisition (such as undeveloped edges along property lines or corners of properties). The one multi-family complex (Peine Lakes Apartments) would be impacted at the east edge by a small portion of land acquisition.
- **Commercial/Business** – One business would be impacted by partial acquisition:
 - *Flint Hill Soccer Fields (owned by Flint Hill Soccer Group LLC)* – only at the south corner where a portion of the largest soccer field in the complex would be impacted.

- **Public/Community** – No public properties would require partial acquisition, however, three community properties would be impacted by small portions of land acquisition that would not affect any structures on the properties:
 - *Faith United Church of Christ of Wentzville* (vacant site) – This parcel is not yet developed. The Selected Alternative would not acquire any of the developable parcel, but it would impact a portion of the access drive leading to the parcel. If it is not practical to provide access across the Selected Alternative, it could be possible to provide an access drive on the north side of it that would also serve two other residences whose current access would be impacted.
 - *Peine Lake Estates* (neighborhood swimming pool area) – The northernmost portion of the parcel would be impacted, including an outdoor basketball court. The swimming pool, adjacent pool house, and parking area would remain.
 - *Sewage Lift/Pump Station* – The property would be impacted by a small piece of land acquisition along the edge of existing Highway P. However, the entrance to the property would be retained.
- **Undeveloped Land** – Nineteen undeveloped parcels would be impacted by partial acquisition, six of which have been dedicated or reserved for the Selected Alternative right-of-way. Two of the 19 properties would lose their current means of access, thereby requiring a new access location. One property, located on the south side of I-70, could obtain access from another proposed road (Interstate Drive) and the other parcel, located about 1,100 feet to the east of N. Point Prairie Road, would require an access drive from N. Point Prairie Road.

Table III-8: Property Acquisition (Total and Partial)

Residential	Commercial/ Business	Public/ Community Facilities	Undeveloped
Total Acquisition			
3	0	0	0
Partial Acquisition			
14	1	3*	19

*Community properties

Temporary and Permanent Easements

In addition to land acquisition, the project will require temporary or permanent easements for construction or utility location/re-location. A temporary construction easement is the right to use land for purposes of constructing the roadway. After construction is complete, the temporary easement expires, the area is restored to pre-construction or otherwise acceptable conditions, and the ownership remains with the existing property owner. For the Selected Alternative, temporary construction easements will be utilized for the side slopes of the roadway. Permanent construction easements; such as those for retaining wall construction, highway signage, and drainage easements at the end of culverts; have many of the same characteristics as a temporary construction easement except that the entity responsible for facility maintenance would have the right of access to maintain or repair its facilities within the easement, but it would not own the property. Ownership remains with the existing property owner.

3. MITIGATION

In an effort to make the property acquisition process as equitable as possible, regulations of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended

(42 U.S.C. 4601) and the requirements of Title VI of the Civil Rights Act of 1964, will be followed to ensure adequate consideration and compensation for the persons whose property is acquired for the project.

The Uniform Act requires that comparable, decent, safe, and sanitary replacement housing within a person's financial means be made available before that person may be displaced. The Uniform Act, as well as Missouri state laws, requires that just compensation be paid to the owner of private property taken for public use. The appraisal of fair market value is the basis of determining just compensation to be offered the owner for the property to be acquired. An appraisal is defined in the Uniform Act as a written statement independently and impartially prepared by a qualified appraiser setting forth an opinion of defined value of an adequately described property as of a specific date, supported by the presentation and analysis of relevant market information.

Any displaced business, farm operation, or nonprofit organization which qualifies as a displaced person is entitled to payment of their actual moving and related expenses, as the City determines to be reasonable and necessary. Parking losses will be discussed with the property owner or business owner to determine options for replacing the amount of lost parking spaces or providing fair compensation for the loss of parking.

a. Available Housing

The single-family residences that would be acquired by the Selected Alternative range in value from \$93,000 to approximately \$325,000, according to the City's parcel database. An internet real estate search (<http://www.homefinder.com/MO/Wentzville/> performed on January 24, 2014) of available residential properties in the Wentzville area indicated that, at that time, there were 7 residential properties on the market, priced from \$90,000 to \$100,000; 23 from \$100,000 to \$125,000; 64 from \$125,000 to \$150,000; 67 from \$150,000 to \$175,000; 70 from \$175,000 to \$200,000; 70 from \$200,000 to \$225,000; 44 from \$225,000 to \$250,000; 36 from \$250,000 to \$275,000; 25 from \$275,000 to \$300,000; 9 from \$300,000 to \$325,000; and 13 from \$325,000 to \$350,000.

b. Available Commercial Property

There would be no commercial property impacted by total acquisition, therefore, data pertaining to available commercial properties is not necessary for this project.

E. Geology

The study area is located within the Dissected Till Plains of the Central Lowlands physiographic province. The topography is characterized by glaciated, open rolling hills with steep valley slopes. Local relief in the area varies from elevation of 696 feet at the south near I-70 to 475 feet where McCoy Creek leaves the study area near the north. Drainage generally flows north and northeast north of I-70 and east south of I-70.

The land use in the study area is mixed, ranging from agricultural to rural, suburban and urban development. General subsurface conditions consist of varying thicknesses of glacial and alluvial soils. The soil thickness is 50 feet or less and consists mostly of glacially derived silty clay loam.

Relatively flat lying horizontally layered Mississippian Age sedimentary bedrock underlay the soils throughout the study area. Bedrock is of the Osagean Series, Burlington – Keokuk Formation overlain by Meramecian Series, Warsaw, Salem, and St. Louis Formations. Limestone and dolomite are the predominant rock types.

Carbonate rocks such as limestone and dolomite are subject to dissolution, and although no known caves, springs, sinkholes or other karstic features are noted in the study area, there is the possibility that karst features may be encountered during construction. The project is also within some areas that have the potential of being affected by earthquakes in the New Madrid Seismic Zone. Although there is no active mining or records of past mining in the study area, MDNR has indicated that there is the potential for the presence of unrecorded mines in the area (see letter dated December 18, 2009 in Chapter V.C.4). During the preliminary design phase of the project, an abandoned underground mine study will be performed along the alignment to determine whether or not underground mines are present. If an underground mine is found, and avoidance is not feasible or practical, the MDNR will be contacted to determine the most appropriate procedures for remediation, such as filling the mine with a suitable material.

F. Water Resources

In the preliminary inventory of existing water resources within the study area, data was gathered from USGS 7.5 minute quadrangle maps, the U.S. Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI) maps, the Natural Resources Conservation Service's (NRCS) Food Security Act (FSA) wetland mapping, aerial photography, and field investigations. The existing water resources include streams, potential wetlands, and ponds, and are presented on Exhibit III-4.

The NWI maps are based on a classification system known as the Cowardin System (named after its principal author, Cowardin et. al. 1979). This system classifies the types of ecosystems related to water resources which, in this region, include streams, lakes, ponds, and vegetated wetlands. After a review of the water resource data and aerial photography, it was determined that the Cowardin systems represented in the study area are the Riverine (R) stream system, the Palustrine Forested (PFO) vegetated wetland system, the Palustrine Scrub-Shrub (PSS) vegetated wetland system, the Palustrine Emergent (PEM) vegetated wetland system, and the Palustrine Unconsolidated Bottom (PUB) system of upland ponds.

Section 404 of the Clean Water Act regulates discharges of dredged or fill materials into "waters of the U.S." (streams, lakes, wetlands, and ponds that are connected to streams). This project will involve the discharge of fill material into waters of the U.S.; therefore a Section 404 Permit may be required. The U.S. Army Corps of Engineers (USACE) is the regulatory agency responsible for administering the Section 404 permit program. At the beginning of the EA process, the USACE was contacted and a representative attended the Resource Management Group meetings involving agency coordination.

The analysis for water resource impacts for the 200-foot wide corridors of the Reasonable Alternatives was performed using aerial photography, mapped data, and windshield surveys. Field investigations of the water resources of the Selected Alternative were then performed. Table III-9 presents a summary of the water resources impacts for the Reasonable Alternatives. The impacts of the Selected Alternative (Alternative 2) are explained and discussed in further detail in the subsequent text. The results of the field investigations for the Selected Alternative are summarized in Appendix D, including a USGS/NWI map, a soils map, and plan view enlargements at each water resource. Photographs and data forms for each water resource are included in the full *Waters of the U.S. and Preliminary Jurisdictional Wetland Determinations Summary Report*, which is available upon request.

The inventory and investigations for Waters of the U.S. also included the task of gathering data to analyze "Significant Nexus" for jurisdictional determination (see *Preliminary Jurisdictional*

Wetland Determination Summary in Appendix D). The guidance on jurisdictional determination, as described in Appendix D, was utilized for each stream, wetland, and pond within the impact area of the Selected Alternative. The jurisdictional determination forms and data forms for each water resource are included in the full *Waters of the U.S. and Preliminary Jurisdictional Wetland Determinations Summary Report* (available upon request). The USACE has reviewed the Summary Report and has given a “preliminary” determination that all of the streams impacted by the Selected Alternative are jurisdictional (see letter dated September 18, 2008 in Appendix I).

Subsequent to the USACE letter, modifications were made to the design of the proposed US 61 interchange of the Selected Alternative resulting in the addition of one jurisdictional stream crossing (S-12, east of US 61), the elimination of a bridge crossing over Dry Branch (Stream S-10a), and the elimination of another stream crossing (S-11, north of Flint Hill). A subsequent jurisdictional determination will be made during the permitting process in the design stage.

Table III-9: Water Resources Impacts

Water Resource	Units	Alternative 1	Alternative 2	Alternative 3
Streams	No. / Lin. Ft.	9 / 2,572	11 / 2,043	15 / 3,691
Wetlands	Acres	0.4 (NWI)	0.6 (NWI)	0.6 (NWI)
Ponds (jurisdictional)	No. / Acres	1 / 2.2	0	0

1. STREAMS

The streams within the study area that have discernible Ordinary High Water Marks (OHWM) include Peruque Creek and one of its unnamed tributaries, Dry Branch and two of its unnamed tributaries, and unnamed tributaries of McCoy Creek. According to the USGS map, Peruque Creek, McCoy Creek, and Dry Branch (east of US 61) are perennial streams and the other streams are intermittent. These streams have discernible channels with OHWMs and are preliminarily considered under USACE jurisdiction as “Waters of the U.S.” The perennial streams are considered Relatively Permanent Waters (RPWs), and the intermittent and ephemeral streams are considered Non-RPWs. None of the streams within the study area are on the list of designated Wild and Scenic Rivers.

a. Stream Impacts

Reasonable Alternatives Impacts

The stream impacts for the Reasonable Alternatives would be in the form of fill material from culverts or embankment placed within the stream channel. Where streams are bridged, these types of impacts would be avoided or minimized.

- **No-Build** – The No-Build Alternative would have no impacts to streams.
- **Alternative 1** – This alternative would impact 9 streams totaling 2,572 linear feet.
- **Alternative 2** – This alternative would impact 11 streams totaling 2,043 linear feet.
- **Alternative 3** – This alternative would impact 15 streams totaling 3,691 linear feet.

Selected Alternative Impacts (Alternative 2)

The stream impacts for the Selected Alternative would be in the form of fill material from culverts or embankment placed within the OHWM of the stream. Where streams are bridged, these

types of impacts would be avoided or minimized. When compared with the floodplain impacts in section H, Alternative 2 would have the least amount of floodplain impacts, meaning that it would impact smaller streams than those of the other two alternatives.

Through field investigations, it was determined that the Selected Alternative would involve 11 preliminary jurisdictional streams with OHWMs. Two of those crossings would be bridged, which includes one at Peruque Creek and one at an unnamed tributary of McCoy Creek. These bridged stream crossings would not result in linear stream impacts from fill material.

A total of 2,043 linear feet of stream channel would be filled, equating to 0.49 surface acre of impacts, based on the average OHWMs of the streams impacted. However, the individual potential impacts (fill below the OHWM) at each separate stream crossing (see Table 1 in Appendix D) would exceed 1/10 acre of surface area at only one stream crossing (Dry Branch). The USACE has determined that a Section 404 Permit will be required. During the design phase and the permit process, when impacts are more specifically determined, coordination with the USACE will ascertain details of Section 404 Permit applicability.

b. Deed Restriction Research

Since some of the stream crossings are adjacent to or within new residential developments, further investigation was conducted to determine if the stream corridors (adjacent to the impact area of the Selected Alternative) had deed restrictions associated with them because of mitigation for stream impacts under Section 404 permits. The Selected Alternative corridor is aligned through three new subdivisions that have the potential for containing mitigation areas directly adjacent to the parkway corridor: Keeneland Trails, Stonemoor, and Westhaven (Peine 240). Through research at the St. Charles County Recorder of Deeds office, it was determined that the properties that encompass the streams adjacent to the Selected Alternative preserved corridor do not have deed restrictions associated with them. The plat maps of these subdivisions show a preserved parkway corridor that is separate from the parcels containing the streams.

Although the Westhaven development plans show a mitigation area, the Selected Alternative would have no impact on it. The Keeneland Trails subdivision plat shows the preserved roadway corridor adjacent to Common Ground areas, but does not indicate those as mitigation areas, and thus is non-jurisdictional. However, through correspondence with the USACE, it was determined that the stream corridor located on the south end of the Stonemoor residential development was the subject of stream mitigation efforts through preservation and enhancement (tree plantings). Although the preserved roadway corridor is shown on the plat maps that were submitted with the Section 404 permit application, the stream mitigation area was shown going through the roadway corridor. Recent field investigations discovered that some mitigation trees had been planted within the preserved roadway corridor. At this location, the Selected Alternative would impact 178 linear feet of stream channel. Decisions on mitigation are described in Section F. 4, Compensatory Mitigation. Further discussion of these areas and associated plat maps can be found in the *Preliminary Jurisdictional Wetland Determination Summary* in Appendix D.

2. WETLANDS

Areas in the study area that are mapped as vegetated wetlands on the NWI maps (PEM – Palustrine Emergent, PSS – Palustrine Scrub-Shrub, PFO – palustrine forested) have the potential of being regulated as special aquatic sites by the USACE. The regulatory definition of wetlands, as adopted by the EPA and USACE to administer the Section 404 permit program is as follows:

(Wetlands are) those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, bogs, and similar areas (EPA, 40 CFR 239.2 and CE, 33 CFR 328.3).

This definition emphasizes the fact that wetlands must possess the following three essential characteristics before a positive determination of a wetland can be made: hydric soils, a prevalence of hydrophytic vegetation, and a persistent wetland hydrology. Jurisdictional wetland determinations performed for regulatory purposes are not dependent on the NWI Cowardin classification system, but on these three mandatory characteristics.

Within the study area, the areas shown on the NWI maps that are classified as vegetated wetlands occur along the riparian corridors of Peruque Creek and McCoy Creek (see Exhibit III-4). These areas are classified as the Palustrine Forested wetland system (PFO1A – Palustrine Forested, Broad-leaved Deciduous, Temporarily Flooded) and the Palustrine Scrub-Shrub wetland system (PSS1A – Palustrine Scrub-Shrub, Broad-leaved Deciduous, Temporarily Flooded). In addition, the NRCS FSA mapping indicated that there was one “artificial wetland” (AW) located on the south side of McCoy Creek, east of US 61.

a. Wetland Impacts

Reasonable Alternatives Impacts

For the Reasonable Alternatives analysis, wetlands were based on the NWI maps and were considered potential because they were not yet field delineated. The potential wetland impacts would be in the form of fill material from embankment placed within the wetland areas.

- **No-Build** – The No-Build Alternative would have no impacts to potential wetlands.
- **Alternative 1** – This alternative would impact 0.4 acre of potential NWI wetlands.
- **Alternative 2** – This alternative would impact 0.6 acre of potential NWI wetlands.
- **Alternative 3** – This alternative would impact 0.6 acre of potential NWI wetlands.

Selected Alternative Impacts (Alternative 2)

Field determinations were performed at the NWI mapped areas that are within the impact zones of the Selected Alternative (NWI Wetlands 1 and 2 on the north and south sides of Peruque Creek). It was preliminarily determined that neither of these areas met all three of the wetland criteria parameters to be considered jurisdictional wetlands and the USACE concurred with these findings (see letter dated September 18, 2008 in Appendix I). The remainder of the alignment of the Selected Alternative was also checked for other potential wetland areas, however, no other areas above the OHWM of streams exhibiting wetland characteristics were found within the impact zone of the Selected Alternative, with the exception of hydrophytic emergent vegetation fringes around 6 upland ponds. The fringe wetlands range in size from 0.02 acre to 0.16 acre (see Table 2 in Appendix D). However, the ponds and their wetland fringes were preliminarily determined to be non-jurisdictional and the USACE concurred with that determination in a letter dated October 15, 2008 (see Appendix I).

Subsequent to the USACE letter, modifications were made to the design of the proposed US 61 interchange of the Selected Alternative resulting in the addition of one upland retention pond, with an emergent wetland fringe, adjacent to the Peine Lakes Apartments. This is an excavated retention pond collecting runoff from the apartment complex, and is preliminarily considered to be non-jurisdictional, as well as its wetland fringe. Total impacts to all of the non-jurisdictional wetland fringes would equal 0.27 acre.

In addition to the mapping sources listed above, data was also gathered from NRCS soil survey maps to determine the presence or absence of hydric soils. This data indicated that, in the impact area of the Selected Alternative, there were no soils in which the main component was considered hydric. However, some areas along some of the stream terraces contain soils with hydric inclusions (Peruque Creek, Dry Branch, tributaries of McCoy Creek). Coordination with the NRCS also indicated that there are no lands involved in the Wetlands Reserve Program (WRP) within the study area.

Based on the findings of the field determinations, the USACE has determined that there are no jurisdictional wetland areas within the limits of construction of the Selected Alternative; therefore, there would be no impacts to jurisdictional vegetated wetland areas. Although there would be impacts to 0.27 acre of fringe wetlands around six non-jurisdictional ponds, those fringe wetlands are also considered non-jurisdictional (see Table 2 in Appendix D).

3. PONDS

The NWI maps and aerial photography indicated several “palustrine unconsolidated bottom” (PUB) systems (upland ponds) within the study area. The USGS maps and aerial photography indicate that most of the ponds appear to have no connection to a “Water of the U.S”.

a. Pond Impacts

Reasonable Alternatives Impacts

For the Reasonable Alternatives analysis, only those ponds that appeared from the mapping and aerial photography to be potentially jurisdictional were considered as impacts. The pond impacts would be in the form of fill material from embankment placed within the ponds.

- ***No-Build*** – The No-Build Alternative would have no impacts to ponds.
- ***Alternative 1*** – This alternative would impact one potentially jurisdictional pond with an area of 2.2 acres.
- ***Alternative 2*** – This alternative would impact no potentially jurisdictional ponds.
- ***Alternative 3*** – This alternative would impact no potentially jurisdictional ponds.

Selected Alternative Impacts (Alternative 2)

Based on the mapping and aerial photography, it was determined that eight ponds were located within the impact area of the Selected Alternative, two of which no longer exist. The open water areas of the six existing ponds range in size from 0.01 acre to 0.26 acre. During field investigations, the ponds within the impact area were checked to determine whether or not a connection to a Water of the U.S. existed. It was determined that none of those ponds had a discernible channel with an OHWM either coming into or going out of the pond. Therefore, it was preliminarily determined that these ponds were non-jurisdictional and the USACE concurred with that determination (see letter dated October 15, 2008 in Appendix I). As stated in the Wetlands section above, some of the ponds also exhibited a fringe of hydrophytic emergent vegetation around their perimeters. These “fringe wetlands” are also considered non-jurisdictional. This analysis includes the one upland retention pond adjacent to the Peine Lakes Apartments, which was discussed in the Wetlands section (Section F.2.a) and is preliminarily considered to be non-jurisdictional.

The Selected Alternative would result in fill material being discharged into the open water areas of the six non-jurisdictional upland ponds, totaling 0.27 acre of impacts. These impacts would

range in area from 0.02 acre to 0.16 acre. The Pond impacts are summarized in Table 2 in Appendix D, and are indicated by surface area in acres. Two of the ponds would be impacted in their entirety, while the remaining four would be partially impacted.

4. COMPENSATORY MITIGATION

Construction activities requiring discharges into jurisdictional “Waters of the U.S.,” which include streams, wetlands and other special aquatic sites, may require an individual Department of the Army Permit under Section 404 of the Clean Water Act (permits are discussed in more detail in Section O. of this chapter). Streams are regulated below the limits of the ordinary high water mark (OHWM). Impacts to Peruque Creek, Dry Branch, and a tributary of McCoy Creek would be minimized by bridging the creeks.

During the project design phase, specific impacts to “Waters of the U.S.” will be assessed to determine if those impacts can be avoided or minimized, and to determine the applicability of the Section 404 Permit. At that time, if stream mitigation is required, an evaluation will be performed based on the Missouri Stream Mitigation Method, if appropriate, in order to determine mitigation credits required and appropriate mitigation options for stream impacts. In a letter dated September 18, 2008 (see Appendix I), the USACE stated that impacts to the mitigation area along the stream corridor at the south end of the Stonemoor residential development will require a 2:1 replacement ratio. Coordination will take place with the USACE and resource agencies during the permitting process to develop appropriate mitigation strategies. Where appropriate, possible mitigation strategies for stream impacts could include new channel construction (stream relocation to partially offset filled streams), utilizing in-stream grade control structures, stabilizing disturbed banks with a combination of live vegetation and riprap or erosion control mats (bioengineering techniques), incorporating native seeding and plantings along the stream banks and buffer zones, buying credits in a mitigation bank, or by providing an in-lieu fee for stream mitigation at other locations through programs such as the Stream Stewardship Trust Fund.

5. ONLY PRACTICABLE ALTERNATIVE FINDING

The Selected Alternative would have no effect on jurisdictional wetlands; however, it would include 11 stream crossings resulting in impacts to 2,043 linear feet of jurisdictional streams, equating to approximately 0.49 acre of surface area below the Ordinary High Water Mark. As discussed in this Environmental Assessment, there are no other practicable alternatives to the Selected Alternative, that would have less overall environmental impacts, and that would adequately serve the purpose and need of the Selected Alternative. Following coordination with the U.S. Army Corps of Engineers and other resource agencies, the City of Wentzville will compensate for unavoidable impacts to Waters of the U.S. by utilizing appropriate mitigation strategies such as mitigation banking, in-lieu fees, restoration, enhancement, or creation. Compensatory mitigation sites will be held in public ownership or in an ownership arrangement suitable to both the Army Corps of Engineers and Missouri Department of Natural Resources.

Based upon the above considerations, it is determined that there is no practicable alternative to the proposed construction in Waters of the U.S. and that the Selected Alternative includes all practicable measures to minimize harm to these water resources that may result from such action.

