

SUMMARY

The Missouri Department of Transportation (MoDOT) and the Federal Highway Administration (FHWA) are proposing to improve Route 13 in Lafayette, Johnson and Henry Counties and Route 7 in Henry County. Located in west-central Missouri, the Route 13 improvements would extend from U.S. 24 immediately south of Lexington to a point just south of Clinton. Route 7 improvements would be located in the immediate vicinity of the City of Clinton.

A. DESCRIPTION OF PROPOSED ACTION

The Route 13 and Route 7 project consists of improvements to existing Route 13 from south of Lexington to south of Clinton, connecting a planned four-lane relocation of Route 13 from Richmond to Lexington to a planned four-lane widening of the existing roadway immediately south of Clinton. The distance of the Route 13 improvements for this project is approximately 105.7 km (65.7 miles). Also included in the project is a four-lane Route 7 improvement on new location from 3.22 km (two miles) west to 1.0 km (0.6 miles) east of Clinton, connecting a planned four-lane roadway with an existing two-lane facility, respectively. The study corridor for the Route 13/Route 7 project is shown on Exhibit S-1. This exhibit also shows the MoDOT Job Nos. for the proposed improvements.

1. Description of Existing Roadways

In general, existing Route 13 consists of a rural, two-lane roadway with narrow, unstabilized shoulders throughout the study area. This generalized section varies within the Warrensburg and Clinton areas. Originally constructed in the 1920's and 30's, the roadway horizontal alignment is fairly straight with periodic alignment adjustments for township/range lines. One exception is the diagonal alignment between Lexington and Higginsville.

Unlike the Route 13 alignment within the study area, the existing Route 7 alignment in the vicinity of Clinton is not located along its original alignment. Route 7 was relocated to its current alignment north of the city of Clinton on a joint location with Route 13, also relocated from its original location, from an intersection north of Clinton to an intersection east of Clinton. To the west of Clinton, existing Route 7 consists of a two-lane roadway section with full-width, stabilized shoulders. Through Clinton, the Route 7 roadway varies from a two-lane to a three-lane section. East of Clinton the existing roadway consists of a two-lane section with narrow, unstabilized shoulders.

2. Description of Study Corridor

The study corridor generally extends approximately 112.6 km (70 miles) from Lexington to a short distance south of Clinton along Route 13 in Lafayette, Johnson and Henry Counties. In addition, the study corridor extends along Route 7 a short distance on both sides of the City of Clinton. As shown on Exhibit S-1, the corridor is generally aligned north and south with a short diagonal at the northern end of the project area for the

alignment between Lexington and Higginsville. The corridor is generally centered along the existing Route 13 with a total study width of approximately 9.7 km (six miles).

3. Type of Roadway Improvement

The Route 13 and Route 7 improvements are proposed to be an expressway facility utilizing limited control of access in rural areas and a freeway facility using full control of access in the urban areas of Warrensburg and Clinton. The basic roadway would consist of two traffic lanes in each direction separated by an 18.3 meter (60 foot) depressed median. Full width paved shoulders would be used on each side of the traveled way. The roadway line and grade would be efficiently adapted to the topography of the area to the extent allowed by the design criteria.

4. Purpose of and Need for the Proposed Action

a. Statement of Basic Project Purpose

The basic purpose of the project is to provide a safe, efficient, environmentally sound and economical transportation facility that responds to the needs of the study area.

b. Statement of Purpose and Need

The specific needs being addressed by the proposed action are summarized as follows:

- *Traffic Safety* - Reduce the number and severity of traffic-related accidents occurring along Route 13 between Lexington and Clinton and Route 7 in Clinton.
- *Roadway Deficiencies* - Eliminate current roadway deficiencies including substandard roadway alignment, inadequate roadway cross section, and roadside hazards such as narrow bridges, guardrail and inadequate clear zones.
- *Traffic Congestion* - Relieve through traffic congestion and associated costs currently occurring in the Route 13 and Route 7 corridors.
- *Efficient Movement of People and Goods* - Improve the movement of people and goods through the region by reducing the total vehicle miles traveled and vehicle hours traveled within the study area.
- *Public Safety* - Improve existing public safety by reducing emergency vehicle response times within the project area.
- *Economic Development* - Improve economic development opportunities by removing impediments to the safe and efficient movement of people and goods through and within the region.
- *Regional Highway System Continuity* - Provide regional route continuity based on the currently planned Route 13 and Route 7 improvements along adjacent roadway segments.