G. Water Quality

1. SURFACE WATER QUALITY

The study area is located within the Peruque-Piasa watershed (Hydrologic Unit # 07110009) south of I-70, and within the Cuivre watershed (Hydrologic Unit # 07110008) north of I-70. The surface water resources in the study area were discussed previously in Section F. Water Resources Impacts. Surface water resources in the portion of the study area that lies within the Peruque-Piasa watershed include Peruque Creek and one of its unnamed tributaries. Peruque Creek eventually flows into the Mississippi River, approximately 25 miles to the east-northeast. Surface water resources in the portion of the study area that lies within the Cuivre watershed include Dry Branch and unnamed tributaries of McCoy Creek. McCoy Creek eventually flows to the Cuivre River and then to the Mississippi River, which is approximately 20 miles to the northeast. The study area also includes several upland ponds and some areas of potential wetlands adjacent to Peruque Creek and McCoy Creek. The quality of all of these water resources within the study area varies depending upon such factors as water permanence, type of shoreline/bank and surrounding vegetation, substrate, presence or absence of in-flowing streams, and surrounding land use.

The federal Water Pollution Control Act, section 303(d), requires that each state identify those waters that are not meeting the state's water quality standards (i.e. for which existing required pollution controls are not stringent enough to implement state water quality standards). For these waters, states are required to establish total maximum daily loads (TMDLs) according to a priority ranking. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards.

The Environmental Protection Agency (EPA) Approved 2012 Missouri 303(d) List and the Missouri Department of Natural Resources' (MDNR) Proposed 2014 303(d) list of impaired waters (currently waiting EPA approval) were reviewed. It was determined that neither McCoy Creek nor Dry Branch were on either of these lists. However, Peruque Creek was first listed on the EPA's 303(d) list in 2002. The MDNR published a *Total Maximum Daily Load Information Sheet* on Peruque Creek, which was revised October 2004. The information sheet stated that the basis for adding Peruque Creek to the 2002 303(d) list was that "rapid rates of sedimentation in upper Lake St. Louis suggest that excess erosion and high sediment loads are a problem in Peruque Creek upstream of the lake" (Lake St. Louis is located about 5.5 miles east of the study area). The pollutant present in the creek was "Non-Volatile Suspended Solids (silt, sand, or gravel associated with erosion and sedimentation) from urban and rural non-point sources (runoff)", and the impaired use was "protection of warm water aquatic life". In a letter dated December 18, 2009 (see Chapter V.C.4), the MDNR stated that "the 2004/2006 Clean Water Commission (CWC) and Environmental Protection Agency (EPA) approved 303(d) list and the 2008 CWC approved 303(d) list both identify Peruque Creek as being impaired for inorganic sediment due to urban and rural nonpoint source pollution".

A subsequent review of the EPA's approved 2012 303(d) list indicated that Peruque Creek is still on the list for the reasons stated above. In addition, MDNR's proposed 2014 303(d) list indicates that Peruque Creek is being retained on the list for sediment, based on analysis of fish community data. A TMDL is scheduled to be completed in 2017. As a result, the City of Wentzville will use best management practices to keep additional sediments from reaching the creek (see Section G.1.a., Surface Water Quality Impacts, and Section O.2., Water Quality, for more information on best management practices).

There is no Outstanding National or State Resource Waters within the study area.

a. Surface Water Quality Impacts

In this type of urban environment which is experiencing growth and land development, major concerns include construction site erosion (siltation), channelization or other alteration of natural stream channels, and residential and commercial use of pesticides and fertilizers. The MDNR was contacted via a letter requesting information concerning environmental considerations within the study area. The MDNR's response (dated November 16, 2007) in relation to water resources is located in Appendix I.

No-Build Alternative

The No-Build Alternative would have no direct impacts to water quality; however, indirect impacts could occur as a result of the on-going operation and maintenance-related pollutants from roadways, and the runoff that will occur from adjacent existing and future land developments.

Reasonable Alternatives and the Selected Alternative

Direct water quality impacts could occur with any of the alternatives under consideration including highway or bridge runoff, construction-related impacts, and operation and maintenance-related impacts.

Construction related impacts are primarily due to the erosion of cleared areas, operation of heavy earth-moving equipment, and storage of construction materials and supplies, and could include pollutants such as petroleum products and sedimentation, and nutrients that could leach from seeded and mulched bare areas. Temporary impacts to water resources in and adjacent to the study area can be prevented or minimized by following the management practices outlined by the Missouri Department of Conservation (MDC) when modifying channels or relocating streams, as appropriate.

In addition, the project will comply with specific conditions of Section 401 Water Quality Certification, which become conditions of the Section 404 permit. This includes, for example, the following methods to minimize impacts to Peruque Creek and other water resources: graded areas should be seeded and mulched as soon as possible using native planting and seeding; disturbance to the stream banks and riparian zones should also be minimized; work should be minimized between March 1 and June 15; and all standard erosion protection devices such as ditch checks and silt fences shall be installed at the outset of construction and maintained throughout the construction period.

The National Pollutant Discharge Elimination System (NPDES) permit, administered by the MDNR, requires that slopes and ditches be properly designed to prohibit or reduce erosion. To protect the environment from sedimentation and construction pollutants during the building phase, the control of water pollution is to be accomplished by the use of the City's and MoDOT's Best Management Practices (BMPs). The BMPs can include measures such as the use of temporary berms, ditch checks, slope drains, sediment basins, rain gardens, straw bales, silt fences, seeding and mulching. Temporary and permanent drainage (retention or detention) basins, if appropriate, may also be designed and installed to lessen water quality impacts by trapping sediment and other contaminants, while reducing erosive storm surges. The City of Wentzville will consider detention areas, where warranted, within the median to collect and filter roadway run-off. The MDNR regulates and permits the City of Wentzville to operate a "Municipal Separate Storm Sewer System" (MS4) (separate from the sanitary sewer system). For permit compliance, the City implements its Storm Water Management Plan (SWMP) to reduce pollutants from being carried by storm runoff into local water bodies.

In addition, the MDC (see letter dated November 29, 2007 in Appendix I) recommends that native vegetation be planted along the portions of the roadway that remain undeveloped to assist with water retention and reduce run-off rates, thereby minimizing erosion and mitigating for the increased run-off from impervious road surfaces. The City of Wentzville will consider utilizing native vegetation in disturbed areas where appropriate.

Potential operation and maintenance related impacts to water quality could include pollutants such as petroleum products, coolants, rubber debris, metals, and de-icing minerals/chemicals. There is also the possibility of collisions on any roadway, regardless of operating characteristics and traffic volumes. Collisions can contribute to pollutants, as chemicals spilled could run off or be flushed into drainage channels.

2. GROUNDWATER QUALITY

The study area is located within the Northeast Missouri Groundwater District. Groundwater is moderately transmissible through the fractures and bedding features of the rock. Moderate amounts of 5 to 10 gallons per minute may be obtained from the Mississippian bedrock. Recharge is local, although the relatively impermeable nature of the glacial soils makes it difficult to identify specific areas of recharge.

According to the MDNR, no springs, sinkholes, or caves exist within the study area; however, it appears to lie within a karst area with some potential for sinkhole collapse, caves, and other karst features (see MDNR letters, dated November 16, 2007 in Appendix I, and December 18, 2009, in Chapter V.C.4). The Center for Agricultural, Resource and Environmental Systems (CARES) website did not indicate any losing streams within the study area; however, the MDNR stated that all of the streams within the study area are classified as losing streams.

According to the MDNR (see MDNR letter, dated November 16, 2007, in Appendix I), there are three public drinking water wells located in the study area, including two south of I-70 and one just north of I-70, all of which are near Pointe Prairie Road. There are also approximately eight privately registered wells, 41 domestic water wells, 12 reconstructed wells, and three monitoring wells scattered throughout or adjacent to the study area. Most of these are assumed to be constructed in the Mississippian aquifer and are used for residential or limited agricultural use. The area is not in a wellhead protection area, or located in a sole source aquifer. The City of Wentzville purchases water from Public Water District #2 and then distributes it throughout the City and some adjacent areas, including most of the study area. There are no surface water intakes to public drinking water sources within the study area.

a. Groundwater Quality Impacts

Reasonable Alternatives Impacts

Impacts to wells are based on mapping received from the MDNR and some discrepancies of the actual locations of the wells may exist, as they had not been field checked. The Reasonable Alternatives would have no direct impacts to the three public drinking water wells in the study area.

- ***No-Build*** – The No-Build Alternative would have no direct impacts to wells or groundwater quality.
- ***Alternative 1*** – This alternative would have the potential of impacting one domestic well and one reconstructed well along its alignment.
- ***Alternative 2*** – This alternative would have the potential of impacting one reconstructed well along its alignment.

- **Alternative 3** – This alternative would have the potential of impacting two domestic wells along its alignment.

Selected Alternative Impacts (Alternative 2)

The Selected Alternative would have the potential of impacting one reconstructed well along its alignment. If wells (mapped or unmapped) are discovered to be impacted during the construction of the roadway, mitigation measures will include proper sealing of the wells to prevent ground water pollution from construction and from future road maintenance. During the design phase of the project, it will be determined if karst features exist, and if so, care will be taken during construction activities to avoid spills or discharges in or near these areas. In addition, vegetated slopes and swales, and detention systems in appropriate locations can provide treatment of potentially polluted run-off from the roadway, thereby avoiding or minimizing impacts to groundwater quality.

H. Floodplain

1. INTRODUCTION

Flood Insurance Rate Maps (FIRM), showing the 100-year floodplain and the regulatory floodway (dated Revised: August 2, 1996 and March 17, 2003) were collected and reviewed for the study area. Maps reviewed included 29183C0205 E, 29183C0185 E, and 29183C0195 E. The Federal Emergency Management Agency (FEMA) and FHWA guideline 23 CFR 650 has identified the base (100-year) flood as the flood having a one percent probability of being equaled or exceeded in any given year. The base floodplain is the area of 100-year flood hazard within a county or community. The regulatory floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 100-year flood discharge can be conveyed without increasing the base flood elevation more than a predetermined volume. FEMA has mandated that projects can cause no rise in the regulatory floodway, and a one-foot cumulative rise for all projects in the base (100-year) floodplain.

Some recreation areas or open space can be publicly owned as the result of “flood buyout” properties, which cannot be developed due to open space deed restrictions, which also prohibit the placement of fill for road construction or bridge abutments and piers. However, the Missouri Emergency Management Agency (SEMA) and the local and county floodplain managers were contacted, and it was determined that there were no flood buyout properties located within the study area.

2. FLOODPLAIN ENCROACHMENT

Streams located in the study area that have designated floodplains including Peruque Creek, a Peruque Creek Tributary, McCoy Creek, a McCoy Creek Tributary, and Dry Branch. Exhibit III-4 and Plan Plates in Appendix A show the extent of the base 100-year floodplain and the regulatory floodway boundaries that are available for these water bodies. The encroachments of the 100-year floodplain and the regulatory floodway would be the result of embankment fill for the roadway or fill at bridge abutments.

a. Reasonable Alternatives Impacts

No-Build

The No-Build Alternative would have no impacts to the floodplains of the streams in the study area.

Alternative 1

This alternative would impact 18.6 acres of the 100-year floodplain.

Alternative 2

This alternative would impact 11.0 acres of the 100-year floodplain.

Alternative 3

This alternative would impact 30.5 acres of the 100-year floodplain.

b. Selected Alternative Impacts (Alternative 2)

The anticipated 100-year floodplain encroachments of the Selected Alternative are described below and summarized in Table III-10, including surface acres of impact and linear feet of floodplain crossed. The floodplains of the Peruque Creek Tributary and McCoy Creek would not be impacted by the Selected Alternative.

Table III-10: Estimated 100-Year Floodplain Encroachments

Stream & Floodplain	100-Year Floodplain Crossing (linear feet)	100-Year Floodplain Encroachment (acres)
Peruque Creek	900	2.6
McCoy Creek Tributary	400	0.9
Dry Branch	950	7.5
Total	2250	11.0

Peruque Creek

Peruque Creek is a large, meandering, entrenched stream that has a natural channel and a floodplain width of approximately 900 feet at the location of the proposed crossing. The floodplain consists of riparian woodland and grasses on both sides of the stream. The FIS (Map No. 29183C0195E) does not identify a regulatory floodway for this reach of the stream; however, the USACE conducted a Special Flood Hazard Information Study (dated September 19, 2007) for Peruque Creek in St. Charles County, Missouri. Encompassing the study area, data (base flood elevations and cross-sections) presented in the study were used to determine the span of the proposed bridge over Peruque Creek.

Impacts – The Selected Alternative would bridge over Peruque Creek, cross 900 linear feet of floodplain, and encroach on approximately 2.6 acres of the stream’s floodplain with embankment fill.

McCoy Creek Tributary

The Selected Alternative would cross the McCoy Creek Tributary, located approximately 3000 feet east of Point Prairie Road in the north half of the study area, as shown on the St. Charles County, Missouri FIRM map no. 29183C0185 E. This tributary has a natural channel and a floodplain which consists of a mix of open fields and woods. At the point where the Selected Alternative would cross the stream, the floodplain width is approximately 400 feet and consists of riparian woodland on both sides of the channel. A regulatory floodway exists within the floodplain measuring approximately 200 feet in width.

Impacts – Direct impacts resulting from the Selected Alternative would involve crossing approximately 400 linear feet of floodplain, 200 linear feet of which is regulatory floodway that

would be bridged. Floodplain encroachment from embankment fill would total approximately 0.9 acres.

Dry Branch

Located near the north end of the study area, existing US 61 crosses Dry Branch via a double box culvert. The stream has a natural channel and a floodplain which is partially developed and partially wooded. From its crossing of US 61, Dry Branch flows in a northerly direction for a distance of approximately 2800 feet to its confluence with McCoy Creek. Within the study area, the Dry Branch floodplain has a width of approximately 1000 feet and a regulatory floodway measuring approximately 400 feet.

Impacts – Direct impacts resulting from the Selected Alternative would involve crossing 950 linear feet of floodplain at US 61. The width of the floodway, where existing US 61 crosses Dry Branch, is approximately 100 feet. Floodplain encroachment from embankment fill would total approximately 7.5 acres. These estimated impacts would include embankment fill from the Selected Alternative, outer roads, and ramps associated with the proposed interchange at US 61.

3. FLOODING RISKS

As noted, the Selected Alternative is located within the 100-year floodplains of Peruque Creek, McCoy Creek Tributary, and Dry Branch. The Selected Alternative would include a bridge that would span the regulatory floodway of the McCoy Creek Tributary. Dry Branch flows under US 61 through a triple box culvert. The bridge structure and culvert extensions would be designed to avoid a rise in the regulatory floodway. It is anticipated that the proposed crossing of Peruque Creek would consist of a bridge designed to avoid a rise in the 100-year regulatory flood elevation (if a floodway has not yet been established), or to avoid a rise in the floodway (if a floodway has been or will be determined).

At each stream crossing, it is anticipated that there could be some minor channel modifications and selective placement of stone revetment to improve flow conveyance through the structure and provide a stable bridge opening. Any fill placed below the Ordinary High Water Mark (OHWM) of the streams would be minimal and would comply with the U.S. Army Corps of Engineers Section 404 permit regulations.

4. IMPACTS ON NATURAL AND BENEFICIAL FLOODPLAIN VALUES

The footprint of the roadway fill placed in the floodplain is minimal when compared to the total floodplain area. The Selected Alternative would include three bridges at the stream crossings of the floodplains previously discussed. These bridges would be constructed to maintain 100-year floodway crossings free of critical hydraulic obstruction. Thus, long term, impacts on natural and beneficial floodplain values are anticipated to be minimal. Construction operations in the floodplains would not result in impacts to fish spawning and migration areas. New bridge structures would not increase the flow velocities in the streams.

There are riparian woodlands within the floodplains of the streams in the vicinity of proposed bridge structures and associated fill sections. Disturbance of these areas will include only the minimum necessary to construct the bridges and approaching roadway. Neither threatened or endangered plants or animals, nor their habitats have been identified in the floodplains. Measures would be taken to ensure that all appropriate turf establishment and erosion control measures are included in design specifications.

5. SUPPORT OF PROBABLE INCOMPATIBLE FLOODPLAIN DEVELOPMENT

The Selected Alternative is within a developing area west and northwest of Wentzville, and would travel through some of the floodplain areas as discussed previously. However, the City's Comprehensive Land Use Plan indicates that the floodplain areas would remain undeveloped, and Chapter 415 of the City's Zoning Ordinances restricts certain land uses in the floodplain and floodway. The floodplains are currently being preserved as Common Space in new developments that occur near the floodplain.

6. MEASURES TO MINIMIZE FLOODPLAIN IMPACTS AND MEASURES TO RESTORE AND PRESERVE THE NATURAL AND BENEFICIAL FLOODPLAIN VALUES

All practical measures to minimize impacts to the floodplain have been incorporated into the development of the Selected Alternative as discussed in Chapter II – Alternatives Considered. The project construction would incorporate those features necessary to meet NFIP, FEMA, SEMA, St. Charles County and City of Wentzville floodplain guidelines.

7. ONLY PRACTICABLE ALTERNATIVE FINDING

In order to provide travel lanes for the Selected Alternative, it is necessary to locate the travel lanes within the floodplains of Peruque Creek, McCoy Creek Tributary, and Dry Branch. A total of 11.0 acres of floodplain would be affected by the Selected Alternative. The Selected Alternative was determined to provide the best solution to accommodate community access and growth, and to have a lower environmental impact than other alternatives considered.

The crossings of all floodways would be designed and constructed in compliance with applicable floodplain regulations, including Executive Order 11988. Floodplains and floodways would be kept free of encroachment so that the 100-year flood discharge may be conveyed without increasing the base flood elevation more than a specified amount. The Selected Alternative would not result in a loss of regulatory floodway capacity or a one-foot cumulative rise resulting from all proposed activities conducted within the base floodplain. The Selected Alternative would conform to applicable State of Missouri and local floodplain protection standards, and the required floodplain development permits would be obtained during the design phase.

I. Biological Resources

The study area south of I-70 is part of the *St. Charles County Prairie/Woodland Low Hills Eco-Region* while the study area north of I-70 is in the *Cuivre River Woodland/Forest Hills Eco-Region*. Historically, the area was a mixture of prairies, oak savannahs and woodlands which have since been converted to agricultural uses. The majority of the study area is now a mixture of both developed and undeveloped land. The undeveloped land includes remnant woodlands, open pasture, and open utility corridors. The open pasture areas are composed predominantly of grasses such as tall fescue (*Festuca arundinacea*), yellow foxtail (*Setaria glauca*), and purple top (*Tridens flavus*), with some various forms. The open utility corridors contain a mixture of tall fescue and forbs. A diversity of wildlife also exists in the study area.

1. FOREST COMMUNITIES

The forested areas within the study area are in the form of remnant woodlands that are the result of previous land clearing and development. They are generally found along streams and waterways and the associated sideslopes. This fragmentation by clearing was done in order to make way for pasture improvements, utility placement, and residential development.

The upland wooded areas above the floodplains of the streams consist of oak and oak-hickory woodlands. The mixed hardwood forest is most prevalent along the sideslopes of and valley floors of the drainageways and streams. Some of the more commonly encountered species include hickories (*Carya spp*), hackberry (*Celtis occidentalis*), shingle oak (*Quercus imbricaria*) American sycamore (*Platanus occidentalis*), white ash (*Fraxinus americana*), American elm (*Ulmus americana*), black walnut (*Juglans nigra*), honeylocust (*Gleditsia triacanthos*), black cherry (*Prunus serotina*), and white oak (*Quercus alba*).

The importance of these wooded areas in protecting water resources from runoff, stabilizing stream banks, inhibiting soil erosion, providing aesthetic value, wildlife habitat, and plant and animal diversity is evident, especially in areas where much of the forest has been cleared for development purposes. In addition, these wooded areas are important wildlife migration corridors.

a. Reasonable Alternatives Impacts

Direct impacts to forested communities would occur where it is necessary to remove woodland vegetation for roadway and bridge construction. The majority of forest impacts would be to wooded areas that have already been fragmented rather than fragmentation of contiguous forested areas. The initial 200-foot corridor analysis represents a worst case scenario.

No-Build

The No-Build Alternative would have no direct impact on the wooded communities within the study area.

Alternative 1

This alternative would impact 37.7 acres of woodlands.

Alternative 2

This alternative would impact 40.3 acres of woodlands.

Alternative 3

This alternative would impact 41.9 acres of woodlands.

b. Selected Alternative Impacts (Alternative 2)

Based on the 200-foot corridor of the Selected Alternative, the amount of woodland that would be removed would be 40.3 acres. Secondary impacts of forest removal are discussed under the “Wildlife Impacts” section of this chapter.

As mitigation for woodland impacts, the City of Wentzville will consider incorporating tree plantings along the corridor where practicable. Tree species would be selected to complement and enhance the habitat and appearance of the affected areas.

2. HIGH QUALITY NATURAL COMMUNITIES

The Missouri Department of Conservation (MDC) has identified some high quality natural communities within the state that have been, for the most part, undisturbed and that possess defining characteristics of a specific type of natural community. These units have been located, mapped, and compiled in the MDC’s Natural Heritage Database (NHD). According to the MDC (see Heritage Review Report dated August 31, 2007 and November 1, 2012 in Appendix I), there are no significant natural communities located in the study area.

3. WILDLIFE

The study area is located near the edge of an urban area that is becoming developed, and much of the natural habitat that previously occurred has been fragmented. Wildlife habitat in the study area includes grassland/open pasture, wooded areas, and the aquatic environments of streams and ponds.

Some of the species of birds that can be found within, and at the edges of the wooded areas include the northern cardinal (*Cardinalis cardinalis*), indigo bunting (*Passerina cyanea*), American goldfinch (*Carduelis tristis*), blue jay (*Cyanocitta cristata*), northern mockingbird (*Mimus polyglottos*), American robin (*Turdus migratorius*), great horned owl (*Bubo virginianus*), great crested flycatcher (*Myiarchus crinitus*), Baltimore oriole (*Icterus galbula*), wild turkey (*Meleagris gallopavo silvestris*), downy woodpecker (*Picoides pubescens*), and red-eyed vireo (*Vireo olivaceus*). Grassland and pasture can contain species such as brown-headed cowbird (*Molothrus ater*), killdeer (*Charadrius vociferous*), dickcissel (*Spiza Americana*), eastern meadowlark (*Sturnella magna*), field sparrow (*Spizella pusilla*), and savannah sparrow (*Passerculus sandwichensis oblitus*).

Some of the mammals that can be found in the study area include the Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), red fox (*Vulpes fulva*), eastern cottontail rabbit (*Sylvilagus floridanus*), raccoon (*Procyon lotor hirtus*), deer mouse (*Peromyscus maniculatus*), prairie vole (*Microtus ochrogaster*), woodchuck (*Marmota monax*), fox squirrel (*Sciurus niger rufiventer*), gray squirrel (*Sciurus carolinensis*), and white-tailed deer (*Odocoileus virginianus*).

The streams in the study area can provide habitat for some common fish species such as the creek chub (*Semotilus atromaculatus*), bluntnose minnow (*Pimephales notatus*), central stoneroller (*Campostoma pullum*), red shiner (*Cyprinella lutrensis*), redbfin shiner (*Lythrurus umbratilis*), orangethroat darter (*Etheostoma spectabile*), and yellow bullhead (*Ameiurus natalis*).

The damper environments in the study area can provide habitat for amphibians such as the eastern American toad (*Bufo americanus*), southern leopard frog (*Rana sphenoccephala*), western chorus frog (*Pseudacris triseriata*), and spotted salamander (*Ambystoma maculatum*).

Some of the reptiles include the ornate box turtle (*Terrapene ornata*), western painted turtle (*Chrysemys picta bellii*), red-eared slider (*Trachemys scripta elegans*), common five-lined skink (*Eumeces fasciatus*), prairie kingsnake (*Lampropeltis calligaster*), eastern yellow-bellied racer (*Coluber constrictor flaviventris*), and eastern hog-nosed snake (*Heterodon platirhinos*).

a. Wildlife Impacts

Transportation improvement projects can impact aquatic and terrestrial habitat directly through right-of-way acquisition and indirectly through habitat modification and fragmentation. Right-of-way acquisition results in a direct loss of acreage and a reduction in habitat size. Streams and wetlands also provide habitat values and are considered in wildlife impacts. Not only do they serve as habitats for fish and some amphibious species, but they also provide drinking water for terrestrial wildlife. Direct impacts to the water resources in the study area were discussed previously in this chapter.

No-Build

The No-Build Alternative would have no direct impacts to wildlife.

Reasonable Alternatives and Selected Alternative Impacts

Only those species with a high tolerance of humans and development are those that will survive and remain in this developing environment. Most of the wildlife species would attempt to relocate in response to the habitat impacts of the project. However, some impacts could occur because smaller, less mobile species may have difficulty moving to other areas with suitable habitat. Other species that are relatively mobile may also be impacted as suitable habitat in a developing area decreases, and the wildlife population could be at or near carrying capacity. As a result, some wildlife may have difficulty withstanding the loss of their limited habitat. In addition, there could also be a slight increase in wildlife mortality after construction, because of the addition of a new roadway. However, wildlife mortality may be reduced in the vicinity of the streams that would be bridged, thereby providing a means by which wildlife could more safely negotiate travel along the stream corridors. Wildlife in the area has or is beginning to adapt to the conditions of ongoing development in the area and the direct influence on mortality rates brought on by the Selected Alternative is not anticipated to be greater than that caused by current land use development.

4. THREATENED AND ENDANGERED SPECIES (*Federal and State Listed*)

Under the U.S. Endangered Species Act, the US Fish and Wildlife Service (USFWS) has primary responsibility in the protection of federally endangered and threatened species and designation of critical habitat areas for these species. All federally endangered and threatened plants and animals are protected by the Endangered Species Act of 1973 (ESA). The MDC determines species' state status in Missouri under constitutional authority (3CSR10-4.111 Endangered Species). Species that are listed in the Wildlife Code under 3CSR10-4.111 are protected by State Endangered Species Law 252.240.

At the beginning of the NEPA process, a letter was sent to the USFWS inviting them to a project scoping meeting and to participate in a Resource Management Group, and requesting input concerning species listed as federally endangered or threatened that could occur in or near the study area (no reply was received). Correspondence was also conducted with the MDC (see Heritage Review Report dated August 31, 2007 and January 24, 2014, in Appendix I) and information was obtained from the MDC's Natural Heritage Database concerning the federal and state listed threatened and endangered species that could occur in or near the study area. According to the MDC, there are no known locations, recorded occurrences or designated critical habitat of federal or state-listed species within the study area, nor any records of unlisted species/habitats of conservation concern. However, the MDC's Heritage Review Report (August 31, 2007) indicated that the federal and state-listed endangered Indiana bat could potentially occur in the area.

In the subsequent MDC Heritage Review Report (January 24, 2014), the Indiana bat was not included. However, a USFWS Information, Planning and Conservation (IPaC) review was generated through the USFWS Environmental Conservation Online System (ECOS) website on January 24, 2014 (see Appendix I). The official IPaC response listed seven federally listed species that should be taken into consideration. Two endangered species, the pallid sturgeon (*Scaphirhynchus albus*) and the least tern (*Sterna antillarum*) potentially use the Missouri River environs for habitat, which is not in the study area. Two plant species, running buffalo clover (*Trifolium stoloniferum* – federal and state endangered) and decurrent false aster (*Boltonia decurrens* – federally threatened and state endangered), were included on the list and have been known to occur in St. Charles County. These two species are discussed below.

- **Running Buffalo Clover (*Trifolium stoloniferum*)** – This plant can occur in savannas, grasslands, streambanks, floodplains, and shoals. In the past, it

flourished in open areas that were grazed by bison. Agriculture and land clearing in the study area have removed and fragmented potential habitat for this species, and the current development that is occurring in the project corridor is decreasing the chances for occurrences of the species.

- **Decurrent False Aster (*Boltonia decurrens*)** – This plant can occur in old fields, riverbanks, roadsides, mudflats, and lake shores, and it requires periodic flooding or disturbance to eliminate competing vegetation in order for its seeds to germinate. St. Charles County is the only location where it is known to occur in Missouri. Although there are no river floodplains in the study area, the floodplains of Peruque Creek and Dry Branch may be areas where this species could potentially occur, if required flooding conditions were to take place.

The official IPaC response also indicated that gray bats (federal and state endangered), Indiana bats (federal and state endangered), and northern long-eared bats (federal proposed endangered as of October 2013) occur throughout Missouri and may occur within the project boundary. Habitat information for these bat species is provided below.

- **Gray Bat (*Myotis grisescens*)** – Gray bats roost in caves or mines year-round and forage in riparian forested areas. Although there are no caves or mines in the study area, riparian forested areas exist.
- **Indiana Bat (*Myotis sodalis*) and Northern Long-eared Bat (*Myotis septentrionalis*)** – The Indiana bat and the northern long-eared bat occupy caves or mines for hibernation in winter, but during spring and summer their maternity roost sites tend to be in living, injured (e.g. split trunks and broken limbs), dead or dying trees, with loose exfoliating bark or cracks or cavities. Preferred roost trees are generally located in riparian and upland forest openings, at the forest edge, or where the overstory canopy allows some sunlight exposure to the roost tree, and usually within 0.6 miles (one kilometer) of water. Preferred foraging habitats during the spring and summer are streams associated with floodplain forests and ponds, reservoirs and wetlands, and upland forests.

Impacts

There are no known locations of running buffalo clover or decurrent false aster in the Selected Alternative corridor, and it is anticipated that there would be no impacts to these species.

There are no known locations or recorded occurrences of gray bat, Indiana bat, or northern long-eared bat within the Selected Alternative corridor. Although there are no caves or mines in the study area, potential roosting or foraging habitat exists in some of the wooded areas of the corridor. In general, there is not a substantial difference among the Reasonable Alternatives regarding impacts to potential habitat. The Selected Alternative has been aligned to avoid as much of the floodway and floodplain as practicable, thereby minimizing impacts to the wooded riparian areas. Most of the unavoidable impacts would be in areas that have already been fragmented by development, as the project is located within a growing urban area.

J. Cultural Resources

1. INTRODUCTION

A cultural resource investigation was conducted in the study area in order to identify any significant cultural resources that could be impacted by the Selected Alternative construction, including prehistoric and historic archaeological sites, cemeteries, National Register properties,

and potentially significant architectural properties, structures, cultural landscapes, and bridges. Resources are considered significant according to the criteria (A, B, C and D) for nomination to the National Register of Historic Places (NRHP), which states:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and;

(a) That are associated with events that have made a significant contribution to the broad patterns of our history; or

(b) That are associated with the lives of persons significant in our past; or

(c) That embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) That have yielded, or may be likely to yield, information important in history or prehistory.

(Federal Register 1974)

In addition, registered graves are protected by Missouri Statute 214.131-132, and unmarked human graves and burial mounds are protected by Missouri Statute RSMO 194.400-401 and the Native American Graves Protection and Repatriation Act of 1990.

2. ARCHIVAL REVIEW OF PREVIOUS INVESTIGATIONS

A records and literature search (archival review) was performed in August of 2007 at the Missouri Department of Natural Resources, State Historic Preservation Office (SHPO), in Jefferson City to identify any cultural resources previously reported within or near the approximately one-mile wide proposed study area. The archival search revealed that no properties on the NRHP exist within the study area and only a few cultural resource surveys have been conducted, resulting in the identification of nine archaeological sites and three architectural properties. A summary list of the 12 sites is located in Table 1, Appendix E. (Details of the archival review are included in the full report titled *Cultural Resources Investigation for the Proposed David Hoekel Parkway, City of Wentzville, St. Charles County, Missouri*)

The only potentially eligible site out of the 12 sites was 23SC41, located near the southwestern edge of the study area, just south of I-70, but outside of the study area. This site was reported in the *Wentzville Union* on June 1, 1934. The article discussed the presence of an “Indian Fort” marked by “a mound of earth and some stones”. The fort had been torn down so that a school could be built in the late 1800s; this building has also since been razed. It was reported that many artifacts were found by those who farmed the field.

A list of bridges and culverts within the study area was provided by the Cultural Resource Section, Missouri Department of Transportation (see Table 2 in Appendix E). A total of seven bridges and three culverts exist within or near the study area. All of these are located along US 61, on the northeastern part of the study area, and none of the bridges or culverts has been determined to be significant.

Subsequent to the 2007 archival review, modifications have been made to the design of the proposed US 61 interchange of the Selected Alternative, resulting in changes to the project limits. As such, a subsequent records and literature search was performed in December of 2012 at the SHPO to identify any cultural resources reported since the original cultural resources survey was conducted in 2007-2008. The archival search revealed that no properties have been placed on the National Register of Historic Places (NRHP) and no cultural resource

surveys by other entities were conducted within the previous project area or the new proposed interchange area in the four years since the previous survey. In addition, a field survey with shovel testing and visual observations of the new areas in the current archaeological APE was performed. This survey indicated that these areas were previously disturbed and no additional archaeological sites were identified.

Impacts – No previously recorded archaeological or architectural resources listed on the NRHP occur within the study area. Based on the results of the archival reviews, none of the Reasonable Alternatives would impact any existing NRHP listed sites.

3. ARCHAEOLOGICAL SURVEY

The archaeological survey was performed for only the Selected Alternative construction limits. The initial survey was conducted by the Archaeological Research Center of St. Louis, Inc., between March 11 and 14, 2008. The proposed construction easement surveyed was approximately 215 feet (65 meters) wide and extended for a distance of 6.2 miles from the intersection of Jackson Road with South Point Prairie Road on the south, to State Route P, just east of the community of Flint Hill, on the north.

Field investigations involved a pedestrian survey by directly observing the ground for artifacts, and shovel tests at 15 meter intervals. Landowners of a few tracts denied access to the field crew, or the landowners could not be contacted (no phone number could be found or their homes were located behind locked gates) in order to obtain permission to conduct the archaeological survey. The archaeological survey did identify nine archaeological sites and two isolated finds within the Selected Alternative corridor (see Table 3 in Appendix E for a summary list of the sites). In a letter dated August 19, 2008 (see Appendix I), the SHPO stated that three of the archaeological sites may be eligible for inclusion in the NRHP, including one prehistoric site, 23SC2140, and two historic sites, 23SC2141 and 23SC2146 (further descriptions of these three sites can be found in Appendix E, and descriptions of all sites investigated during the archaeological survey are included in the full report titled *Cultural Resources Investigation for the Proposed David Hoekel Parkway, City of Wentzville, St. Charles County, Missouri*).

As stated previously in Section III.J.2., subsequent investigations were performed in 2012 in relation to modifications in the design of the proposed interchange at US 61. Shovel tests and visual observations of the new areas in the current archaeological APE, that were not surveyed in the original investigation, indicated that these areas were previously disturbed and no additional archaeological sites were identified.

Site 23SC2140 – This site consisted of a moderate scatter of flaking debris across a portion of a ridge finger overlooking Peruque Creek to the southwest. The artifacts recovered from shovel tests indicate that tools were being manufactured at this site, as well as repaired. The number of artifacts indicates that this site may have been used as habitation, either as part of a seasonal round or on a more permanent basis by a small number of families. Thus, it is possible that features (e.g., fire hearths, earth ovens, storage pits, nut processing pits, or house structures), were constructed at this site.

Site 23SC2141 – This farmstead site was first occupied circa 1840 and the farmstead continued to be used into modern times. Intact remains dating to the 19th and early 20th century likely exist and could provide important insights into the lives of the early farmers of this region. Thus, it would be significant according to Criterion D. The site represented the remains of a farmstead. All of the buildings have been razed except for a barn, still standing in the northeast quadrant of the property, beyond the proposed construction easement. The remains of two outbuildings, with cement foundations and slab floors, were discovered within the Selected Alternative

construction easement. Adjacent to the southern side of one building foundation was a deep (2-3 meters) rectangular depression. The building foundation most likely represents a barn, with the rectangular depression possibly representing an in-ground silo. About 12 meters to the southwest was another small cement foundation representing a small outbuilding.

About 17 meters to the east of the razed barn, outside of the Selected Alternative construction easement, were the remains of a house, represented by an L-shaped depression, and a cellar. A cistern is at the southwestern edge of the house remains covered by a concrete block slab. Approximately 13 meters to the northeast of the residence are two wells, both of which were of concrete block construction standing 1 to 1.5 meters above the ground. The remaining barn structure still standing to the northeast of the wells has the same cement foundation.

Site 23SC2146 – This site consists of a farmstead dating back to 1834 when the Drummonds first established it. During the survey, it was discovered that the residence and a nearby outbuilding had recently been razed, although five other outbuildings continue to stand. The outbuilding was a double pen and based on its location, it likely served as a summer kitchen in one pen and a slave quarters in the other pen. According to the 1860 Slave Schedules, Shelti Ball, who acquired the property, had slaves living within one separate building. Inside of a barn located just southwest of the residence, is a smaller residence. It could have been occupied by slaves or used by another family who also helped with the farming operations in 1880.

Also present on the property is the family cemetery. The original tombstones have been replaced by a large tombstone marking the graves of 11 members of the Drummond family. It was also a common practice to bury slaves in unmarked graves outside of the family burial ground or in a separate unmarked grave that could exist on this property. Although the original residence and possibly the summer kitchen/slave quarters have been razed, it is likely that yard features and intact artifacts are still associated with this historic farmstead.

4. ARCHITECTURAL SURVEY

An architectural survey was conducted in order to reevaluate previously recorded architectural resources, and to identify and document any unknown architectural resources (i.e., buildings, structures, objects, bridges, districts, landscapes, and cemeteries) that may exist within or immediately adjacent to the architectural study area, which was defined as the Selected Alternative construction limits plus an additional 150-foot buffer. The buffer is necessary for evaluating historic properties that would be affected by potential visual or noise impacts from the Selected Alternative. There were no architectural properties or districts currently listed on the National Register of Historic Places or currently recommended for the National Register in the architectural study area.

Landowner parcels were numbered consecutively from south to north. Photographs were taken of all properties constructed prior to 1963, with additional photographs taken of outbuildings and any significant architectural features. The potential significance of these resources was assessed according to National Register criteria. Any properties recommended eligible for the National Register, would have a Missouri State Historic Preservation Office Architectural/Historic Inventory Survey Form completed along with a sketch map and a history to determine specific eligibility under Criteria A, B, C, and D, as well as the direct or indirect impact on the property.

A historic bridge investigation identified all bridges and documented all bridge resources constructed prior to 1963. Bridges as defined included highway, railroad, pedestrian, viaducts, and culverts. Excluded from this survey were metal, plastic, concrete pipes, and most concrete bridges and culverts under 20 feet of roadway length. A total of nine (9) previously recorded,

non-significant bridges and culverts were evaluated and all were constructed or replaced after 1962. No previously unidentified bridges were located. Bridge information and evaluation was coordinated with MoDOT.

The initial architectural survey resulted in the evaluation of 255 previously unrecorded properties (see Table 4 in Appendix E for property categories). Of the 255 property numbers, access was denied on only ten properties, which were consequently not investigated. Only 18 properties constructed prior to 1963 were photographed and evaluated. The 18 properties included one Split-Level house, one I-house, one 4-Square house (one-story pyramid), one 4-Square house (two-story pyramid), five Minimal Traditional houses, six Ranch houses, and three out-buildings. Descriptions of these buildings can be found in Appendix E. Photographs for these properties are included in the full report titled *Cultural Resources Investigation for the Proposed David Hoekel Parkway, City of Wentzville, St. Charles County, Missouri*. All of the properties examined during the current architectural investigations lacked local, state, and national historic context. The SHPO concurred that none of the buildings or structures are eligible for the NRHP under Criteria A, B, C, or D (see letter dated August 19, 2008 in Appendix I).

One private cemetery was encountered during the architectural investigation. This family cemetery is on property C242, at the east terminus of the study area, just outside the architectural study area to the north. A memorial marker to the Drummond family is in the center of an iron fenced area, along with some broken and scattered pieces of tombstones. Outside of the fence are a few more broken tombstones (see Appendix E for further details).

In the subsequent architectural survey performed in 2012, six additional properties were located within the current architectural APE of the modified proposed interchange that were not surveyed in the original investigation (see Addendum in Appendix E). Only one of the additional parcels had a building within the current architectural APE that was 45 years or older. The building was a gabled Ranch residence constructed in 1960, with modern vinyl cladding, an asphalt roof with gable returns, and a concrete basement.

Due to the length of time that had passed between the original survey (2008) and the current study, a reevaluation was required of all properties within the original architectural APE that had reached the 45 year mark since 2008. Seven properties had been identified as modern in the original survey, but now had construction dates that were 45 years or older and therefore, are no longer given the designation of "M" for modern. Three of the properties did not contain buildings within or touching the APE, and the other four properties contained buildings that did not meet the criteria for being recommended as eligible for the NRHP.

5. SUMMARY, IMPACTS, AND RECOMMENDATIONS

The archival searches revealed that no properties on the National Register of Historic Places (NRHP) exist within the study area.

Although there are three archaeological sites that may be eligible for the NRHP, the current alignment of the Selected Alternative (Alternative 2) would impact only sites 23SC2140 and 23SC2141.

Site 23SC2140 – The entirety of this site would be impacted by the Selected Alternative alignment. It is recommended by the SHPO that this site be archaeologically tested prior to design in order to better determine the potential presence of subsurface features and to determine if this site is eligible for the NRHP.

Site 23SC2141 – This site would be impacted by the Selected Alternative along its western edge. Although nearly all of the buildings have been razed, it is likely that the remains of the original residence used by Abington and more importantly yard features (e.g., wells, cisterns, and privies), used at various times and filled with artifacts reflecting different periods of use, could still exist on the property. Although these features are outside of the Selected Alternative construction limits, the SHPO has stated that this site should undergo subsurface archaeological testing prior to design to determine if this site is eligible for the NRHP.

The Selected Alternative alignment will be further refined and determined after the design phase, and at that time, the extent of impacts to the archaeological sites will be determined. If any potentially eligible sites are impacted by the construction limits of the project, further (Phase II) archaeological testing will be conducted to determine if they are eligible for the NRHP. If an archaeological site is determined eligible, appropriate procedures will be followed to comply with Section 106 of the National Historic Preservation Act of 1966, including an assessment of adverse effects and, if appropriate, measures to avoid, minimize, or mitigate adverse effects through a Memorandum of Agreement (MOA), prior to the beginning of construction.

There were no architectural properties or districts currently listed on the National Register of Historic Places or currently recommended for the National Register in the architectural study area. The initial architectural survey of the Selected Alternative resulted in the identification of 255 previously unrecorded properties, no previously recorded architectural properties, nine previously recorded non-significant bridges and culverts, and no previously unrecorded bridges. All of the properties examined during the initial architectural investigations lacked local, state, and national historic context, and therefore it was determined by the SHPO that none of them are eligible for NRHP listing under Criteria A, B, C, or D. The subsequent architectural survey (2012) identified six additional properties and reevaluated four properties with buildings that had reached the 45 year mark since 2008. None of these properties were recommended for the NRHP. Three additional properties, reevaluated from the original survey, were now 45 years old, but were located outside the APE. The SHPO concurred with these recommendations in a letter dated June 4, 2013, which can be found in Appendix I.

For those properties where access was denied, on-site investigations will be conducted whenever permission is granted.

K. Hazardous Material Sites

1. SURVEY METHODOLOGY

A Phase I hazardous material assessment was performed to identify sites within the Study area that are contaminated or potentially contaminated with hazardous materials or waste. The intended scope of the screening was to identify properties which may require the time and expense of further site characterization or actual clean-up before construction can proceed. The study reflects the preferred method cited by the Federal Highway Administration (FHWA) and Missouri Department of Transportation (MoDOT).

The hazardous material assessment involved data collection efforts for the study area and an area one mile outside of the study area, including review of numerous government agency lists and files, review of current aerial photographs, and a field reconnaissance of the study area from public roads. The documents reviewed include the following: Federal (EPA) and State (MDNR) computer database search provided by Environmental Data Resources, Inc. (EDR) September 2007 (report is available upon request); EPA Region VII files, Kansas City, Kansas (see email dated September 24, 2007, in Appendix I); and MDNR Central office correspondence (see letter dated November 16, 2007, in Appendix I). The *David Hoekel Parkway Hazardous*

Material Screening Report is provided in Appendix F and includes a list of federal and state databases and a summary of the database search.

In addition, a field reconnaissance was performed in September of 2007, which included a visual inspection of the general study area to identify additional sites that could contain hazardous wastes, but may not have been recorded.

2. POTENTIAL HAZARDOUS MATERIAL SITES

The Phase I hazardous material assessment identified 20 records on various lists, representing 11 properties (separate addresses), 10 of which are located within the study area (see Exhibit III-4, and Table 1 in Appendix F). None of those sites were documented with serious environmental hazards, considered to pose a fatal flaw, or believed to require extensive time and cost to clean up. Seven of the eight sites involve permit compliance for water pollution control and/or resource assessment and monitoring. One site involved illegal drug lab material in a house that no longer exists. There are no known underground storage tanks located in the study area. In addition to the listed sites, there are also three sewage lift stations within the study area. Farm and household debris dumps were noted at several locations within the project area.

3. HAZARDOUS MATERIAL IMPACTS

a. Reasonable Alternatives Impacts

No-Build

The No-Build Alternative would have no impacts to hazardous material sites.

Alternative 1

This alternative would have no impacts to hazardous material sites. All of the hazmat sites shown on Exhibit III-4 adjacent to Alternative 1 involve permit compliance or resource assessment/monitoring, and the drug lab that no longer exists.

Alternative 2

This alternative would have no impacts to hazardous material sites, but would have a partial impact to the property on which a sewage lift station is located, adjacent to Highway P. One of the hazmat sites shown on Exhibit III-4 adjacent to Alternative 2 involves permit compliance or resource assessment/monitoring.