- *Recreational Access* - Facilitate the usage by motorists of established recreational facilities.
- *Defense Facility Access* - Provide for the timely and efficient movement of personnel and resources to Whiteman Air Force Base.

B. OTHER MAJOR ACTIONS IN PROJECT AREA

Other planned investments in the study area and region, whether privately or publicly funded, could potentially affect the need for or character of the proposed Route 13 and Route 7 improvements. These other actions can be categorized as local-type projects, affecting local travel demand or economic development, or more significant investments having regional implications.

1. Local Projects

Located within the project area are three major cities: Higginsville, Warrensburg and Clinton. Lexington is located at the northern end of the corridor, outside of the project area. Outside of these three city areas, the study corridor can be characterized as rural with agricultural land uses. Consequently, most existing and potential future development within the study corridor is associated with one of these three larger cities. The continued growth of these three communities, though at different rates and synergies, is expected to continue in the future. Specific, known developments include:

- The City of Higginsville Industrial Park - Located in the northeast quadrant of the existing I-70/Route 13 Interchange, within the City limits, this park has been planned but currently has no tenants.
- Johnson County Industrial Park - Located near the City of Warrensburg industrial park in the northeast part of the City, this area, currently undeveloped, may be planned as a Veterans Administration Hospital. The current City industrial park is not at capacity.
- The City of Clinton Industrial Park - Due to the original industrial park being at capacity, a new 140-acre park has been planned along Route 7 in the northwest part of the City.

The cities of Higginsville and Clinton currently have no plans for major improvements to existing local streets or construction of new streets. In accordance with a recently completed traffic study and street improvement plan, the City of Warrensburg has completed some local improvements. As recommended in the plan, Ridgeview Road has been constructed on the eastern side of the city. To address the compatibility of future local street investments, the City of Warrensburg has formed an ad-hoc committee from the Chamber of Commerce and City Council to incorporate the proposed Route 13 improvements into the City's future plans. In addition, the City is currently working with MoDOT to prepare a master plan for improvement of US 50 to freeway status through Warrensburg. Similarly, the City of Clinton has prepared a comprehensive land use plan to complement the planned Route 13 and Route 7 improvements. No planned local roadway improvements by the City of Clinton have yet been identified.

Lafayette, Johnson and Henry Counties have no plans for major improvements to existing routes or construction of new routes, or have major development plans.

2. Regional State Projects

Within the region generally surrounding the project area, planned improvements to numerous state roadways have been identified by MoDOT. As shown on Exhibit S-2, extensive improvements are planned for both the Route 13 and Route 7 corridors throughout the region. Some of these planned improvements, at various stages of development, include:

- Four-lane relocation of Route 13 from Richmond to Lexington with a temporary terminus at U.S. 24. This improvement includes a new crossing of the Missouri River a short distance east of Lexington.
- Four-lane widening and relocation of Route 13 from south of Clinton to Bolivar.
- Four-lane widening of Route 7 from Urich (current end of four-lane segment) to the southern Route 7/Route 13 intersection in Clinton.
- Four-lane widening/relocation of Route 7 from Clinton to the Lake of the Ozarks
- Upgrade of U.S. 50 to freeway standards in the vicinity of Warrensburg.
- Improvement of Route 23 from U.S. 50 to Whiteman Air Force Base and Knob Noster State Park.

By virtue of its alignment through Springfield, Route 13 provides the primary means for roadway travel from the northwest part of the state to the Springfield/Branson region. Traffic originating from or passing through Kansas City primarily accesses Route 13 by means of I-70, U.S. 50 or Route 7 via U.S. 71. A coalition of city, business and transportation groups has been formed to promote the use of the Route 92, Route 10 and Route 13 corridors for tourist traffic originating from northern Kansas City, particularly the Kansas City International Airport, and destined for the Springfield/Branson area. The 92-10-13 Coalition has pursued the upgrading of these facilities to provide a tourism corridor from Kansas City to the southwest part of the state. Travel usage along Route 7 is similar to Route 13 due to the interconnection of the routes at the City of Clinton and service to the Springfield/Branson area. Planned regional improvements along Route 13 and Route 7 reflect the increase travel demand created by the tourist traffic. Exhibit S-3 shows the 92-10-13 Corridor as well as the regional transportation system.