Alternative 3

This alternative would have no impacts to hazardous material sites; however, it would impact one sewage lift station located east of US 61.

b. Selected Alternative Impacts (Alternative 2)

The sites discussed above are screened as having a low potential for contamination and none of the sites would be totally impacted by the Selected Alternative. The only exception would be for the one site involving permit compliance or resource assessment/monitoring. In addition, the edge of the sewage lift station property would be partially impacted by the Selected Alternative. However, the entrance to the property would remain open.

All known and unknown hazardous materials encountered during roadway improvements would be handled per federal, state, and local laws and regulations. Where hazardous material or solid waste is identified in the required right-of-way, resolution with the property owner would be

conducted prior to purchase. If an unknown site is encountered during construction, the local public works department and the Missouri Department of Natural Resources (MDNR) will be contacted and appropriate laws and EPA regulations would be followed to eliminate or minimize any adverse environmental consequences. If a pre-law or permitted landfill is encountered during construction, approval must be obtained from MDNR's Solid Waste Management Program prior to disturbing the buried waste for compliance information (for compliance information refer to MDNR's technical bulletin PUB2192 – *Managing Solid Waste Encountered During Excavation Activities* dated 12/2006, at <http://www.dnr.mo.gov/pubs/pub2192.pdf>). In the event that randomly dumped solid waste is encountered in the fields and ravines, proper procedures warrant collecting the material and properly disposing of it in a landfill.

Standard best management practices should be used for demolition, clearing and grubbing. It is recommended that homes and businesses that are identified for demolition be thoroughly inspected for hazardous materials. The inspections should cover both stored hazardous materials, and hazardous materials used in the construction of the building (i.e. asbestos, etc.). A Missouri certified asbestos inspector must sample for asbestos prior to demolition. Demolition activities must be conducted in accordance with local, state, and federal asbestos regulations (40 CFR Part 61, subpart M and State Regulations 10 CSR 10-6.241 and 10-6.250). For further details concerning asbestos abatement, see MDNR letter dated December 18, 2009 in Chapter V.C.4.

It is common for households to store and use small quantities of hazardous materials such as paints, batteries, fertilizers, herbicides, pesticides, gasoline, motor oil, and cleaners/solvents. Where evidence of improper waste handling practices is discovered, soil and/or groundwater sampling may be recommended during final design or pre-construction phases (Phase I and Phase II assessments).

Where electrical transmission lines, telephone facilities, pipelines, and other utilities are encountered or removed for the Selected Alternative, coordination with the applicable utility companies is recommended to identify chemical hazards present at specific locations. Further investigations may be required during final design based upon site specific data from the utility companies. Typically substations and intermittent power pole locations house transformers that may or may not contain Polychlorinated Biphenyls (PCBs). When this situation is involved with construction, further consideration may be necessary to include soil testing for PCBs near transformers.

L. Air Quality

1. EXISTING AIR QUALITY

The Federal Clean Air Act Amendments (CAAA) of 1970 required the adoption of air quality standards. These were established to protect public health, safety and welfare from known or anticipated effects of sulfur dioxide (SO₂), particulates (PM₁₀, 10 microns and smaller; PM_{2.5}, 2.5 microns and smaller), carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), and lead (Pb). In addition to these pollutants, the state of Missouri has established additional criteria for hydrogen sulfide (H₂S) and sulfuric acid (H₂SO₄). The Missouri and National Ambient Air Quality Standards (NAAQS) for these pollutants are listed in Table III-11.

The CAAA of 1977 required all states to submit to the U.S. Environmental Protection Agency (EPA) a list identifying those air quality control regions, or portions thereof, which meet or exceed the NAAQS or cannot be classified because of insufficient data. Portions of air quality control regions that are shown, by monitored data or air quality modeling, to exceed the NAAQS for any criteria pollutant are designated "non-attainment" areas for that pollutant.

The 1990 CAAA established procedures for determining the conformity of state implementation plans with the requirements of the federal regulations. These procedures are published in 40 CFR Parts 51 and 93.

The Selected Alternative is located within the Metropolitan St. Louis Interstate Air Quality Control Region (Missouri – Illinois) (AQCR #70). The St. Louis Metropolitan Area is currently designated as a non-attainment area for particulates (annual $PM_{2.5}$) and ozone (O_3), and classified in attainment for all other criteria pollutants. The O_3 nonattainment is Subpart 2/Moderate. In addition, the area is designated as a maintenance area for carbon monoxide under the National Ambient Air Quality Standards.

Table III-11: Missouri and National Ambient Air Quality Standards

Pollutant	Primary Stds.	Averaging Times	Secondary Stds.
Carbon Monoxide	9 ppm (10 mg/m ³)	8-hour ⁽¹⁾	None
	35 ppm (40 mg/m ³)	1-hour ⁽¹⁾	None
Lead	0.15 µg/m ³	Running 3-Month Average	Same as Primary
Nitrogen Dioxide	0.053 ppm (100 µg/m ³)	Annual (Arithmetic Mean)	Same as Primary
Particulate Matter (PM ₁₀)	Revoked ⁽²⁾	Annual ⁽²⁾ (Arith. Mean)	Revoked ⁽²⁾
	150 µg/m ³	24-hour ⁽³⁾	Same as Primary
Particulate Matter (PM _{2.5})	15.0 µg/m ³	Annual ⁽⁴⁾ (Arith. Mean)	Same as Primary
	35 µg/m ³	24-hour ⁽⁵⁾	Same as Primary
Ozone	0.075 ppm	8-hour ⁽⁶⁾	Same as Primary
	0.12 ppm	1-hour ⁽⁷⁾ (Applies only in limited areas)	Same as Primary
Sulfur Oxides	0.03 ppm	Annual (Arith. Mean)	-----
	0.14 ppm	24-hour ⁽¹⁾	-----
	-----	3-hour ⁽¹⁾	0.5 ppm (1300 µg/m ³)
Hydrogen Sulfide (H ₂ S) ⁽⁸⁾	70 µg/m ³ (0.05 ppm)	One-half Hour ⁽⁹⁾	
	42 µg/m ³ (0.03 ppm)	One-half Hour ⁽¹⁰⁾	
Sulfuric Acid (H ₂ SO ₄) ⁽⁸⁾	10 µg/m ³	Twenty-four Hour ⁽¹¹⁾	
	30 µg/m ³	One Hour ⁽¹²⁾	

⁽¹⁾ Not to be exceeded more than once per year.

⁽²⁾ Due to a lack of evidence linking health problems to long-term exposure to coarse particle pollution, the agency revoked the annual PM₁₀ standard in 2006 (effective December 17, 2006).

⁽³⁾ Not to be exceeded more than once per year on average over 3 years.

⁽⁴⁾ To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.

⁽⁵⁾ 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 35 µg/m³ (effective December 17, 2006).

⁽⁶⁾ 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 0.08 ppm.

⁽⁷⁾ (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1.

(b) As of June 15, 2005 EPA revoked the 1-hour ozone standard in all areas except the fourteen 8-hour ozone nonattainment Early Action Compact (EAC) Areas.

⁽⁸⁾ Missouri Air Quality Standards.

⁽⁹⁾ Not to be exceeded more than twice per year.

⁽¹⁰⁾ Not to be exceeded more than twice in any five consecutive days.

⁽¹¹⁾ Not to be exceeded more than once in any ninety consecutive days.

⁽¹²⁾ Not to be exceeded more than once in any two consecutive days.

Source: <http://www.epa.gov/air/criteria.html> last updated on Friday, February 8, 2008 and Missouri 10 CSR 10 – 6.010 Ambient Air Quality.

2. CONFORMITY

As stated previously, the St. Louis Metropolitan Area is currently designated as a non-attainment area for particulates (annual PM_{2.5}) and ozone (O₃). The O₃ nonattainment is Subpart 2/Moderate. The conformity determinations for both air pollutants have been conducted by the East-West Gateway Council of Governments (EWGCOG) using the latest Missouri State Implementation Plan (SIP) submittals.

Under the provisions of the Clean Air Act Amendments (CAAA) of 1990, the EWGCOG, as the Metropolitan Planning Organization (MPO) for the region, is the agency responsible for making sure a transportation project conforms to the air quality goals stipulated in the Transportation Implementation Plan (TIP). If the projected motor vehicle emissions from the planned transportation project do not exceed the motor vehicle emissions budget established in the TIP, EWGCOG places the project in the TIP and the Missouri Highways and Transportation Commission (MHTC) incorporates the entire TIP by reference in the Statewide Transportation Improvement Program (STIP). This is done by EWGCOG issuing a “Determination of Conformity” ensuring that the predicted future mobile emissions resulting from the Selected Alternative fall below the 2007 and 2014 emission budget levels set out in the maintenance plans for the ozone producing volatile organic compounds (VOCs) and oxides of nitrogen (NOx). The 1997 ozone SIP submittal and/or the MDNR’s Ozone Clean Data finding for the St. Louis area will establish the conformity budget to be used for the David Hoekel Parkway project.

The Selected Alternative for the David Hoekel Parkway project was evaluated within EWGCOG’s Air Quality Conformity Determination modeling for the region, approved by the Federal Highway Administration on September 2, 2011. The Conformity Determination was made for the entire 1997 eight-hour ozone non-attainment area and PM_{2.5} non-attainment area. Ozone non-attainment counties include: Franklin, Jefferson, St. Charles and St. Louis Counties and the City of St. Louis in Missouri; and Madison, Monroe, St. Clair and Jersey Counties in Illinois. The annual PM_{2.5} non-attainment area consists of: Franklin, Jefferson, St. Charles and St. Louis Counties and the City of St. Louis in Missouri; and Madison, Monroe and St. Clair Counties and Baldwin Township in Randolph County, in Illinois.

Based on the conformity analysis conducted as part of the long-range plan development, the projects and programs included in the *Regional Transportation Plan 2040* and the *Federal Fiscal Year 2012-2015 Transportation Improvement Program* (FY 2012-2015 TIP) are found to be in conformity with the requirements of the Clean Air Act Amendments of 1990, the relevant sections of the Final Conformity Rule 40 CFR Part 93, and the Missouri State Conformity Regulations 10 CSR 10-5.480. The finding is documented in the *Air Quality Conformity Determination and Documentation (8-Hour Ozone & PM_{2.5})* for the *Regional Transportation Plan 2040* and *2012-2015 Transportation Improvement Program*. The conformity analysis for the project has been incorporated into subsequent updates of the RTP 2040, TIP and Air Quality Conformity Determination within the Amendment to the FY 2014-2017 TIP.

(<http://www.ewgateway.org/pdf/files/library/AQ/AQConformityDoc/AQConformityDoc-FY2014.pdf> (David Hoekel Parkway project listed on page A-46)).

The EWGCOG will update and reanalyze the project's air quality conformity modeling within the next air quality conformity determination for the St. Louis region in order to reflect the final project description of roadway and interchange improvements for the Selected Alternative. The project will not be constructed until the new air quality conformity determination for the region, with inclusion of the project, is approved. As with the 2011 air quality conformity determination, it is anticipated that the project will not adversely impact the air quality for the region and that the region will remain in conformity with the requirements of the Clean Air Act Amendments of 1990, the relevant sections of the Final Conformity Rule 40 CFR Part 93, and the Missouri State Conformity Regulations 10 CSR 10-5.480 since the project has not changed significantly since that time.

a. Particulates

The EPA and the FHWA issued a joint guidance on March 29, 2006 on how to perform qualitative hot-spot analyses in $PM_{2.5}$ and PM_{10} nonattainment and maintenance areas. This guidance was developed to provide information for State Highway Administrations, local air control agencies and Metropolitan Planning Organizations (MPO) to meet the $PM_{2.5}$ and PM_{10} hot-spot analysis requirements established in the March 10, 2006, final transportation conformity rule (71 FR 12468). Based on an analysis of the final rule, 40 CFR 93.123(b)(1), and criteria recently adopted by the interagency group, it was determined that the Selected Alternative was not considered a "project of air quality concern" and does not meet the criteria stipulated for requiring either project-level conformity analysis or a $PM_{2.5}$ or PM_{10} hot-spot analysis as defined in the final rule. A more detailed discussion of how a "project of air quality concern" is defined can be found in Appendix G.

The following items were considered in determining whether the Selected Alternative is a project of air quality concern:

- The Study Area is non-attainment for $PM_{2.5}$;
- Maximum Build ADT in 2040 for the project is projected to be 22,000 vpd;
- Diesel truck percentage, two-axle 6 tire and 3 or more axles are 5.0% for the project ;
- There are not a significant number of diesel trucks at existing intersections that operate between LOS C and LOS E. The Selected Alternative will not create an increase in trucks such that LOS decreases; and
- The Selected Alternative will not create a significant increase in the number of diesel transit busses and/or diesel trucks in the study area.

Therefore, this project is not considered to be a project of air quality concern and does not require a hot-spot analysis.

b. Mobile Source Air Toxics

In addition to the criteria air pollutants for which there are National Ambient Air Quality Standards (NAAQS), the EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners) and stationary sources (e.g., factories or refineries). Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the Clean Air Act (CAA). The MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

Technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable estimates of MSAT emissions and effects of this project (see Appendix G for a detailed discussion). However, even though reliable methods do not exist to accurately estimate the health impacts of MSATs at the project level, it is possible to qualitatively assess the levels of future MSAT emissions under the project. Although a qualitative analysis cannot identify and measure health impacts from MSATs, it can give a basis for identifying and comparing the potential differences among MSAT emissions—if any—from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*, found at: www.fhwa.dot.gov/environment/airtoxic/msatcompare/msatemissions.htm

3. AIR QUALITY IMPACTS

The amount of MSATs emitted in the study area would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. Emissions in the study area will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce MSAT emissions by 57 to 87 percent from 2000 to 2020. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in virtually all locations.

Because of the specific characteristics of the Selected Alternative, there may be localized areas where VMT would increase. Therefore it is possible that localized increases in MSAT emissions may occur. The localized increases in MSAT emissions would likely be most pronounced along the Selected Alternative that would be built between US 61 and I-70. However, even if these increases do occur, they too will be substantially reduced in the future due to implementation of EPA's vehicle and fuel regulations.

In summation, in the design year (2040) it is expected there would be reduced MSAT emissions in the study area due to EPA's MSAT reduction programs. MSAT levels could be higher in some locations than others, but current tools and science are not adequate to quantify them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

M. Noise Analysis

1. MEASURED AND MODELED EXISTING NOISE LEVELS

Existing noise level measurements were conducted for only the Selected Alternative on October 29 and 30, 2007 at seven representative sites in the study area. The noise measurements were conducted for a period of ten or twenty minutes at each site. Traffic visible from each site was counted and classified during each measurement. The data collected at the seven sites are presented in Table III-12. The noise measurement sites are identified on Figures 1,2 and 3 in Appendix H. All traffic noise levels in this analysis are expressed in decibels [dBA $L_{eq}(h)$]. (See Appendix H for further explanation of the noise measurements and analysis.)

The noise analysis discussed in this section, and the Noise Study in Appendix H, were prepared based on a US 61 interchange at Peine Road and an alignment segment east of US 61 that was similar to the Alternative 1 alignment. However, subsequent modifications were made to the design of the proposed US 61 interchange of the Selected Alternative. The noise sensitive

receptors in the vicinity of the new proposed interchange remain the same as those of the previous interchange design, and the conclusions at the end of this section are still applicable to the modified interchange area. Figure 4 in Appendix H has been added to show the interchange modifications in relation to noise sensitive receptors.

The FHWA Traffic Noise Model, V. 2.5 (TNM[®])¹ was used to model the field measurements, using the traffic data counted during the measurements, to determine the applicability of the model to the specific project environment. Comparing the modeled noise levels to the measured noise levels confirms the applicability of the computer model to the specific project. Traffic volumes were counted and classified concurrently with the noise measurements at five of the seven field sites. The five modeled sites compared within 0-3 dBA of the measured levels. This represents reasonable correlation since the human ear can barely distinguish a 3-dBA change in a natural setting. The site-by-site comparison is presented in Table 2 in Appendix H.

Table III-12: Measured Existing Noise Levels

Field Site #	Site Description and Distance From Road	Date	Start Time	Duration	Traffic ¹⁾							Noise Level, dBA Leq(h)
					Roadway	A	MT	HT	Buses	MC	Speed mph	
1	Cemetery at St. Theodore's Church and School, 5059 Route P, 453 ft north of Route P and 1,055 ft west of Mette Rd.	10/29/07	14:28	10 min.	--	--	--	--	--	--	--	47
2	Residence, 1301 Forest Way, 79 ft south of Peine Rd. and 30 ft east of Forest Way	10/29/07	14:55	20 min.	Peine Rd.	41	2	2	--	--	35	56
3	Residence, 28 Hickory Ct., 367 ft north of Peine Rd.	10/29/07	15:25	20 min.	Peine Rd.	43	--	--	--	--	45	40
4	Residence, 128 Prairie Bluffs Dr., 110 ft west of N Point Prairie Rd. and 1,460 ft north of Scotti Rd.	10/29/07	16:13	20 min.	Prairie Bluffs Dr.	28	1	--	--	--	35	45
5	Residence, 210 ft south of Meyer Rd. and 5 ft west of Golden Gate Parkway	10/29/07	17:01	20 min.	Meyer Rd.	53	2	--	--	--	35	45
6	Residence, 2522 Bear Creek Dr., 2180 ft west of N. Point Prairie Rd.	10/29/07	17:44	10 min.	--	--	--	--	--	--	--	47
7	Residence, 1473 Cedar Branch Ln., 235 ft west of Point Prairie Rd. and 585 ft north of Jackson Rd.	10/30/07	7:21	20 min.	S. Point Prairie Rd.	11	1	--	1	--	45	46

1) Autos (A) defined as 2-axle, 4-tire; medium trucks (MT) as 2-axle, 6-tire; heavy trucks (HT) as 3 or more axles; buses as more than nine passengers; motorcycles (MC) as two or three tires, open-air driver/passenger compartment.

Source: HNTB Corporation, October, 2007

¹ Michael C. Lau, Cynthia S. Y. Lee, Gregg G. Judith L. Rochat, Eric R. Boeker, and Gregg C. Fleming. FHWA Traffic Noise Model[®] Users Guide (Version 2.5 Addendum). Federal Highway Administration, April 2004.

2. NOISE ABATEMENT CRITERIA

The FHWA's Noise Abatement Criteria (NAC) and MoDOT's FHWA-approved interpretation of the NAC, as detailed in MoDOT's Traffic Noise Policy², were used in the analysis of the acoustic impact of the Selected Alternative. The analysis was conducted according to the guidelines as presented in the Code of Federal Regulation, Title 23 Part 772, which provides procedures whereby the acoustic impact of the Selected Alternative can be assessed and the needs for abatement measures determined. Although MoDOT's current noise policy has incorporated changes that were made to 23 CFR 772 by FHWA, which went into effect July 13, 2011; MoDOT's previous noise policy that was in effect prior to that date was used for this noise analysis because this proposed project had reached the practicable alternatives stage prior to that date.

The FHWA and MoDOT's NAC for various types of land uses are presented in Table III-13. The noise level descriptor used is the equivalent sound level, $L_{eq}(h)$, defined as the steady state sound level in a one hour period which contains the same sound energy as the actual time-varying sound.

Noise mitigation measures for traffic noise impacts will be considered when the predicted noise levels approach or exceed those values shown for the appropriate activity category of the Noise Abatement Criteria, Table III-13, or when the predicted traffic noise levels substantially exceed the existing noise levels.

MoDOT has defined the NAC approach or exceed criteria for Activity Category "B" as being equal to or greater than 66 dBA $L_{eq}(h)$ for noise sensitive receivers such as residences, churches, schools, libraries, hospitals, nursing homes, apartment buildings, condominiums, etc. The criteria for Activity Category "C" is 71 dBA $L_{eq}(h)$ or greater. MoDOT has defined an increase of 15 decibels or more over the existing noise as being substantial. Title 23 CFR, Section 772.11(a) states, "In determining and abating traffic noise impacts, primary consideration is to be given to exterior areas. Abatement will usually be necessary only where frequent human use occurs and lower noise level would be of benefit".

**Table III-13: Noise Abatement Criteria
Hourly A-Weighted Sound Level-Decibels (dBA)**

Activity Category	$L_{eq}(h)$ (1 Hr)	Description of Activity Category / Land Uses
A	57 dBA (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the lands are to continue to serve their intended purpose.
B	67 dBA (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries and hospitals.
C	72 dBA (Exterior)	Developed lands, properties or activities not included in Categories A or B above.
D	---	Undeveloped lands.
E	52 dBA (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

Source: Code of Federal Regulations, Title 23 Part 772, Revised April 2005
MoDOT Traffic Noise Policy, September 1997

² Traffic Noise Policy, Missouri Department of Transportation, MoDOT Preliminary Studies Group, Environmental Section, September 1997.

3. TRAFFIC NOISE MODELING

The FHWA Traffic Noise Model, (TNM[®] 2.5)³ was used to model design year 2030 L_{eq} noise levels. Existing noise levels were developed from field measurements, as described above. The design year noise levels were compared to the existing noise levels and to the NAC, Table III-13. The design year noise levels were also used in the noise mitigation analysis to analyze the feasibility of abatement measures for locations projected to experience a noise impact. Inputs such as volume, speed, and truck percentages were modeled to reflect the traffic characteristics “which yield the worst hourly traffic noise impact on a regular basis for the design year”⁴. The following parameters were used in this model to calculate an hourly $L_{eq}(h)$ at a specific receiver location:

- Distance between roadway and receiver;
- Relative elevations between roadway and receiver;
- Hourly traffic volumes for light-duty (two axles, four tires), medium-duty (two axles, six tires), and heavy-duty (three or more axles) vehicles;
- Vehicle speed;
- Roadway grade; and
- Topographic features, including retaining walls and berms.

One hundred eighteen (118) representative receiver locations, labeled N1 through N111 (modeled), and FS-1 through FS-7 (field site), were selected to illustrate the potential noise impacts adjacent to the Selected Alternative. Based on MoDOT’s Traffic Noise Policy the traffic noise analysis was conducted for both developed lands and undeveloped lands for which development has been planned, designed and programmed. Development will be deemed to be planned, designed and programmed if a building permit for a noise sensitive land use (including, but not limited to a residence, school, church, hospital or library) has been approved by the local agency with jurisdiction at the time of the noise analysis. Therefore, receiver locations selected included existing residences; platted subdivisions; St. Theodore’s Church/School, Parish Center and cemetery. Noise modeling and field measurement sites are identified on Figures 1, 2, 3, and 4 in Appendix H.

Future 2030 design hour traffic data was used to model the design year $L_{eq}(h)$ noise levels. These noise levels were compared to the existing noise levels to determine if MoDOT’s 15 decibel increase criteria would be exceeded and to the NAC noise levels in Table III-13. Exceeding either criterion is, by definition, an impact. Therefore, mitigation measures must be reviewed to determine if they are both feasible and reasonable for the Selected Alternative.

Existing design year $L_{eq}(h)$ noise levels within the project study area ranged from 40 to 64 dBA $L_{eq}(h)$. The results of the peak hour traffic noise modeling are presented in Table 4 in Appendix H.

Future design hour noise levels would exceed the NAC at sixteen (16) of the 118 representative receivers, as shown in Table 4 in Appendix H. These receivers represent one (1) clubhouse, one swimming pool, 10 apartments, and 19 residences. Future $L_{eq}(h)$ noise levels at these receivers would range from 66 to 71 dBA. The change in noise levels at these locations would be an increase in a range of four to 28 decibels.

³ Michael C. Lau, Cynthia S. Y. Lee, Gregg G. Judith L. Rochat, Eric R. Boeker, and Gregg C. Fleming. FHWA Traffic Noise Model® Users Guide (Version 2.5 Addendum). Federal Highway Administration, April 2004.

⁴ 23 CFR, Section 772.17(b).

In addition to those receivers that would be exposed to noise levels above the NAC, 16 additional receivers would be exposed to future design hour noise levels that would substantially exceed existing noise levels, as shown in Table 4 in Appendix H. These receivers represent 39 existing and permitted residences. Future $L_{eq}(h)$ noise levels at these receivers would range from 55 to 65 dBA. The noise levels at these locations would increase in a range of 15 to 25 decibels.

4. ABATEMENT MEASURES

Various methods were reviewed to mitigate the noise impact of the Selected Alternative. Among these were reduction of speed limits, restriction of truck traffic to specific times of the day, a total prohibition of trucks, alteration of horizontal and vertical alignments, property acquisition for construction of noise walls or berms, acquisition of property to create buffer zones to prevent development that could be adversely impacted, noise insulation of public use or nonprofit institutional structures, the use of berms, and the use of noise walls.

Restriction or prohibition of trucks is adverse to the project purpose. Reduction of speed limits, although acoustically beneficial, is seldom practical unless the design speed of the Selected Alternative is also reduced. Design criteria and recommended termini for the Selected Alternative prevent substantial horizontal and vertical alignment shifts that would produce significant changes in the projected acoustical environment. The desire to minimize right-of-way takings prohibits the acquisition of buffer zones or the construction of earth berms. Noise insulation is not necessary since no public use or nonprofit institutional structures were identified as being affected by the project. Therefore, only the construction of noise walls was considered as a possibility for noise mitigation.

When the noise criterion is exceeded or a substantial increase occurs, noise abatement procedures are to be reviewed to determine if they are feasible and reasonable. Feasibility deals with the engineering considerations of noise abatement, for example, topography, access, drainage, safety, maintenance, and if other noise sources are present. MoDOT requires at least a five dBA noise loss for first-row receivers for noise abatement to be considered feasible.

Reasonability of proposed noise abatement mitigation measures is more subjective than evaluation of feasibility. It implies the use of good engineering judgment and is based on a number of factors. These factors include, but are not limited to:

- Noise wall must provide noise reduction of at least five dBA for all primary receivers. Primary receivers are those which are closest to the highway.
- Noise wall must provide attenuation for more than one receiver.
- Noise wall must be 18' (5.5m) or less in height above normal grade.
- Noise wall must not interfere with normal access to the property.
- Noise wall must not pose a traffic safety hazard.
- Noise wall must not exceed a cost of \$30,000 per benefited receiver. A benefited receiver is defined as a receiver, which obtains a noise reduction of five dBA or more.
- The majority of the affected residents (primary and benefited receivers) must concur that a noise wall is desired."²

In areas where noise impacts would occur, noise abatement (i.e. barriers) would have to be constructed between the road and the receiver to effectively abate the noise being produced by the traffic.

Seven noise barriers were analyzed for existing and permitted residences within the project limits. It should be noted that MoDOT's noise policy requires mitigation only for existing receivers, not for receivers in buildings constructed after a proposed roadway is built. The results of the barrier analysis, including barrier location, future $L_{eq}(h)$ noise levels without and with a barrier, barrier length and height, estimated cost (based on \$18.00/square foot), the number of residential units benefited, the noise reduction provided by the barrier, and the cost per residential unit, and whether the noise barrier is feasible and reasonable are presented in Table III-14. Five of the seven noise barriers listed in Table III-14 meet MoDOT's feasibility and reasonability criteria. This indicates that noise barriers could be considered for these locations.

As discussed at the beginning of this section, modifications have been made to the design of the proposed US 61 interchange of the Selected Alternative. The noise sensitive receptors in the vicinity of the new proposed interchange remain the same as those of the previous interchange design, and the potential still exists for the consideration of feasible and reasonable noise barriers (#6 and #7) in the vicinity of the US 61 interchange (see Figure 4 in Appendix H).

There are nine individual receivers along the corridor that would exceed the NAC: Receivers FS-2, N14, N15, N23, N29, N35, N36, N56 and N71 in the design year (See Figures 1, 2, 3, and 4 in Appendix H). Due to local access requirements and the proximity to local street intersections, it is not possible to design a noise barrier that would meet MoDOT's feasibility criteria. In addition, it is not possible to design a barrier for single receivers that would meet MoDOT's cost criteria of \$30,000. As a result, noise barriers would not be considered for these locations.

Table III-14: Acoustical Mitigation - Noise Barrier Analysis

Barrier No. ^{a)}	Range of Future Leq Noise Levels, (dBA)		Noise Reduction (dB)	Barrier Characteristics		Cost ^{b)}	Number of Units Attenuated	Cost/ Benefited Receiver	Feasible and Reasonable
	W/O barrier	With barrier		Length ft	Height ft				
1	65	59	6	650	8	\$93,600	5	\$18,720	Y
2	65	59	6	920	8	\$132,480	4	\$33,120	N
3	55-65	50-54	5-11	1,626	10-4	\$336,971	7	\$48,139	N
4	52-63	47-58	5	1,444	10-12	\$293,218	11	\$26,656	Y
5	59-68	54-59	5-9	1,462	9-12	\$250,358	20	\$12,518	Y
6	67-68	61-63	5-6	1,300	8	\$187,156	7	\$26,737	Y
7	68	62-63	5-6	1,000	16-18	\$301,677	11	\$27,425	Y

a) Barriers 1 – 7 are shown on Figures 1 through 3 in Appendix H.

b) Based on \$18.00 per square foot.

5. CONSTRUCTION NOISE

As directed by 23 CFR 772.19, the effects of the temporary increased noise levels during construction were considered. These noise impacts would occur within the immediate vicinity of the construction activities and generally be limited to working hours. Although noise impacts during project construction are of short duration, a large number of combustion engine powered equipment will be required to construct the Selected Alternative. This equipment is expected to be the main contributor to the sound levels from highway construction. Table 6 in Appendix H lists some typical peak operating noise levels at a distance of 50 feet, grouping construction equipment according to mobility and operating characteristics.

The major construction elements of this project are expected to be earth removal, hauling, grading and paving. General construction impacts such as temporary speech interference for passersby and those individuals living and working near the project can be expected,

particularly from earth moving equipment during grading operations. Overall, construction noise impacts are expected to be minimal since construction noise is of relatively short duration.

6. UNDEVELOPED LANDS

The 66 dBA $L_{eq}(h)$ setback distance along the Selected Alternative would range from 100 feet to 144 feet. The range of distances is a function of traffic volumes and roadway elevation adjacent to the vacant lands. The setback distance indicates that noise levels within the setback distance, measured perpendicular to the centerline in either direction, is 66 dBA $L_{eq}(h)$ or greater. This setback distance was developed to assist local planning authorities in developing land use control over the remaining undeveloped lands along the project in order to prevent further development of incompatible land use.

7. CONCLUSION

Based on the noise study completed for the Selected Alternative, only five of the seven noise barriers presented in Table III-14 meet MoDOT's definition for feasible and reasonable noise mitigation. This indicates that noise barriers could be considered for the project.

Public informational meetings, both formal and informal, will be conducted throughout the project development process, from planning, to design, to construction, to solicit comments, opinions and concerns from local officials and the public. Upon completion of the public information meetings, should the majority of benefitted residents concur that noise walls are desired, the City of Wentzville will install the noise barriers that are feasible and reasonable adjacent to the Selected Alternative. It is noted that MoDOT's noise policy requires mitigation only for existing receivers and planned development with building permits. Proposed or planned development that is permitted and constructed after the Selected Alternative has been approved through the NEPA process would not qualify for noise mitigation. The City has also been providing a public disclosure informational brochure titled *Topics to Consider While You Search for Your Home*, which is required by City Ordinance No. 1884 to be prominently displayed and clearly made available by developers to prospective home or property purchasers who shall be personally advised about the brochure. This brochure includes instructions on how to obtain information contained in the City's Comprehensive Plan and its Thoroughfare Plan, which includes the location of the David Hoekel Parkway preserved corridor in relation to planned and existing development. A copy of Ordinance No. 1884 and the informational brochure can be found in Appendix J.

If substantial changes in horizontal or vertical alignment occur during the remaining stages of design and construction, noise abatement measures will be reviewed. A final Noise Report will be prepared, if needed, during final design and following all receipt of public comments. The Noise Report analysis will re-model the noise barriers with final roadway alignment and finished grade elevations at the right-of-way resulting in design level data for construction plans. The final recommendations will be made after the final design and public involvement processes are complete.

N. Visual Quality and Aesthetic Considerations

1. EXISTING VISUAL ENVIRONMENT

The corridor of the Selected Alternative is located in an area of Wentzville that is experiencing growth and development. Most of the existing areas consist of either residential development or agricultural/open land use. Some of the residential areas are relatively new and most of the undeveloped land will be developed with residential and commercial uses in the near future.

Within the project corridor, the most notable visual resources that are scenically significant are the Peruque Creek and McCoy Creek riparian corridors. The characteristics of the streams and their adjacent riparian woodland contribute to the visual identity of the environment and provide a sharp contrast with the developing urban/suburban environment.

The areas within a project corridor can be visually distinct, can exhibit unique and consistent visual characteristics, and can possess varying degrees of visual quality. The project corridor can be divided into separate areas or units within which there are consistent visual characteristics and a uniform visual experience. These areas are called “Visual Assessment Units,” the boundaries of which occur where there is a change in visual character. The strongest determinations of the visual boundaries are *topography* (physical land form of the surface) and *landscape components* (natural land cover elements or structures).

The following visual assessment units were determined by analyzing the topography of the study area, studying the major landscape components, studying aerial photography, and through windshield surveys:

- *Agricultural / Open Land* – pasture/grassland and cultivated crops
- *Riparian Corridors* – running water courses and adjacent low-lying woodlands
- *Upland Woods* – woodlands above stream terraces and on side slopes of hills
- *Residential* – new housing subdivisions, new apartment complex and some older houses
- *Commercial* – businesses, mostly concentrated on the east side of US 61
- *Flint Hill* – community characteristic of “small town Main Street”, with a mix of residential, commercial, a church, and a school

2. VISUAL QUALITY RATING

The “visual assessment units” described above were studied to determine a visual quality rating. The quality of the visual environment can be collectively defined using the attributes of *vividness*, *intactness*, and *unity*. *Vividness* is the relative strength of the seen image, *intactness* is the visual integrity of the natural or man-made landscape and its freedom from encroaching elements, and *unity* is the overall visual harmony of a composition and the degree to which the various elements combine in a coherent way. The identified visual assessment units present within the study area and the relative existing visual quality rating of each (on a scale of low, moderate, or high) is presented in Table III-15.

Table III-15: Visual Quality and Visual Receptors

Visual Assessment Units	Visual Quality Rating	Relative Concentration of Sensitive Visual Receptors
Agricultural / Open Land	Low to Moderate	Low
Riparian Corridors	High	Low
Upland Woods	High	Low
Residential	Moderate to High	High
Commercial	Low	Low
Flint Hill	Moderate to High	High

3. VISUAL IMPACTS

The visual impacts of a project may be quite varied in different areas of a project corridor because the areas themselves can be visually distinct, can exhibit unique and consistent visual characteristics, and can possess varying degrees of visual quality.

Visual quality impacts are determined by the degree of change in the visual environment as related to viewer response. For the purpose of highway project assessment, there are two distinct categories of viewers or viewer response to be considered in regard to the visual environment: (1) viewers who are users of the project facility and who have views of the surrounding environment (views from the road), and (2) the “visual receptors” or people who can observe the roadway from an adjacent vantage point (views of the road). Individuals that have the potential for undesirable views of the road (from residential areas) are referred to in this discussion as “Sensitive Visual Receptors.” As shown in Table III-15, the relative concentration of sensitive visual receptors is high in the residential areas and the Flint Hill community, and low in all other areas of the project corridor.

a. Reasonable Alternatives Impacts

No-Build

The No-Build Alternative would not physically alter the existing visual quality of the environment. Since there would be no new roadway traveling through the area, there would be no views of the road or *from* the road, and the existing visual environment would essentially remain the same as current conditions until inevitable new development occurs.

Reasonable Build Alternatives 1, 2 & 3

All of the Reasonable Build Alternatives would have similar impacts regarding views *from* the road and views *of* the road (see the description of the impacts for the Selected Alternative below).

b. Selected Alternative Impacts (Alternative 2)

The Selected Alternative would have the following impacts:

- *Views From the Road* – The most notable high quality views from the road would occur in the areas where the new roadway crosses the riparian corridors of Peruque Creek, tributaries of McCoy Creek, and Dry Branch where the elevated roadway would provide views of the streams and adjacent woodlands. High quality views from the road would also occur at the upland wooded areas. However, when new development takes place in those areas, much of the woodland would most likely be removed.
- *Views Of the Road and Visual Quality Impacts* – The existing visual environment is of high quality along the riparian corridors and wooded uplands, however, the Selected Alternative would have an overall moderate visual impact on these visual environments. The visual “change” would be moderate since these areas have already been altered by fragmentation and clearing, and will continue to be altered as new development occurs. The sensitive visual receptors that are, and will be, concentrated in the existing and future residential developments will be subject to undesirable views of the road, since no road has previously existed there. In the residential areas adjacent to I-70, US 61, and Highway P, those residents are already accustomed to views of the roadways and associated traffic, and the proposed project would not result in a substantial change from the existing visual conditions.

4. AESTHETIC CONSIDERATIONS / VISUAL ENHANCEMENTS

In areas where the roadway is visible to residences, if practicable, landscaping with evergreen trees and shrubs will be considered in order to screen and soften the views of the road in addition to providing enhanced views from the road. Where appropriate and practicable, the City of Wentzville will consider incorporating landscaping and aesthetic design elements in the design phase of the project, and in an integrated fashion to ensure that the roadway and any bridges will visually complement the character of the corridor. Most of the roadway will include a landscaped median to visually separate opposing lanes of traffic. In addition, native plants will be considered for landscaping in appropriate areas of the project.

O. Construction Impacts

Potential construction impacts are described in this section. While construction impacts would be more fully known when more detailed design plans have been completed, the City will work with the public to address concerns during the final design of the project and would provide further coordination with impacted parties and individuals.

The City of Wentzville's and MoDOT's standard specifications for street construction include, but are not limited to, air, noise, and water pollution control measures, and traffic control and safety measures to minimize construction impacts. Pollution control measures, both temporary and permanent, would be enacted under the project construction specifications. If drilling and blasting are necessary for construction, a carefully planned and executed drilling and blasting program would be prepared to minimize vibration impacts.

During construction of the project, construction methods and operations would be conducted in accordance with MDNR regulations, particularly concerning batch plant operations and clearing and grubbing functions. The use or application of liquefied cutback asphalt in paving and maintenance operations on highways, roads, parking lots, and driveways is restricted in certain counties, including St. Charles County, during April and October, except as otherwise exempted from the regulations (State Regulation 10 CSR 10-5.310). In addition, the Volatile Organic Compounds content of traffic coatings is restricted by State Regulation 10 CSR 10-5.450.

1. WASTE DISPOSAL

Specifications and procedures for the disposal of wastes resulting from construction activity would be developed with consideration given to the MDNR Solid Waste Management Program. This program emphasizes the need to develop uses and markets for recycled and recyclable materials in construction activities. These materials include, but are not limited to, waste tires, rubberized asphalt, ground glass subgrade, structural steel, plastic lumber, and paints that utilize recycled glass. Furthermore, any potential hazards in the right-of-way would be identified and handled in accordance with all applicable regulations. If solid waste is encountered during construction, it will be handled according to the Missouri Solid Waste Management Law and regulations (refer to MDNR's technical bulletin PUB2192 – *Managing Solid Waste Encountered During Excavation Activities*, dated 12/2006, at <http://www.dnr.mo.gov/pubs/pub2192.pdf>).

Two of the ponds in the project area have the possibility of being old sewage lagoons. Prior to construction, the St. Charles County Department of Health and Senior Services and/or the MDNR St. Louis Regional Office will be contacted to determine jurisdiction. The small lagoon located at the east end of the project is no longer in use and will be properly closed prior to construction according to the regulations of the agency having jurisdiction (see MDNR letter dated December 18, 2009 in Chapter V.C.4). The lagoon located just north of Meyer Road appears to be active, however, impacts would be at the eastern tip of the pond and would be of such a minor amount that it could remain in place and still function (see P-3 on Map 5 in

Appendix D). In addition, the construction specifications would include requirements to prohibit the contractor from disposing of any pollutants, such as fuels, lubricants, raw sewage, or other harmful substances inappropriately.

Impacts would be mitigated by adherence to construction permit and contract conditions. Materials resulting from clearing and grubbing, demolition, or other operations (except materials to be retained) would be removed from the project, or otherwise properly disposed of by the contractor.

2. WATER QUALITY

Construction impacts on water resources include both direct and indirect impacts. Water quality impacts during construction activities could include increased sediment load with resulting increased turbidity levels in streams. The sediment increase could be due to runoff from cleared areas within the construction limits, earthmoving, and construction activities in or near stream channels. Disturbance of a stream channel during culvert or bridge construction could cause short-term increases in turbidity. Spillage of fuels, lubricants and other toxic materials during construction can impact the water quality of the streams. Turbid water and suspended solids may be discharged directly to streams from pumps used in de-watering activities during roadway, bridge and culvert construction. This would be a temporary impact during construction. Best Management Practices (BMPs) will be used to minimize the turbidity of the waters caused during construction. The implementation of standard sedimentation and erosion control measures and the careful handling of foundation spoils and toxic materials can reduce the potential for these construction impacts.

MDNR has noted that nutrients leached from project areas that have been hydro seeded and mulched can result in increased phosphorous levels in streams and adjacent water bodies, such as creeks and reservoirs. The Missouri Department of Conservation (MDC) has stated that the following best management practices should reduce impacts to the aquatic environment to a minimal level:

- Grade and seed disturbed areas as soon as possible and in compliance with the MDC seeding and planting recommendations;
- Minimize disturbances to the stream banks and riparian zones; and
- Avoid work in stream channels from the beginning of March to mid June as much as possible and practicable; and undertake all necessary precautions to prevent petroleum products from entering streams.

These best management practices, as outlined by the MDC, also include conformance to the State Channel Modification Guidelines when altering channels or relocating streams. Measures would be taken to ensure that proper flow conditions are maintained in the creeks and tributaries during construction. In addition, restoration work would include cleanup, shaping, replacement of topsoil, and establishment of vegetative cover on all disturbed bare areas, as appropriate.

3. AIR

Construction activity would cause temporary air quality impacts. These short-term effects would include the following:

- Increased emissions from heavy diesel construction vehicles and equipment. Emissions from construction vehicles and equipment would be controlled in accordance with emission standards prescribed under state and federal regulations. To the extent

practicable, the use of heavy construction equipment should be limited on days with orange or red air quality indices. If practical, off-road construction equipment can be retrofitted with diesel oxidation catalysts or other pollution control devices.

- Increased emissions from vehicles as a result of decreased speeds through work zones. Efforts would be made to minimize these impacts by maintaining smooth traffic flow during construction periods. In addition, heavy duty diesel vehicles with a gross vehicle weight greater than 10,000 pounds that operate in certain counties, including St. Charles County, are restricted from idling more than five (5) minutes in any sixty (60)-minute period, except as exempted from State Regulation 10 CSR 10-5.385.
- Increase in dust resulting from grading operations and exposed soils. Dust generated by construction activities would be minimized by the implementation of dust control measures, such as water sprinkling and applications of calcium chloride to prevent dust and other airborne particulates from leaving the property where it originated (State Regulation 10-CSR 10-6.170).

Contractors would be required to comply with Missouri's statutory regulations regarding air pollution control, which are designed to minimize air quality impacts by reducing air pollutants during construction. Air quality impacts would be mitigated by adherence to construction permit and contract conditions, which include prohibitions against burning of construction debris, and control measures to limit pollution if tree trunks and limbs are permitted to be burned on site. Open burning of vegetative debris from land clearing activities is subject to State Regulation 10 CSR 10-6.045 that prohibits the open burning of tires, petroleum-based products, asbestos containing materials, and trade wastes except as otherwise allowed by the rule. Open burning of vegetative debris is only allowed outside the city limits of an incorporated area or municipality, at a distance of more than 200 yards from the nearest inhabited dwelling, and should not be burned during ozone season (April – October). For open burning of vegetative waste that does not meet these restrictions, the MDNR's St. Louis Regional Office must be notified to determine if a permit can be issued.

The emission of odorous matter is not allowed in concentrations and frequencies, or for durations, that odor can be perceived (State Regulation 10 CSR 10-5.160 for St. Louis). For further details see MDNR letter dated December 18, 2009 in Chapter V.C.4.

4. NOISE

Noise from heavy construction equipment and haul trucks would result in unavoidable short-term impacts. Residents adjacent to the roadway would be most impacted by construction noise. In an effort to minimize the effects during construction, contractors may be required to equip and maintain muffling equipment for trucks and other machinery in order to minimize noise emissions. Operations with high temporary noise levels such as pile driving may need to have abatement restrictions placed upon it such as work-hour controls and maintenance of muffler systems.