C. SUMMARY OF REASONABLE ALTERNATIVES

Based on the stated purpose and need for the proposed action, various alternative improvements were identified and evaluated. Based on the assessment of the potential social, economic and environmental consequences of the competing improvement alternatives, in combination with input provided by the community involvement process,

a preferred alternative for the Route 13 and Route 7 improvements was selected. As part of this evaluation process, a wide range of alternative actions (potential alternatives) was initially considered in order to provide the basis for determining the reasonable alternatives. Through a preliminary screening process, those alternatives warranting further, more detailed evaluations were identified.

1. Overview of Alternatives Considered

The following alternatives were initially considered for the Route 13 and Route 7 improvements:

a. "No-Build" Alternative

The "No-Build" Alternative was considered as a basis of comparison for evaluating the benefits and impacts of the other reasonable alternatives. The "No-Build" Alternative represents the existing plus committed street and highway network in the project area, including short-term minor safety and maintenance improvements that maintain the continued operation of the existing system. Existing and committed projects included in the definition of the "No-Build" Alternative are as follows:

- The widening of Route 7 to a four-lane arterial street through the Clinton area.
- The widening of Route 13 to a four-lane arterial street through the Clinton area.
- The widening of McGuire Street to a four-lane arterial through Warrensburg.
- The widening of Route 13 to a five-lane arterial (center left-turn) across I-70.

As a basis of comparison for the social, economic and environmental consequences of the build alternatives, and as a measure of the overall effectiveness of the proposed improvements, the "No-Build" Alternative was retained through the preliminary screening of alternatives and is presented in the Environmental Consequences chapter of this EIS.

b. Transportation Systems Management (TSM) Alternatives

TSM alternatives typically include those activities which maximize the efficiency of the current transportation system. These activities generally involve relatively limited new construction. Although TSM alternatives usually are applicable only on projects in larger urban areas, the current traffic congestion conditions in Warrensburg area would be a possible application for TSM measures. TSM measures considered include the following:

- Intersection and lane improvements.
- Traffic signal improvements.
- Restriping of the roadway pavement.
- Access management to restrict movement conflicts.

- One-way streets to improve the system capacity and reduce vehicle conflicts.
- Travel Demand Management (TDM) measures, such as road pricing, auto restricted zones, parking management, ride sharing, and others, to influence travel behavior.

While some of these TSM measures may be appropriate for implementation on segments of Route 13, particularly in the City of Warrensburg, TSM measures alone would not provide the same effectiveness in accomplishing the overall purpose and need for the project as would the construction of a freeway/expressway facility in the corridor. Consequently, TSM improvements were eliminated during the preliminary screening of alternatives.

c. Mass Transit Alternatives

Transit options such as bus systems and rail transit are usually considered as alternatives to highway projects in large urbanized and suburbanized areas with a large volume of commuter traffic and population density. Since the project area would not be compatible with this type of application and would not have the necessary ridership demand to be economically feasible, mass transit was eliminated from further consideration in the Route 13 Corridor Study.

d. "Highway Build" Alternatives

Two concepts were considered and evaluated for the "Highway Build" Alternatives: 1) improve the existing facility; and 2) construct an expressway/freeway facility either adjacent to the existing roadway, totally on new alignment, or a combination thereof. Based on the design criteria for the improvements, an assessment of the sufficiency of the existing facility to meet the adopted project criteria and standards, and a review of the opportunities to stage the construction of the improvements, it was determined that improvements to the existing roadway would not be feasible and would not meet the goals of the project.

Based on the known physical and environmental controls within the study area, a number of potential alternative alignments for the Expressway/Freeway Alternatives were defined. These alternatives were reviewed for any unacceptable conflicts with known environmental controls and general compliance with the project purpose and need. Judgements as to the collective impacts and benefits of the alternatives were made utilizing a systematic evaluation methodology such that those alternatives warranting more detailed definitions and assessments were identified. These alternatives were coordinated and refined through the community involvement process. A more detailed analysis of the impacts and merits of these alternatives was then performed resulting in the definitions of the reasonable build alternatives. A review of the social, economic and environmental consequences of these alternatives are included in Chapter IV - Environmental Consequences. The assessment of the consequences was based on the ultimate four-lane improvement.