5. VIBRATION

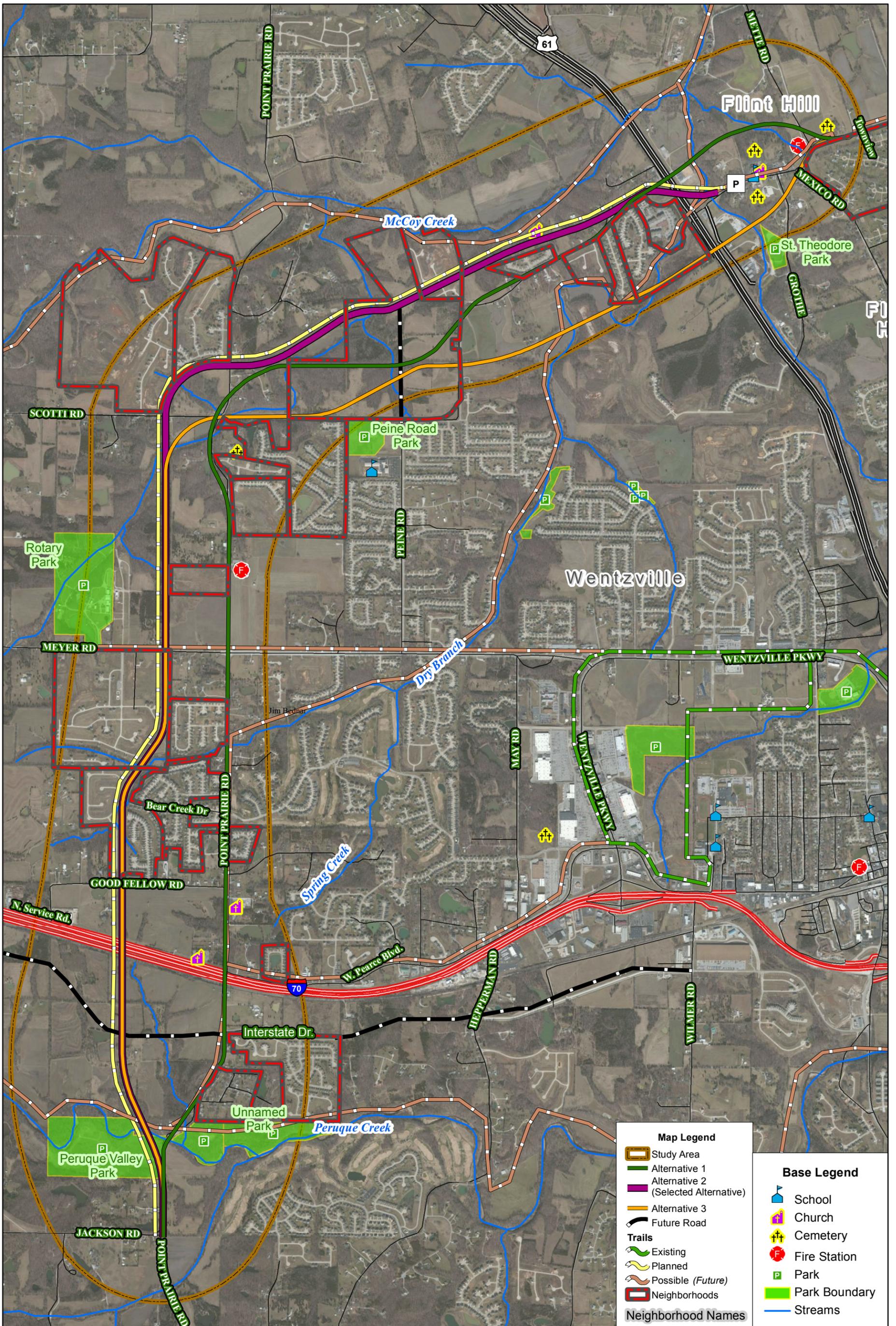
Due to the proximity of the alignment to residential areas, if drilling and blasting are necessary for construction, a carefully planned and executed drilling and blasting program would be prepared during the design development phase, which would place limits or controls on drilling and blasting activities. The requirements of this program will be governed by local, state, and federal regulations, and coordination with affected groups will continue during the detailed design phase.

6. TRAFFIC IMPACTS

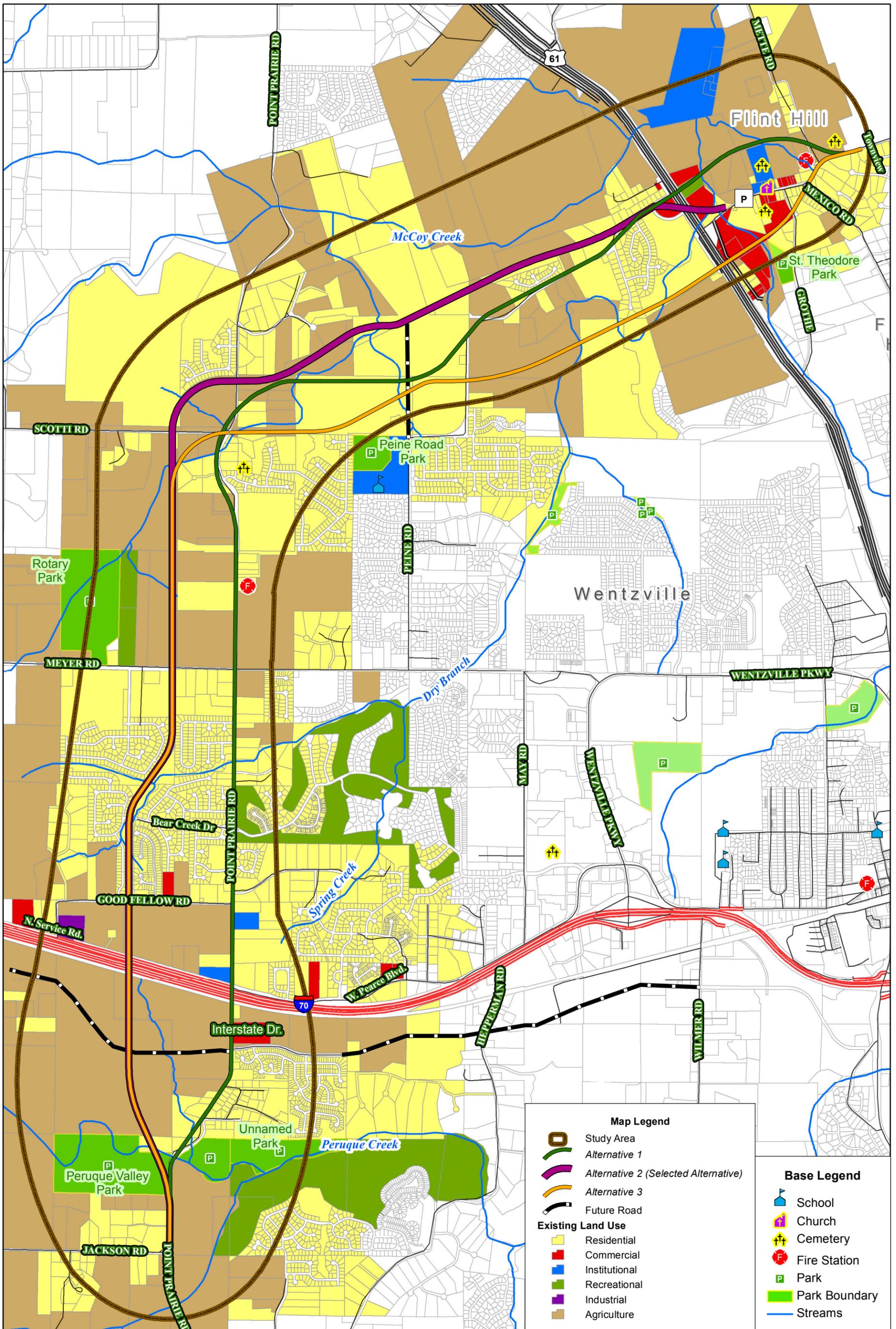
The Selected Alternative will be constructed in phases due to funding constraints. During all phases of construction, access will be maintained to residential housing and subdivisions in the study area. The bridge over I-70 and US 61 at the interchange locations will be constructed in stages in order to retain two lanes of I-70 and US 61 in each direction, except for short intervals during the night time hours. Prior to each phase of construction, emergency service agencies will be contacted and emergency vehicle access routes will be coordinated. Construction will need to be limited during peak traffic hours.

7. UTILITY RELOCATION

Most utilities in the study area are located in utility easements. Utilities located within the study area include overhead power transmission lines, underground power lines, gas lines, storm sewer, sanitary sewer, underground telephone/fiber optic lines, and water lines. Although utilities would have to be relocated, impacts are expected to be minor and proper coordination with utility companies will take place.



David Hoekel Parkway EA
Parks, Neighborhoods, &
Other Public/Community Lands
Exhibit III-1



Map Legend

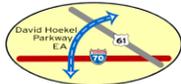
- Study Area
- Alternative 1
- Alternative 2 (Selected Alternative)
- Alternative 3
- Future Road

Existing Land Use

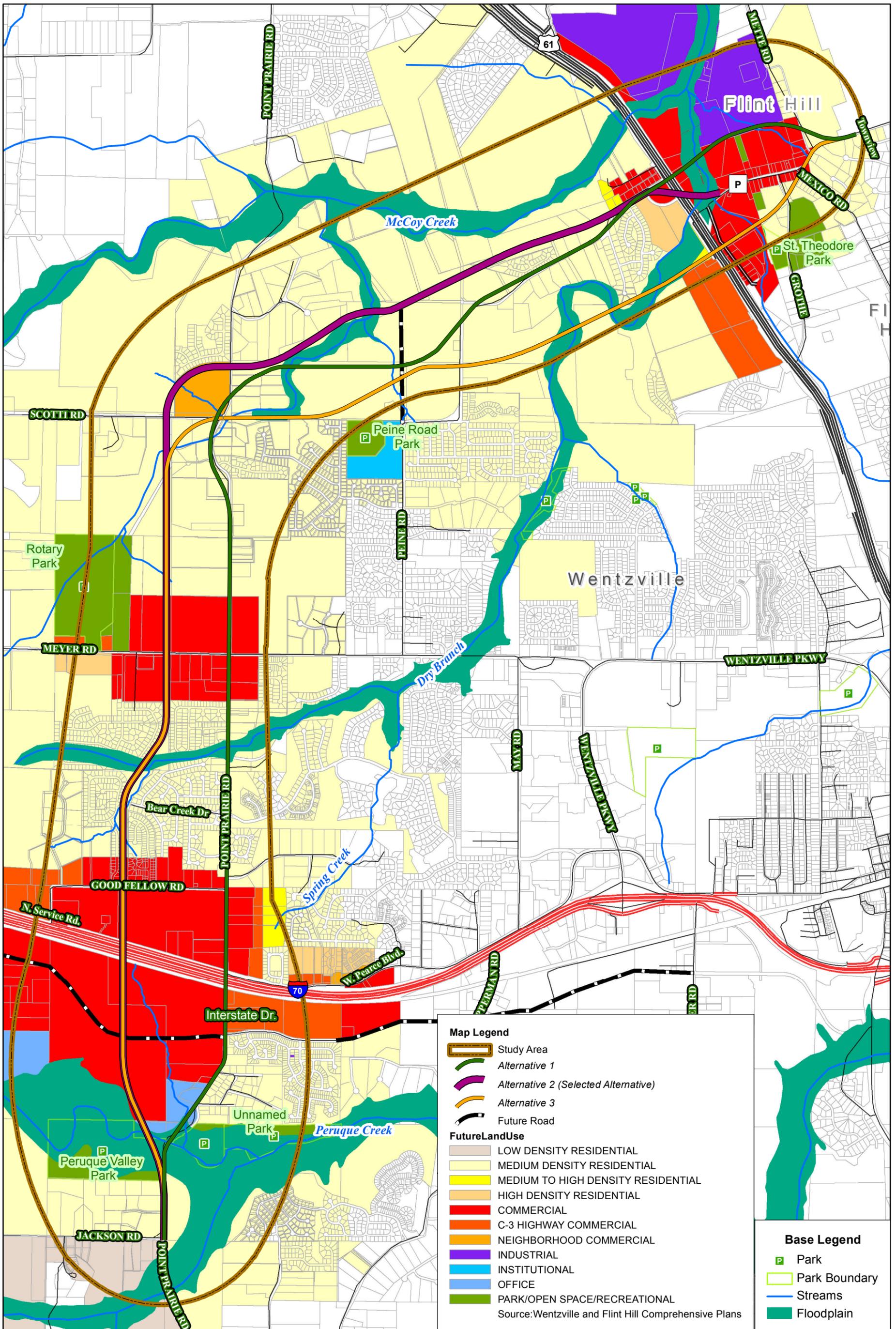
- Residential
- Commercial
- Institutional
- Recreational
- Industrial
- Agriculture

Base Legend

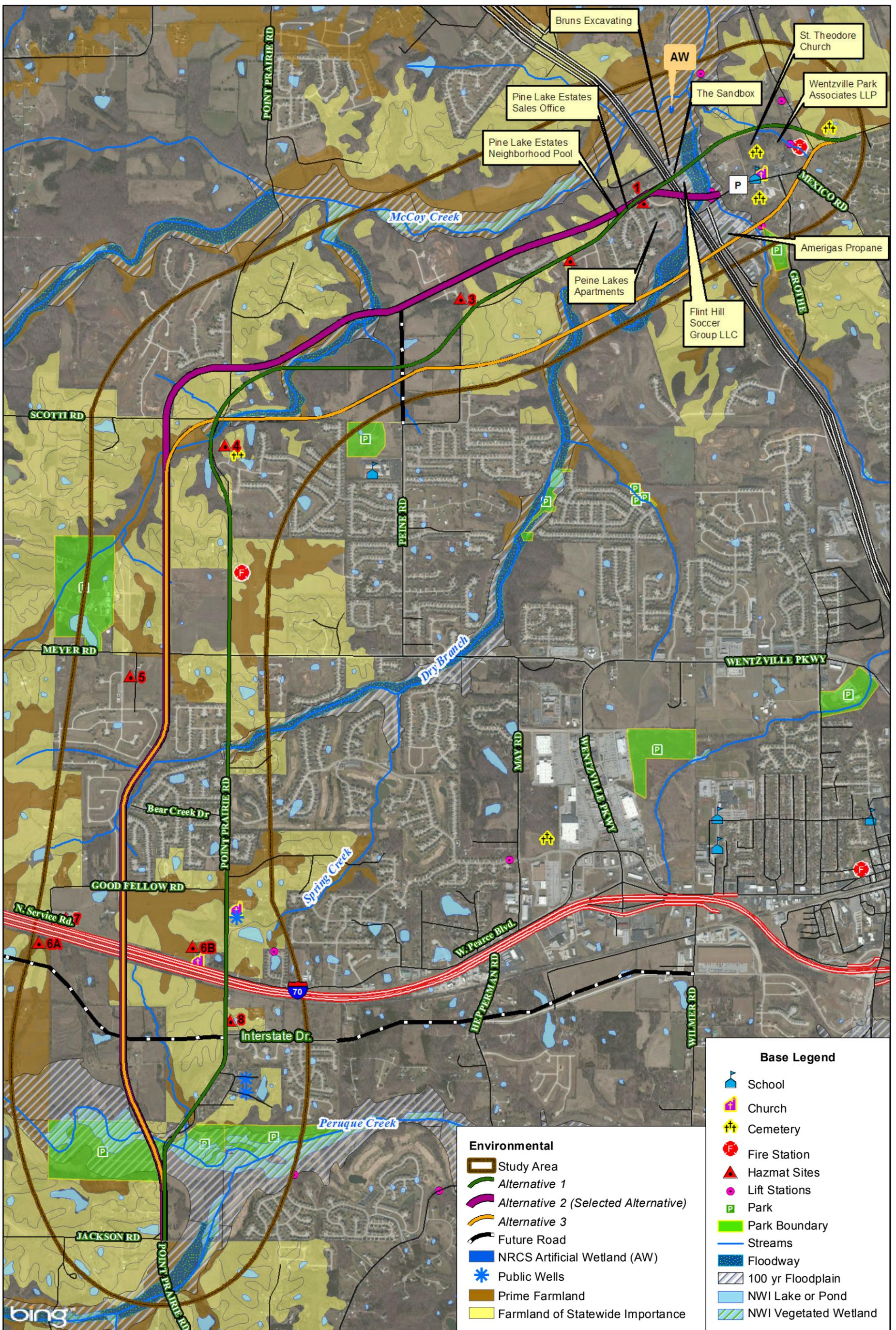
- School
- Church
- Cemetery
- Fire Station
- Park
- Park Boundary
- Streams



David Hoekel Parkway EA
Existing Land Use
Exhibit III-2

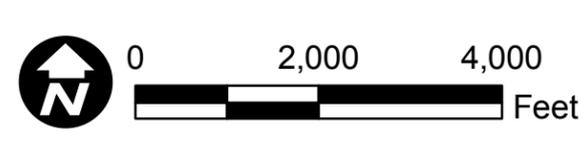
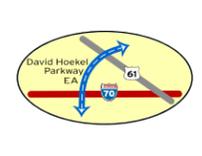


David Hoekel Parkway EA
Future Land Use
Exhibit III-3

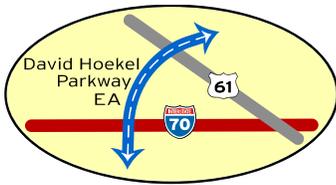


Base Legend	
	School
	Church
	Cemetery
	Fire Station
	Hazmat Sites
	Lift Stations
	Park
	Park Boundary
	Streams
	Floodway
	100 yr Floodplain
	NWI Lake or Pond
	NWI Vegetated Wetland

Environmental	
	Study Area
	Alternative 1
	Alternative 2 (Selected Alternative)
	Alternative 3
	Future Road
	NRCS Artificial Wetland (AW)
	Public Wells
	Prime Farmland
	Farmland of Statewide Importance



David Hoekel Parkway EA
Environmental Considerations
Exhibit III-4



CHAPTER IV

Commitments

The following sections include a list of commitments and permits necessary for implementation of the Selected Alternative.

A. Proposed Project Commitments

The following is a compiled list of all project and regulatory commitments that will be implemented by the City of Wentzville. Federal authorization for construction will not be granted until the necessary regulatory obligations have been satisfactorily completed.

- The project will not be constructed until it is listed within the fiscally constrained element of the East-West Gateway Council of Government's long-range transportation plan for the St. Louis region, and the air quality conformity determination for the project has been updated.
- The City will 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 U.S.C 4601), Title VI of the Civil Rights Act of 1964, and other regulations and policies as appropriate.
- The City will restore access to properties if impacted by the project.
- The City will construct a (minimum) 6-foot wide bicycle/pedestrian path adjacent to the roadway, separated from the roadway by a 7.5-foot to 8-foot wide grass strip. The proposed path will connect with any future paths that are in place when the roadway is constructed.
- The City will implement its Storm Water Management Plan (SWMP) and Best Management Practices (BMPs) to prevent or minimize adverse impacts to the water quality of streams, water courses, lakes, ponds, or other water impoundments within and adjacent to the project area. The City of Wentzville will also consider detention areas, where warranted, within the median to collect and filter roadway run-off.
- All construction activities will comply with the existing rules and regulations of governmental agencies having jurisdiction over streams and water supplies in the area.
- The City will complete updated wetland/waters of the U.S. field delineations and obtain jurisdictional determinations through coordination with the USACE St. Louis District prior to initiating final design. This information will be used to obtain a Section 404 Permit for construction of the project.
- The Selected Alternative corridor will be evaluated during the design phase, and if suitable roost trees for Indiana bats or northern long-eared bats are present and need to be removed for construction, the City will coordinate with the US Fish and Wildlife Service (USFWS) and the Missouri Department of Conservation (MDC), and only allow clearing of potentially suitable roost habitat outside the restriction dates specified by the USFWS and MDC.
- The Selected Alternative alignment will be further refined in the design phase, and at that time, the extent of impacts to the two archaeological sites will be determined. If any

potentially eligible sites are impacted by the construction limits of the project, further (Phase II) archaeological testing will be conducted to determine if they are eligible for the NRHP. If an archaeological site is determined eligible, appropriate procedures will be followed to comply with Section 106 of the National Historic Preservation Act of 1966, including an assessment of adverse effects and, if appropriate, measures to avoid, minimize, or mitigate adverse effects through a Memorandum of Agreement (MOA), prior to the beginning of construction.

- 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, the City construction inspector will direct the contractor to cease work at the suspect site. The construction inspector will contact the Missouri Department of Natural Resources (MDNR) to discuss options for remediation. An MDNR environmental specialist, the City's construction office, and the contractor will develop a plan for sampling, remediation, and continuation of project construction. Independent consulting, analytical and remediation services will be contracted if necessary.
- Painted structures to be removed shall be tested prior to demolition to determine proper disposal for the waste generated during the project. The inspection reports must be included in the construction bid proposal. No paint will be removed from the existing structures prior to demolition.
- All structures that will be demolished will be inspected for asbestos. The reports from these hazardous material inspections must be included in the construction bid proposal. Demolition or renovation is a three step process under the asbestos regulations. All structures that meet the criteria as described above must be inspected by an Asbestos Building Inspector. Following the inspection, regardless of whether asbestos is present or not, an Asbestos Demolition Notification shall be made to MDNR no fewer than 10 working days prior to beginning the project. If regulated amounts of asbestos are present, an Asbestos Project Notification will also be submitted and an Asbestos Post-Notification will be filed after the work is completed. If abatement is necessary, a certified Contractor Supervisor will be present during the abatement and a licensed asbestos contractor will perform the abatement. The City will ensure that these materials, depending on their condition and quantity, are removed and disposed of according to current regulations and procedures.
- If substantial changes in horizontal or vertical alignment occur during the stages of design and construction, noise abatement measures will be reviewed. A final Noise Report will be prepared, if needed, during final design and following all receipt of public comments. The Noise Report analysis will re-model the noise barriers with final roadway alignment and finished grade elevations at the right-of-way, resulting in design level data for construction plans. The final recommendations regarding noise abatement measures will be made after the final design and public involvement processes are complete. Upon completion of the public information meetings, should the majority of benefitted residents concur that noise walls are desired, the City will install the noise barriers that are feasible and reasonable adjacent to the project.
- A Traffic Management Plan (TMP) will be developed during project design and be included in the construction contract. A TMP will lay out a set of coordinated traffic management strategies to manage the work zone impacts.
- Pollution control measures outlined in the Missouri Standard Specifications for Highway Construction will be used to minimize impacts associated with the construction of the project; these measures pertain to air, noise, and water pollution as well as traffic control

(e.g., detours) and safety measures. Best management practices will be employed to minimize or mitigate potential impacts.

- Emissions from construction equipment will be controlled in accordance with emission standards prescribed under state and federal regulations.
- The City will send a news release out to local newspapers and radio stations giving local commuters information about construction activities that could impact their daily travels.
- It is expected that limited day- and/or night-time lane closures will be needed to make roadway tie-ins, but the City will require the contractor to utilize appropriate traffic control during these times and to keep back-ups to a minimum.
- Construction of bridge piers nearby the railroad along I-70 will require flaggers for trains during construction operations.
- The City's utility engineers and representatives of the utilities will work out details of individual utility relocations on a case-by-case basis.
- The Contractor to the City will locate and protect all temporary storage facilities for petroleum products, other fuels, and chemicals to prevent accidental spills from entering the streams within the project vicinity. Petroleum products will be stored outside of the floodplain. The contractor will clean-up any such spills to prevent the possibility of pollution due to runoff.
- The Contractor to the City will 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 has the potential to wash pollutants into streams or wetlands.
- The Contractor to the City will identify all borrow and waste sites prior to initiating construction. The Contractor shall be responsible for obtaining all necessary environmental clearances, approvals, and permits for use of all borrow and/or waste sites.

B. Permits Required for Construction

Permits applicable to the Selected Alternative may be categorized into two groups: regulatory permits and construction permits. Regulatory permits assist government agencies in the administration and implementation of federal, state or local statutes or initiatives. These permit programs are processed through planning and design phases of the proposed project. Construction permits serve as regulators of construction activities to protect the adjacent environs. The following permits and approvals will be required for construction of the proposed project:

1. REGULATORY PERMITS

a. Section 404 (USACE) and Section 401 (MDNR) of the Clean Water Act

Section 404 of the Clean Water Act prohibits the discharge of dredged or fill material into "waters of the U.S." unless exempted or authorized by the US Army Corps of Engineers (USACE). Fill material placed below the Ordinary High Water Mark of wetlands or other waters of the U.S. (such as streams) may require a Section 404 permit. It is anticipated that a Nationwide Permit (NWP) #14 (Linear Transportation Projects) will be issued to authorize construction of the roadway. The USACE, St. Louis District, has an agreement with the Missouri Department of Natural Resources (MDNR) to process requests for Section 401 water quality certifications jointly with the Section 404 permit application. Specific conditions of Section 401 Water Quality Certification also become conditions of the Section 404 permit. During the design phase and the permit

process, when impacts are more specifically determined, coordination with the USACE will ascertain Section 404 Permit applicability.

b. NPDES Permit – Section 402 of the Clean Water Act

The National Pollutant Discharge Elimination System (NPDES) permit (Section 402 of the federal Clean Water Act and the Missouri Clean Water Act), administered by MDNR, requires that slopes and ditches be properly designed to prohibit or reduce erosion from the discharge of storm water from construction activities. The MDNR regulates and permits the City to operate a "Municipal Separate Storm Sewer System" (MS4) (separate from the sanitary sewer system). For permit compliance, the City will implement its Storm Water Management Plan (SWMP) to reduce pollutants from being carried by storm runoff into local water bodies.

c. Floodplain Development Permit and “No-Rise” Certification

Portions of the Selected Alternative occur in areas that are designated by FEMA as Special Flood Hazard Areas (SFHA). The State of Missouri is a participant in the National Flood Insurance Program (NFIP), and any development associated with this project that occurs within a SFHA must meet the requirements of the State of Missouri Executive Order 98-03. This requires obtaining a floodplain development permit from SEMA’s local floodplain administrator prior to construction or development. In addition, some portions of the Selected Alternative occur within a regulatory floodway, and as such, a “No-Rise” certificate and statements as to the effects of possible flooding are required. The municipalities are responsible for providing a no-rise certificate to SEMA prior to its issuance of the Floodplain Development Permit for the project, which will occur during the design phase. In addition, a hydraulic study will be required that will show that there are no effects on the floodway elevations.

2. CONSTRUCTION PERMITS

In order to protect the adjacent environment from sedimentation and construction material pollutants discharged from construction activities, erosion and sedimentation control procedures and specifications (BMPs) will be utilized for the highway construction. The MDNR requires a Land Disturbance Permit for projects that disturb an area of one acre or more.

Other construction related permits could include temporary batch-plant permits issued by MDNR. Borrow and batch plant sites, although the locations are not known at this time, will be reviewed for environmental and cultural impacts once they are known. Mitigation plans will be done to comply with the specific permit requirements. Additional construction permits may be required from local governments.



CHAPTER V

Comments and Coordination

The City of Wentzville, in coordination with the Missouri Department of Transportation (MoDOT) and the Federal Highway Administration (FHWA) have provided several methods and opportunities for the general public and local, county, state and federal governmental and resource agencies to participate in the project development process within the David Hoekel Parkway Environmental Assessment (EA). This chapter summarizes the public involvement and agency coordination programs that have taken place during project development.

A. Public Involvement

The David Hoekel Parkway has a long history of public engagement. The public involvement process began within the City of Wentzville's Comprehensive Plan, *A Community's Vision*, in 1999 and continued through the subsequent studies, including the I-70/US 61 Beltway Corridor Preservation Study and I-70 Break-in-Access Study. The public engagement process, initiated in those previous studies, has continued throughout the David Hoekel Parkway EA study. In addition, the City has also been providing a public disclosure informational brochure titled *Topics to Consider While You Search for Your Home*, which is required by City Ordinance No. 1884 to be prominently displayed and clearly made available by developers to prospective home or property purchasers who shall be personally advised about the brochure. This brochure includes instructions on how to obtain information contained in the City's Comprehensive Plan and its Thoroughfare Plan, which includes the location of the proposed David Hoekel Parkway project in relation to planned and existing development. A copy of Ordinance No. 1884 and the informational brochure can be found in Appendix J.

The public involvement program for the EA was structured to: 1) maximize effectiveness in communicating with the public, 2) make record of and respond to the key issues and concerns of the various members of the public and stakeholders involved, and 3) achieve awareness of the Identified Preferred Alternative for the project.

A wide range of public engagement tools were used for the project including public meetings held at key milestones throughout the project, newsletters/project fact sheets describing the project and its process and project materials posted on the City's web site.

Details of the public involvement program are described in the following sections.

1. MEETINGS

a. Public Meetings

August 23, 2007

An initial public meeting was held on August 23, 2007, from 4:00 pm to 7:00 pm to share study information with the local community. The meeting was held at the Wentzville Law Enforcement Center. This meeting introduced the project's goals and purpose and need to the general public, as well as explained how the project tied in with the previous studies that had been conducted for the David Hoekel Parkway. At this meeting, public comments were solicited regarding the purpose and need for the project and what the public perceived to be transportation-related problems on US 61 and I-70 that needed to be addressed through the project.

An open house format was used for the public meeting to allow attendees to review project information at their own pace and ask questions of the study team representatives on a one-on-one basis. Stations included project purpose and need; information on the previous related studies; a description of the EA process and how it fits into the overall project development process; an overview of social, environmental and engineering issues to be considered within the project; aerial mapping of the study area for the project; and examples of what the David Hoekel Parkway connection might look like after construction is completed.

Prior to accessing the information stations, attendees were asked to sign in. The official sign-in sheet reflects that 80 people signed the sign-in sheet at the first Public Meeting.

Summary of Comments

Comment forms were available at the public meeting so that people could comment and provide their input on the project. In addition to providing written comments at the meeting, comments from the public could also be submitted through the project email address and project post office address, described in greater detail in section A.2 – Project Correspondence.

One written comment was received subsequent to the public meeting using the project comment form. The comment was received via the project post office box. The comment dealt with the decision for the future name of the project and its designation as a parkway. The commenter wanted to be sure that the David Hoekel Parkway will not be confused with the Wentzville Parkway since they are both located in Wentzville.

December 4, 2007

A second public meeting was held on December 4, 2007, from 4:00 pm to 7:00 pm to share the project alternatives' development and analysis process with the local community. This meeting was also held at the Wentzville Law Enforcement Center. This meeting introduced the range of alternatives considered for the project, from the early development of the initial project alternatives, to their screening and refinement as reasonable alternatives, to the recommendation of the Identified Preferred Alternative for the project. At this meeting, public comments were solicited regarding the screening of the project alternatives and the Identified Preferred Alternative for the project.

The format for the meeting followed the same approach as the initial public meeting and used an open house format. The stations developed for the initial public meeting were re-introduced at the second public meeting, along with new stations regarding the alternatives development and screening process for the initial, reasonable and Identified Preferred Alternative; and the proposed typical section and example graphics showing what the David Hoekel Parkway is envisioned to look like when construction is completed.

The official sign-in sheet reflects that 62 people signed the sign-in sheet at the second Public Meeting.

Summary of Comments

During or subsequent to the public meeting on December 4, 2007, the study team received four written comments related to this public meeting. Three of the comments were received at the public meeting and one was received via the project post office box. One of the comments expressed support for the Identified Preferred Alternative, Alternative 2, and expressed their interest in seeing the project completed. Another comment expressed support for Alternative 3 since it avoided impacts to their property. Three of the comments discussed maintaining access for property owners, especially along Peine Road to the north and South Point Prairie Road and

Jackson Street to the south. One of the comments also expressed that if residences or real property were taken by the project, fair market value should be given to property owners.

December 8, 2009 – Draft EA Public Meeting

A third public meeting to discuss the Draft EA was held on December 8, 2009, from 4:00 pm to 7:00 pm at the Wentzville Law Enforcement Center. The description of the Draft EA public meeting is included in Section C.2. below.

b. Other Meetings

In addition to the public meetings, the study team made itself available to other groups and project stakeholders interested in learning more about the David Hoekel Parkway project. One such occasion was a meeting with the City of Flint Hill on August 9, 2007, to discuss their portion of the proposed project, east of the parkway's interchange connection with US 61. At this meeting, members of the David Hoekel Parkway study team presented project information and preliminary alternatives to representatives of the City of Flint Hill and discussed their role as a Resource Management Group member for the project.

2. PROJECT CORRESPONDENCE

a. Meeting Notices

Meeting notices were prepared and sent to the project contact database as a meeting announcement mailer two weeks prior to each public meeting. The project contact database includes 349 members of the public that live or own property within the project study area, as well as local governmental officials and stakeholders that have an interest in the project. The meeting notice mailers included a general project description and meeting topic overview, meeting location and format, and contact resources for the project.

In addition, a legal notice was prepared for the Draft EA public meeting on December 8, 2009 to inform the public that the Draft EA was available for review and comment and advertise the upcoming public meeting. Copies of meeting and legal notices for the project are included in Appendix J.

b. Newsletters

Project newsletters were created for distribution at key project milestones and provided as a handout at the public meetings and at the City of Wentzville's Public Works office. Additional copies were distributed as a mailer to the general public upon request and were provided in electronic .pdf format on the City of Wentzville's website.

The first newsletter was coordinated with the initial public meeting and provided an overview of the project and its purpose and need. The second newsletter provided an overview of the project alternatives development and screening process and was provided in coordination with the second public meeting. A third newsletter was prepared after publication of the Draft EA for use at the third public meeting and discussed the EA process, the Identified Preferred Alternative and the overall findings for the project. The newsletters include contact information on how to forward written, verbal or e-mail input or questions to the David Hoekel Parkway study team. A copy of the project newsletters can be found in Appendix J.

c. Internet

Project information was posted as part of the City of Wentzville's official web site on <http://www.wentzvillemo.org/preservation-projects.aspx>. Postings included copies of newsletters and public meeting exhibits, which included relevant project information. A copy of the Draft EA

was also posted to the website for public review after FHWA approval of the Draft EA. Following the Draft EA public meeting and comment review period, the public meeting transcript was also posted to the city's website.

3. PROJECT CONTACT RESOURCES

In order to provide the general public resources to contact the David Hoekel Parkway study team, a project post office box, telephone hotline and email address were developed. The project contact information for these resources is included below:

David Hoekel Parkway Team
P.O. Box 447
Wentzville, MO 63385-0447
(866) 461-0062
DHParkwayEA@hntb.com

Summary of Public Comments

In addition to public comments received at the public meetings, several public comments were received via the project email, post office box, or verbally through the phone hotline. A summary of the comments is included in the following section:

- **Email:** Nine comments were received via the project email address. The majority of the comments dealt with questions about right-of-entry for project field reviews or what the potential impacts to specific properties might be as a result of the project. These comments were addressed by the study team and project study area maps and other information was provided to those who requested more information about where the project was located in relation to their properties.
- **Post Office Box:** There were two comment forms from the first two public meetings provided to the project post office address (described above in Section A.1), one comment form from the Draft EA public meeting on December 8, 2009 and approximately 150 returned right of entry forms related to permission to access property for the project field reviews.
- **Phone Hotline:** There were 18 calls to the project phone hotline. The majority of the phone calls were requests for information related to the public meetings and requests for information on what the potential impacts to specific properties might be as a result of the project. There were also some calls requesting more information about right of entry needed for properties for the project field reviews. These phone calls were returned by the study team and project study area maps and other information were provided to those who requested more information about the project.

B. Agency Coordination

Resource agency coordination has been ongoing throughout the development of the David Hoekel Parkway EA. A Resource Management Group (RMG) was formed for the project and agency coordination meetings to identify issues and concerns affecting the definition and evaluation of the alternative improvements occurred throughout the study. In addition to a project scoping meeting, RMG meetings at key milestones were held with the resource agencies to discuss environmental issues and concerns in more detail. Copies of written agency correspondence regarding the EA are provided in Appendix I.

1. ENVIRONMENTAL SCOPING MEETING

On August 23, 2007, an environmental scoping meeting was held for the EA at the Wentzville Law Enforcement Center in Wentzville, Missouri. Prior to the meeting, special invitations were issued to public agencies inviting them to serve as RMG members during the study (see Appendix I). Accompanying the invitation was an information packet about the project, including an itinerary, the meeting agenda, a project study area map, an overview of the Purpose and Need for the project, and a list of RMG invitees. The agencies and groups invited to attend the meeting are listed below (see Appendix I for a detailed list). All agencies and groups were provided the documentation from the meeting and any materials handed out at the meeting. An “X” after the agency name indicates they attended the scoping meeting.

- **Federal Agencies**

- U.S. Army Corps of Engineers (USACE), St. Louis District (X)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Environmental Protection Agency (EPA)
- Federal Motor Carrier Safety Administration, Federal Highway Administration
- Federal Highway Administration (FHWA), Environmental (X)
- US Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS)

- **State Agencies**

- Missouri Department of Transportation (MoDOT) (X)
- Missouri Department of Conservation (MDC) (X)
- Missouri Department of Natural Resources (MDNR) (X)
- State Emergency Management Agency (SEMA)

- **Local Agencies**

- City of Flint Hill (X)
- City of Foristell (X)
- St. Charles County (X)
- Wentzville Chamber of Commerce
- East-West Gateway Council of Governments (EWGCOG) (X)

(X) – attended scoping meeting

At the scoping meeting, an overview of the study was presented including a presentation of the proposed study area, purpose and need for the project, project schedule and socio-economic and environmental considerations in the study area. The meeting also discussed how the study team planned to coordinate with the resource agencies and what their roles and responsibilities were throughout the study process. A site tour was also held at the conclusion of the scoping meeting to provide the resource agencies an opportunity to visit and become familiar with the study area for the project.

Agency Comments

The agencies that attended the Scoping Meeting raised some questions related to the proposed project. There were questions about how much traffic the proposed project was anticipated to remove from other existing routes, including the Wentzville Parkway, I-70 and US 61. There were questions about the level of congestion at the existing interchanges along I-70 today. It was discussed that the majority of the traffic wanting to access western Wentzville will shift to the proposed roadway. It is not anticipated that a large percentage of cut-through highway traffic will use the proposed roadway for traveling between I-70 and US 61 since it is anticipated to be

a parkway with a 45 mph speed limit and signalized intersections. Truck traffic is anticipated to be within a range of five to seven percent of the vehicle mix.

Within the environmental constraints discussion, a question was asked about old landfills or hazardous waste sites in the study area. The City of Wentzville indicated that there were no known sites within the study area. There was also a comment about the possibility of deed restricted land within the study area due to the new development. It was discussed that the study team will coordinate with the U.S. Army Corps of Engineers (USACE) on the locations of deed restricted property and make sure these properties are considered when developing the conceptual alignments. The study team will also coordinate with new USACE regulations on streams and wetland information for the study area.

A question was asked about how transit ties in with the study. It was discussed that the proposed roadway will be designed to accommodate transit service if it was determined to be needed for the study area. The East-West Gateway Council of Governments (EWGCOG) discussed the possibility of a bus trunk line along I-70 that would connect local City transit service to a trunk line along I-70 to destinations in St. Charles County and the St. Louis metropolitan area.

There were also comments asking how the general public feels about the project. It was discussed that within the previous studies, there had been no organized groups opposed to the project. Many people view the proposed roadway as an important project for the City of Wentzville because there is very limited access today to the western portion of Wentzville.

2. OTHER AGENCY MEETINGS

On December 4, 2007, a second RMG meeting was held for the EA at the Wentzville Law Enforcement Center in Wentzville, Missouri. The meeting focused on the alternatives development and screening process for the study. The resource agency's involvement for the meeting encompassed providing input on the study alternatives and screening matrix criterion that fell under their area of particular expertise. The range of project alternatives from Initial Alternatives, to Reasonable Alternatives, to the Identified Preferred Alternative was discussed at the meeting. The Reasonable Alternatives screening matrix (Exhibit II-3) was shared at the meeting and the RMG members gave input on the study evaluation and findings.

Agency Comments

The agencies that attended the second RMG meeting raised some questions related to the alternatives development and screening process for the project. It was discussed that the City of Flint Hill had done some previous studies for the portion of the project including the US 61 interchange and the roadway connection east of US 61 at Route P. The study team agreed to review the previous study when determining the proposed alternatives on the Flint Hill portion of the alignment.

The USACE indicated that they will still need to review identified NWI wetlands and decide on the status of the wetlands before making a jurisdictional determination on the wetlands.

Questions were asked about how the study team anticipated the public to react to the Reasonable Alternatives. The City of Wentzville's experience from past studies for the roadway was that people were in favor of a new roadway and just want to make sure that the alternative had not changed from previous meetings. The public has been aware of the proposed David Hoekel Parkway and where it is being considered. Developers have coordinated with the City to leave property for a proposed roadway and the proposed roadway has been disclosed to potential buyers so they are aware of the project.

There were also questions as to the timeline of constructing this proposed roadway. It was discussed that a final design contract would probably be expected in 2014. The project would likely be phased because of the large construction costs and the limited budget available for the project.

3. COOPERATING AGENCY

The FHWA extended a special invitation to the USACE to serve as a cooperating agency for the project, which the USACE accepted. Correspondence from FHWA and the USACE is located in Appendix I.

4. TRIBAL COMMUNICATIONS

The FHWA sent correspondence to the following tribes in order to advise them of the proposed David Hoekel Parkway and the preparation of the EA, and invite them as consulting parties: Otoe-Missouria Tribe of Indians, Oklahoma; Sac & Fox Nation, Oklahoma; Sac & Fox Nation of Missouri in Kansas and Nebraska; Omaha Tribe of Nebraska; Iowa Tribe of Oklahoma; Osage Tribe, Oklahoma; Iowa Tribe of Kansas and Nebraska; Kaw Tribe of Oklahoma; and Sac & Fox Tribe of the Mississippi in Iowa. Only the Osage Tribe and the Kaw Tribe returned letters indicating their acceptance of the invitation to be a consulting party. Correspondence from FHWA and the tribes is located in Appendix I.

C. Public and Agency Review

1. OFFICIAL COMMENT PERIOD

The official comment period for public and agency review of the Draft EA commenced on November 9, 2009 and ended on December 18, 2009. A legal notice was placed in *The Wentzville Journal* on November 11, 2009 to advertise the viewing and comment period of the Draft EA document, as well as the scheduled date and time of the Draft EA public meeting. The document was made available for public inspection and copying at the City of Wentzville Public Works Department, Wentzville City Hall, and Corporate Parkway Library. In addition, the Draft EA was also made available online at: <http://www.wentzvillemo.org/preservation-projects.aspx>.

2. DRAFT EA PUBLIC MEETING

The City of Wentzville conducted an open-house public meeting for the David Hoekel Parkway Draft EA. An ad was placed in *The Wentzville Journal* on November 11, 2009 to advertise the scheduled date and time of the public meeting, and meeting announcement postcards were also mailed to the project mailing list on November 20, 2009. The meeting was held on December 8, 2009 from 4:00 p.m. to 7:00 p.m. at the Wentzville Law Enforcement Center, located at 1019 Schroeder Creek Blvd.

The purpose of the Draft EA public meeting was to provide the public an opportunity to review the approved Draft EA and present the Identified Preferred Alternative for the project. Sixty people attended the meeting. The meeting was an open-house style public meeting with exhibit boards displaying project purpose and need, the EA process, schedule, graphics and an evaluation matrix of the reasonable alternatives, the Identified Preferred Alternative and typical section, along with the recommended conceptual design for the public to review. Comment forms were available for those that wanted to leave comments. An informational handout newsletter was also provided to those who attended the meeting. There were also several members of the project team available to answer questions.

3. PUBLIC COMMENTS AND RESPONSES

Generally, those who attended the meeting were supportive of the project and the Identified Preferred Alternative alignment and want to see the project move forward to the design and construction phase. Most of those people in attendance were concerned about their individual properties and wanted to check that the alignment would not follow existing Point Prairie Road.

Six written comments were received the night of the public meeting, all of which were requests for pages from the Draft EA document. The requested pages were sent to those individuals. One additional person mailed in their comments to the project address, P.O. Box 447, Wentzville, MO 63385. A summary of that comment and a response are as follows:

Comment: The existing intersection of Scotti Road and North Point Prairie Road already experiences severe flooding and there is a concern that the significant increase in impervious area resulting from the new road will increase the runoff problem. The problem has already increased during the past 6 or 7 years due to new subdivisions in that area.

Response: The control of surface runoff is to be accomplished by the use of the City's and MoDOT's Best Management Practices (BMPs). The BMPs can include measures such as the use of temporary berms, ditch checks, slope drains, sediment basins, and rain gardens. Temporary and permanent drainage (retention or detention) basins, if appropriate, may also be designed and installed to reduce erosive storm surges in addition to trapping sediment and other contaminants. The City of Wentzville will also consider detention areas, where warranted, within the median to collect and filter roadway run-off. (Applicable Reference: Chapter III.G.1.a, pg. 29).

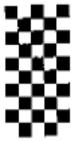
The Selected Alternative will include a bridge that spans the regulatory floodway of the McCoy Creek Tributary downstream of the Scotti Road/N. Prairie Point Road intersection. The structure will be designed to avoid a rise in the regulatory floodway elevation and be kept free of encroachment so that the 100-year flood discharge may be conveyed without increasing the base flood elevation more than a specified amount. The crossing will be designed and constructed in compliance with applicable floodplain regulations, including Executive Order 11988. (Applicable Reference: Chapter III.H.3. & 7., pgs. 33-34).

4. RESOURCE AGENCY COMMENTS AND RESPONSES

The following section provides the agency review comments received for the Draft EA. The comment period on the Draft EA ended on December 18, 2009. The first section provides a copy of the agency letters received, and the following section provides the study team's response to agency comments. Comment codes are used in this section to reference the specific agency and/or organization letters to which the responses correspond.

The following agency letters were received on the Draft EA:

- Missouri Federal Assistance Clearinghouse – November 18, 2009
- Missouri Department of Natural Resources – December 18, 2009



NOV. 18. 2009 11:53AM Mail

NO. 4641 P. 1/202



Jeremiah W. (Jay) Nixon
Governor

State of Missouri
OFFICE OF ADMINISTRATION

Kelvin L. Simmons
Commissioner

Post Office Box 809
Jefferson City, Missouri 65102
Phone: (573) 751-1851
Fax: (573) 751-1212

November 18, 2009

Gretchen Ivy
HNTB
715 Kirk Drive
Kansas City, MO 64105-1310
816-472-4060

Dear Ms. Ivy:

Subject: 1005014

The Missouri Federal Assistance Clearinghouse, in cooperation with state and local agencies interested or possibly affected, has completed the review on the above project application.