As shown on Exhibit S-4, the reasonable "Highway Build" Alternatives include the following:

- An expressway/freeway alternative adjacent to existing Route 13 in all places except where bypasses are needed around cities (i.e. Higginsville, Warrensburg, and Clinton) or where the existing Route 13 horizontal alignment is so severe that a localized alignment relocation is required. This alternative is referred to as Alternative A for the Route 13 improvements.

Any alternative that is placed adjacent to existing Route 13 may be stage constructed by buying ultimate right-of-way, but building only one direction of the ultimate roadway. Thus the alternative adjacent to Route 13, for analysis purposes, would have an interim stage and an ultimate condition. This staged construction would directly affect some factors, such as construction costs, but would have no effect on other factors that are right-of-way dependent such as threatened and endangered species or hazardous waste sites.

- An expressway/freeway alternative essentially on new alignment. This alternative, labeled Alternative B, may also be located adjacent to Route 13 for short sections. If an adjacent routing occurs for more than five miles (a "significant" opportunity for staging) then it would also have an interim staging and an ultimate condition (two cost summations).

Exhibit S-4 illustrates the location of the build alternatives that are discussed in the impacts section of this EIS (Chapter IV). As shown as part of the reasonable alternatives considerations, two options were assessed in the vicinity of the City of Warrensburg – West and East. Each of these two options could be combined with either Alternative A or Alternative B.

Exhibit S-5 illustrates the preferred alignment, Alternative A, that was selected as a result of the evaluation process. The preferred alignment shown on Exhibit S-5 reflects nine areas of minor alignment change that resulted from public input at the Location Public Hearing and also subsequent cultural resource studies that identified structures eligible for inclusion on the national register of historic places. These nine areas of change are described in detail in Section G of Chapter II.

2. Description of Preferred Alternative

Based on the assessment of the social, economic and environmental impacts of the alternatives, and in coordination with public and agency input, MoDOT and the FHWA have selected Alternative A (East) as the preferred alternative for Route 13 and Alternative 1 for the Route 7 improvements. Alternative A (East) is generally defined as a four-lane improvement of Route 13 located adjacent to the existing roadway with relocations on the west side of Higginsville, the far east side of Warrensburg, and the east side of Clinton. Alternative 1 represents a four-lane relocation generally located 1.6 km (one-mile) north of the existing Route 7 alignment, from a point along the existing alignment west of Clinton to an interchange with the relocated Route 13 roadway northeast of Clinton, then south on a joint alignment with Route 13 to an interchange with existing Route 7 located east of Clinton. Table S.C-1 provides a general summary of costs of the preferred alternative options.

**Table S.C-1
Cost Summary of Preferred Alternatives
(Route 13 and Route 7 Improvements)**

	Alternative A (Ultimate Construction)	Alternative A (Initial Construction)	Alternative 1 Route 7 Relocation
Construction Cost	\$ 292.541 M	\$ 233.335 M	\$ 21.121 M
Right of Way Cost	16.871 M	16.440 M	1.247 M
Total Cost	\$ 309.412 M	\$ 249.775 M	\$ 22.368 M
Length: Km (Mile)	104.19 (64.74)	104.19 (64.74)	11.40 (7.10)
Cost per Unit Length	\$2.970 M/km (\$4.779 M/mi.)	\$2.397 M/km (\$3.858 M/mi.)	\$1.962 M/km (\$3.150 M/mi.)

a. Project Purpose and Need

Alternative A (East) for Route 13, with any of the design options, and Alternative 1 for Route 7 would meet the project purpose and need more efficiently than the "No-Build" Alternative. In addition to improving traffic safety along both the Route 13 and Route 7 corridors, implementation of these improvements would eliminate current roadway deficiencies, relieve traffic congestion, and provide for the efficient movement of people and goods throughout the study area. Public safety would be enhanced with improved response times for emergency vehicles. Economic development opportunities would be provided for the various communities to build upon and grow. With the expressway/freeway improvements, better continuity for the regional highway system would be provided, resulting also in improved access to recreational facilities located in the study area and better mobility for Whiteman Air Force Base.

Advantages offered by Alternative A, when compared to other alignment alternatives, are:

- Ability to be constructed in stages,
- Lower initial construction costs,
- Least impact on identified wetlands,
- Least divisive of farmsteads,
- Least impact on sites of historic or archeological significance, and
- Most compatible with existing and future community land use plans.