- 1 None of the agencies involved in the review had comments or recommendations to offer at this time. This concludes the Clearinghouse's review.

A copy of this letter is to be attached to the application as evidence of compliance with the State Clearinghouse requirements.

Please be advised that I am the contact for the Federal Funding Clearinghouse. You can send future requests to the following address: Sara VanderFeltz, Federal Funding Clearinghouse, 201 West Capitol, Room 125, and Jefferson City, Missouri 65101.

Sincerely,

Sara VanderFeltz
Administrative Assistant

cc:



Jeremiah W. (Jay) Nixon, Governor • Mark N. Templeton, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

December 18, 2009

Ms. Peggy Casey
Environmental Projects Engineer
Federal Highway Administration
3220 W. Edgewood, Ste. H
Jefferson City, MO 65109

Mr. Kevin Keith
MoDOT Chief Engineer
105 W. Capitol Avenue
P.O. Box 270
Jefferson City, MO 65102

Re: Draft Environmental Assessment, David Hoekel Parkway, Wentzville, Missouri

Dear Ms. Ivy:

The Missouri Department of Natural Resources (Department) appreciates the opportunity to provide comments on the Draft Environmental Assessment (DEA), for the David Hoekel Parkway in Wentzville, Missouri. The Department offers the following comments for consideration.

Water Quality

The identified preferred alternative is documented as Build Alternative #2, and is approximately 6.9 miles in length. An estimated 2,057 linear feet on 11 jurisdictional streams will be impacted. One area located in Stonemoor Development (USACE #MVS-2005-1270) was previously mitigated with riparian preservation and enhancement (tree planting) for impacts during the residential construction of Stonemoor. If truly impacted, the United States Army Corps of Engineers (USACE) noted that this previously mitigated area will have a required compensatory mitigation ratio of 2:1. It was estimated that approximately 178 linear feet could be impacted at this previously mitigated site.

2A The Department concurs with the USACE that the impact to a previously mitigated area should be greater than typical mitigation ratios, especially for forested areas. Soon after the Missouri Department of Transportation (MoDOT) and the City of Wentzville apply for the project's Section 404 permit, the Department's Section 401 Water Quality Certification Unit requests notification in order to provide assistance as needed. Please contact Carrie Schulte at 573-751-7023.

2B It was noted in the DEA that Department staff completed a Total Maximum Daily Load study (TMDL) on Peruque Creek in October 2004. This is incorrect, as a TMDL has not been completed on this creek. The TMDL is scheduled to be worked on in 2012. The 2004/2006 Clean Water Commission (CWC) and Environmental Protection Agency (EPA) approved 303(d) list and the 2008 CWC approved 303(d) list both identify



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2C Peruque Creek as being impaired for inorganic sediment due to urban and rural nonpoint source pollution. Extra care should be taken during construction to not further impair Peruque Creek

According to the city's Comprehensive Land Use Plan, the floodplain area would remain undeveloped. In the Final EA, project planners should specify what guarantees are in place to assure a lack of floodplain development - possibly permanent riparian or real estate protections by the property owner or the city, or a city ordinance regulating protection of floodplains. The Final EA should also state how the floodplains are defined – whether they are regulated or 100-year floodplains.

2D The Department agrees with the Missouri Department of Conservation on the use of native plants. We might also encourage the use of more natural or aesthetically pleasing best management practices (BMPs), such as rain gardens or treatment wetlands with native plants to help settle out or filter pollutants. Native plants help reduce maintenance and are more adaptive to local climate, in addition to providing more water infiltration and groundwater recharge.

2E On page 7 of Appendix D: Water Resources, ponds P-3 and P-8 were identified as “old sewage lagoons.” According to the Department's National Pollutant Discharge Elimination System (NPDES) permits GIS layer, there does not appear to be a permitted facility in those locations. Single-family residential on-site sewage lagoons are regulated by the local Department of Health and Senior Services. Prior to construction, these lagoons must be properly closed. Please contact the Department's St. Louis Regional Office at 314-416-2960 to ensure these sites are not regulated by the Department or, if regulated, to ensure they are closed according to our regulations. Should they not be regulated by the Department, please contact the St. Charles County Health Department to ensure proper closure of sewage lagoons under their jurisdiction.

Geology

2F The presence of Osagean and Meramecian carbonate rocks, which are noted for karst development in this area, combined with the presence of a known cave within 1,000 feet of the study area, suggest that karst features may be encountered within the study area. Work in this area may encounter previously unknown caves, sinkholes or other karst features. This will need to be considered by project planners during construction, including all water discharge related to construction.

The presence of existing structure within less than one mile of the study area implies that other, currently unmapped structures may be present within the study area. Geologic structures, including faulting and folding, can increase the potential for karst development, especially in the units present in this area.

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- 2G In addition, the study area is within areas that may be affected by earthquakes in the New Madrid Seismic Zone, with possibly severe effects occurring in areas with thick surficial materials. This must be considered by project planners.
- While no current or known inactive mines are included in the Inventory of Mines, Occurrences, and Prospects (IMOP) database, potential exists for the presence of unrecorded mines in the area.
- Solid Waste**
- 2H A reference to solid waste should be added to Section K, page III-47. The Final EA should mention that the disturbance of either a pre-law or permitted landfill requires notice to and approval from the Department's Solid Waste Management Program prior disturbing the buried waste (sites of this nature were required to be recorded with the county recorder of deeds). This notification requirement does not pertain to illegally dumped solid waste. Also, the Final EA should reference the department's technical bulletin "Managing Solid Waste Encountered during Excavation Activities" as a means of demonstrating how project planners will comply with discovery of unexpected buried wastes. The bulletin is PUB2192, dated 12/2006 and can be found on the department's web site at <http://www.dnr.mo.gov/pubs/pub2192.pdf>.
- In Section P, page III-57, the Final EA should reference proper management of solid waste per the Missouri Solid Waste Management Law and regulations.
- Air Quality**
- The Department recommends that project planners include the following information in the Final EA or in guidance provided prior to construction.
- Ambient Air Quality**
- 2I A determination has been made that the project is located in an area designated as a nonattainment area for ozone and particulate matter 2.5 (PM_{2.5}) and a maintenance area for carbon monoxide under the National Ambient Air Quality Standards. Construction-related activities associated with the project should not significantly affect local or regional air quality.
- 2J The Department recommends, to the extent practicable, that the use of heavy construction equipment should be limited on days with orange or red Air Quality Indices. This action will ensure that construction equipment does not contribute to future ozone exceedances. Additionally, if practical, the use of off road construction equipment that has been retrofitted with a diesel oxidation catalyst or other air pollution control device would further reduce the NO_x and particulate emissions related to the project.
- Asbestos**
- 2K Any renovation or demolition activities undertaken as part of this project must be conducted in accordance with local, state, and federal asbestos regulations (40 CFR Part

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61, subpart M and State Regulations 10 CSR 10-6.241 and 10-6.250). These regulations require that prior to renovation or demolition that all regulated structures must be inspected by a Missouri certified asbestos inspector.

If during the course of the asbestos inspection, it is determined that the total amount of asbestos containing material (both friable asbestos containing material and asbestos containing material that would be rendered friable during the course of the renovation or demolition) exceeds 160 square feet, 260 linear feet, or 35 cubic feet, then the asbestos would have to be removed by a Missouri registered asbestos abatement contractor and disposed of in accordance with the National Emissions Standards for Hazardous Air Pollutants.

If there are less than these threshold amounts, then the material would not have to be removed prior to renovation or demolition. However, if materials are contaminated with asbestos, regardless of the amount, the sanitary landfill may have special packaging requirements for disposal.

Notice of an asbestos abatement project above the threshold limits stated above and all demolition projects, regardless of whether asbestos is present, affecting regulated structures must be provided to the Department's Air Pollution Control Program on the department form at least 10 days prior to commencement of the asbestos abatement or demolition project and approval must be granted by the Department.

Asphalt Paving

- 2L State regulation 10 CSR 10-5.310 restricts the use of or application of liquefied cutback asphalt in paving and maintenance operations on highways, roads, parking lots, and driveways in the counties of Franklin, Jefferson, St. Charles and St. Louis, and the City of St. Louis during the months of April through October except as otherwise exempted from the regulations.

Fugitive Dust

- 2M State regulation 10 CSR 10-6.170 restricts particulate matter emissions from leaving the premises of origin. Efforts must be made to prevent any fugitive dust that may result from any construction or demolition activities associated with this project from leaving the property where it originated.

Heavy Duty Diesel Idling

State regulation 10 CSR 10-5.385 restricts heavy duty diesel vehicles with a gross vehicle weight greater than 10,000 pounds that operate in the counties of Franklin, Jefferson, St. Charles and St. Louis, and the City of St. Louis from idling more than five (5) minutes in any sixty (60)-minute period except as otherwise exempted from the rule.

Open Burning

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Land clearing activities requiring the open burning of vegetative debris is subject to State Regulation 10 CSR 10-6.045 that prohibits the open burning of tires, petroleum-based products, asbestos containing materials, and trade wastes except as otherwise allowed by the rule. Open burning that causes or contributes to a public health hazard, nuisance, or a hazard to vehicular or air traffic is not allowed.

State Regulation 10 CSR 10-6.045 only allows for open burning of vegetative debris from land clearing operations outside the city limits of an incorporated area or municipality and outside of the St. Louis Metropolitan Area and at a distance of more than 200 yards from the nearest inhabited dwelling. For open burning of vegetative waste that does not meet these restrictions, the Department's St. Louis Regional Office, which is responsible for the area, must be notified to determine if a permit to allow the burning can be issued. Please contact Tom Sims at 314-416-2960.

Odor

No person may cause, permit, or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when the air is diluted to 7:1 volumes of odor-free air to odorous air for two separate trials not less than 15 minutes apart within 1 hour. Specific requirements can be found in State Regulation 10 CSR 10-5.160 for St. Louis.

Traffic Coatings

- 2N State regulation 10 CSR 10-5.450 restricts the Volatile Organic Compounds content of traffic coatings that may be used within the area of applicability.

Transportation Conformity

- 2O Transportation conformity applies in this situation as indicated in the study. The applicable rules would be the Federal Transportation Conformity Rule (Determining Conformity of Federal Actions to State or Federal Implementation Plans-Title 40 Code of Federal Regulations Part 93 Subpart A) and the Missouri Transportation Conformity Rule (10 CSR 10-5.480 St. Louis Area Transportation Conformity Requirements).

Specific Comments To Environmental Assessment Document:

- 2P The air quality summation on pages 44-47 of Section III should be revised to include the following under Section 3 - Conformity:

"The St. Louis area is nonattainment for both ozone and particulate matter (annual PM_{2.5}). The conformity determinations for both air pollutants will be conducted by the East-West Gateway Council of Governments (St. Louis' Metropolitan Planning Organization) using the latest Missouri State Implementation Plan (SIP) submittals."

- 2Q The document provides only a discussion of ozone conformity and, incorrectly, says the 1-hour ozone maintenance plan is the measure for conformity in St. Louis. The 1997 ozone SIP submittal and/or the department's ozone Clean Data finding for the St. Louis

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area will establish the conformity budget to be used for this project. The same comment applies to Appendix G of the document.

2R The department strongly recommends that vegetative waste not be burned especially during ozone season (April - October) as indicated on page III-58.

2S Table III-11: Missouri and National Ambient Air Quality Standards should be revised to add the following to the existing standards:
Lead - .15 $\mu\text{g}/\text{m}^3$, Running Three-month Average
Ozone - 0.075 ppm

We appreciate the opportunity to provide comments on the Draft Environmental Assessment, David Hoekel Parkway, Wentzville, Missouri. If you have any questions or need clarification, please contact me or Ms. Jane Beetem, phone number 573-751-3195. The address for correspondence is Department of Natural Resources, P.O. Box 176, Jefferson City, MO 65102. Thank you.

Sincerely,

DEPARTMENT OF NATURAL RESOURCES



Dru Buntin
Deputy Director for Policy

DB:jb

COMMENT CODE: 1**SOURCE:** Missouri Federal Assistance Clearinghouse**RESPONSE:** Comment noted.**APPLICABLE REFERENCE:** None.

COMMENT CODE: 2A**SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Comment noted. MDNR's Section 401 Water Quality Certification Unit will be notified when the 404 permit is applied for in relation to the project.**APPLICABLE REFERENCE:** Final EA, Chapter IV.B.1.a., page IV-3.

COMMENT CODE: 2B**SOURCE:** Missouri Department of Natural Resources**RESPONSE:** The text in the document refers to the *Total Maximum Daily Load Information Sheet* rather than a "TMDL study". The wording has been changed to more clearly reflect the general information in the Information Sheet. Text has also been added that reflects the updated 303(d) list information.**APPLICABLE REFERENCE:** Final EA, Chapter III.G.1., page III-28.

COMMENT CODE: 2C**SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Text has been added regarding the City's Zoning Ordinance for floodway and floodplain fringe districts. The Introduction (III.H.1.) defines the 100-year floodplain and the regulatory floodway. In addition, the *Impacts* section for each major stream discusses the impacts/avoidance of the floodplain and floodway at each location.**APPLICABLE REFERENCE:** Final EA, Chapter III.H., pages III-31-34

COMMENT CODE: 2D**SOURCE:** Missouri Department of Natural Resources**RESPONSE:** The words "rain gardens" have been added to the text in the discussion of Best Management Practices.**APPLICABLE REFERENCE:** Final EA, Chapter III.G.1.a., page III-29.

COMMENT CODE: 2E**SOURCE:** Missouri Department of Natural Resources**RESPONSE:** The reference to the two ponds as possibly being old sewage lagoons is related to how they appeared based on their location in relation to buildings on the property and their situation on the terrain. The comments regarding sewage lagoons and procedures on dealing with them have been incorporated into the text. They will be properly closed prior to construction.**APPLICABLE REFERENCE:** Final EA, Chapter III.O.1., page III-58.

COMMENT CODE: 2F**SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Comments regarding karst features have been incorporated into the text.**APPLICABLE REFERENCE:** Final EA, Chapter III.E., page 21; and III.G.2., page III-30.**COMMENT CODE: 2G****SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Comments regarding mines and earthquakes have been incorporated into the text.**APPLICABLE REFERENCE:** Final EA, Chapter III.E., page III-21-22.**COMMENT CODE: 2H****SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Comments regarding solid waste have been incorporated into text**APPLICABLE REFERENCE:** Final EA, Chapter III.K.3.b., page III-44-45; and III.O.1., page III-58.**COMMENT CODE: 2I****SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Comments regarding Ambient Air Quality have been incorporated into text.**APPLICABLE REFERENCE:** Final EA, Chapter III.L.1., page III-45-46.**COMMENT CODE: 2J****SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Comments regarding heavy construction equipment have been incorporated into text.**APPLICABLE REFERENCE:** Final EA, Chapter III.O.3., page III-59-60.**COMMENT CODE: 2K****SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Comments regarding asbestos have been incorporated into text and MDNR letter has been referenced for details.**APPLICABLE REFERENCE:** Final EA, Chapter III.K.3.b., page III-45.**COMMENT CODE: 2L****SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Comments regarding asphalt paving have been incorporated into text.**APPLICABLE REFERENCE:** Final EA, Chapter III.O., page III-58.**COMMENT CODE: 2M****SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Comments regarding fugitive dust, heavy duty diesel idling, open burning, and odor have been incorporated into text.**APPLICABLE REFERENCE:** Final EA, Chapter III.O.3., pages III-59-60.

COMMENT CODE: 2N**SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Comment regarding traffic coatings has been incorporated into text.**APPLICABLE REFERENCE:** Final EA, Chapter III.O., page III-58.

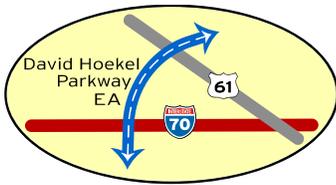
COMMENT CODE: 2O**SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Comment noted.**APPLICABLE REFERENCE:** None.

COMMENT CODE: 2P**SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Text has been added to clarify.**APPLICABLE REFERENCE:** Final EA, Chapter III.L.2., page III--47.

COMMENT CODE: 2Q**SOURCE:** Missouri Department of Natural Resources**RESPONSE:** The Existing Air Quality table (Table III-11) indicates, in footnote 7b, that the EPA revoked the 1-hour standard in all areas except for the fourteen 8-hour ozone nonattainment EAC Areas (the St. Louis area, including St. Charles County, is not one of these EAC areas). The text has been edited to include the comment regarding the ozone SIP submittal and the Clean Data finding.**APPLICABLE REFERENCE:** Final EA, Chapter III., Table III-11 and L.3., pages III-46-49.

COMMENT CODE: 2R**SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Comment on burning restrictions has been incorporated into Construction Impacts text.**APPLICABLE REFERENCE:** Final EA, Chapter III.O.3., page III-59-60.

COMMENT CODE: 2S**SOURCE:** Missouri Department of Natural Resources**RESPONSE:** Incorporated revisions in Table III-11 accordingly.**APPLICABLE REFERENCE:** Final EA, Chapter III.L.1., Table III-11, page III-46.



CHAPTER VI

Circulation List

A. Federal Agencies

Mr. Karl Brooks - Administrator
U.S. Environmental Protection Agency, Region VII
11201 Renner Blvd.
Lenexa, Kansas 66219
Attn: Mr. Jeff Robichaud – NEPA Environmental Services

Mr. David Sire
Natural Resources Management Team
Office of Environmental Policy and Compliance
U.S. Department of Interior
Room MS-2462-MIB
1849 "C" Street, N.W.
Washington, DC, 20240

Mr. James Heard – Field Office Director
Environmental Officer
U.S. Department of Housing & Urban Development (HUD)
St. Louis Field Office
1222 Spruce Street, Suite 3.203
St. Louis, MO 63103-2836

Mr. Harold Deckerd
USDA, Natural Resources Conservation Service
Parkade Center, Suite 250
601 Business Loop 70 West
Columbia, MO 65203-2546

Mr. Danny D. McClendon
Chief, Regulatory Office
U.S. Army Corps of Engineers
1222 Spruce Street
St. Louis, MO 63103-2833
Attention: Ms. Jaynie Doerr

Ms. Amy Salveter
Field Supervisor
U.S. Fish & Wildlife Service
101 Park De Ville Drive, Suite A
Columbia, MO 65203-0057

Mr. Steve Taylor
U.S. Department of Energy
2000 East 95th Street
Kansas City, MO 64131

J. R. Flores – State Conservationist
USDA, Natural Resources Conservation Service
Parkade Center, Ste. 250
601 Business Loop 70 West
Columbia, MO 65203-2546

B. State Agencies

Ms. Sara Vanderfelt
Missouri Federal Assistance Clearinghouse
Office of Administration
Commissioner's Office
Capitol Building, Room 125
P.O. Box 809
Jefferson City, MO 65102

Mr. Alan Leary
Missouri Department of Conservation
P.O. Box 180
2901 W. Truman Road
Jefferson City, MO 65109

Mr. Shannon Cave
Missouri Department of Conservation
P.O. Box 180
2901 W. Truman Road
Jefferson City, MO 65109

Ms. Sara Parker Pauley, Director
Missouri Department of Natural Resources
1101 Riverside Drive
Jefferson City, Missouri 65101
Attn: Ms. Jane Beetem

Mr. Jason Schneider – Floodplain Management Engineer
Missouri Emergency Management Agency
P.O. Box 116
2302 Militia Drive
Jefferson City, MO 65102

Mr. Gregory Steinhoff
Missouri Department of Economic Development
Truman State Office Bldg., Room 680
301 W. High Street
P.O. Box 1157
Jefferson City, MO 65102

C. Local Agencies**1. CITY OF WENTZVILLE**

Mr. Nick Guccione – Mayor
Wentzville City Hall
310 West Pearce Blvd.
Wentzville, MO 63385

Robert J. Bartolotta - City Administrator Wentzville City Hall
310 West Pearce Blvd.
Wentzville, MO 63385

2. CITY OF FLINT HILL

Mr. Doug Wynn – Mayor
P.O. Box 196
Flint Hill, MO 63346-0196

Ms. Becky McCollum – City Clerk
P.O. Box 196
Flint Hill, MO 63346-0196

Mr. Tom Rothermich – Engineering Consultant
Flint Hill Engineering LLC
192 Mexico Road
Wentzville, MO 63385

3. CITY OF FORISTELL

Ms. Wanda Donnelly – Mayor
121 Mulberry Street
Foristell, MO 63348

Ms. Sandy Stokes – City Administrator
121 Mulberry Street
Foristell, MO 63348

Mr. John D. Pickering – Alderman, Ward 2
121 Mulberry Street
Foristell, MO 63348

4. ST. CHARLES COUNTY

Mr. Wayne Anthony – Community Development Director
County Administration Building
201 N. Second Street
St. Charles, MO 63301

Steve Ehlmann
St. Charles County Executive
100 North 3rd Street
St. Charles, MO 63301

5. OTHERS

Mr. Jerry Blair – Director of Transportation
East-West Gateway Council of Governments
Gateway Tower
One Memorial Drive, Ste. 1600
St. Louis, MO 63102

Mr. Jim Wild - Assistant Executive Director
East-West Gateway Council of Governments
Gateway Tower
One Memorial Drive, Ste. 1600
St. Louis, MO 63102

Mr. Tony Mathews – Executive Director
Wentzville Chamber of Commerce
113 E Pearce Blvd
Wentzville, MO 63385

D. Tribal Consultation List

Mr. Tim Rhodd
Chairman
Iowa Tribe of Kansas and Nebraska
3345 B Thrasher Road
White Cloud, Kansas 66094

Mr. Gary Pratt
Chairperson
Iowa Tribe of Oklahoma
335588 E. 750 Rd.
Perkins, Oklahoma 74059

Mr. Clifford Wolfe, Jr.
Chairman
Omaha Tribe of Nebraska
P.O. Box 368
Macy, Nebraska 68039

Mr. Scott Bighorse
Principal Chief
Osage Tribe, Oklahoma
P.O. Box 779
Pawhuska, Oklahoma 74056

Mr. John R. Shotton
Chairman
Otoe-Missouria Tribe of Indians, Oklahoma
8151 Highway 77
Red Rock, Oklahoma 74651
Mr. George Thurman
Principal Chief
Sac & Fox Nation, Oklahoma

Administration Building
920883 S. Hwy 99 Bldg A
Stroud, Oklahoma 74079

Ms. Brigitte Robidoux
Chairperson
Sac & Fox Nation of Missouri in Kansas and Nebraska
305 N. Main Street
Reserve, Kansas 66434

Ms. Judith Bender
Chairwoman Sac & Fox Nation of the Mississippi in Iowa
349 Meskwaki Road
Tama, Iowa 52339

Mr. Guy Munroe
Chairman
Kaw Tribe of Oklahoma
Drawer 50
Kaw City, Oklahoma 74641

E. Copies Available for Public Viewing

Wentzville City Hall
310 West Pearce Blvd.
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City of Wentzville
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200 E. Fourth St.
Wentzville, MO 63385