Other alternatives on new alignment, while satisfying much of the stated purpose and need, would take more prime farmland, be much more divisive of farmsteads and would cost more to construct initially.

b. Cost Effectiveness

To determine the ability of the expressway/freeway improvements to cost effectively accomplish the purpose and need of the project, a travel efficiency analysis was performed. Based on the regional travel benefits of the proposed action, in terms of user benefits such as improved vehicle operations, travel time savings, and reduced accident costs, a cost/benefit analysis was performed. As shown in Table S.C-2, either Alternative A (East) or Alternative B would be cost efficient. Based on cost effectiveness alone, Alternative A (East) and Alternative B provide virtually the same benefit per unit of cost. However, Alternative A (East) distinguishes itself, due to its

proximity to the existing roadway, with the ability to be stage constructed -- thus being more adaptable to funding allocations.

Table S.C-2
Summary of Travel Efficiency Feasibility and Cost Effectiveness

Alternatives	Lafayette County			Johnson County			Henry County		
	NPV*	IRR*	B/C*	NPV	IRR	B/C	NPV	IRR	B/C
A	9,356	8%	1.10	---	---	---	121,033	16%	1.88
B	8,567	8%	1.10	---	---	---	130,522	17%	1.97
A (West)	---	---	---	17,120	8%	1.13	---	---	---
B (West)	---	---	---	23,693	9%	1.17	---	---	---
A (East)	---	---	---	54,803	11%	1.41	---	---	---
B (East)	---	---	---	69,226	12%	1.53	---	---	---

* NPV-Net Present Value
 * IRR-Internal Rate of Return
 * B/C-Benefit-Cost Ratio

D. SUMMARY OF MAJOR ENVIRONMENTAL IMPACTS

The major environmental impacts anticipated for the reasonable alternatives, both beneficial and adverse, are summarized in the following tables. Table S.D-1 presents a summary of the social, economic and environmental impacts for the reasonable alternatives on a total-project basis as presented in the DEIS and at the Location Public Hearing.

Table S.D-2 presents a summary of the social, economic and environmental impacts specific to the preferred alignment, Alternative A (East). Most of the data shown in Table S.D-2 has been developed since the Location Public Hearing as a result of more detailed studies specific to the probable 107 meter (350 foot) wide right of way width rather than the 183 meter (600 foot) wide corridor evaluated in the DEIS. A comparison of values shown for Alternative A (East) in Tables S.D-1 and S.D-2 will generally show a reduction in the magnitude of impacts resulting from more detailed studies.

It should be noted that only two alternatives are addressed herein, Alternative A (generally adjacent to Route 13) and Alternative B (generally located on new alignment). Each of the two alternatives can pass either east or west of Warrensburg thus creating four possible routings, Alternative A East or West and Alternative B East or West. The alignment selected as the preferred alignment is Alternative A bypassing the east side of Warrensburg, i.e. Alternative A (East).

Table S.D-1
Summary of Social, Economic and Environmental Impacts
for the Reasonable Alternatives

Evaluation Factor	No-Build Alternative	Alternative A (West)	Alternative A (East)	Alternative B (West)	Alternative B (East)
Land Use Impacts	Minimal change in current land usage.	Least impacts to rural land use. Negative impacts to built environment adjacent to existing Route 13.	Minimal impacts to rural land use. Negative impacts to built environment adjacent to existing Route 13.	Negative impacts to rural land use. Minimal negative impacts to built environment.	Negative impacts to rural land use. Minimal impacts to built environment.

Evaluation Factor	No-Build Alternative	Alternative A (West)	Alternative A (East)	Alternative B (West)	Alternative B (East)
Farmland	No impacts.	1,047 hectares (2,587 acres) of farmland soils would be impacted. 48 severed farmlands.	1,051 hectares (2,598 acres) of farmland soils would be impacted. 58 severed farmlands.	1,050 hectares (2,595 acres) of farmland soils would be impacted. 80 severed farmlands.	1,075 hectares (2,656 acres) of farmland soils would be impacted. 58 severed farmlands.
Social Impacts	No impacts.	No impacts.	No impacts.	No impacts.	No impacts.
Relocation Impacts	No Impacts.	115 Residences 8 Mobile Homes 4 Businesses 0 Public Facilities	98 Residences 5 Mobile Homes 6 Businesses 1 Public Facilities	116 Residences 2 Mobile Homes 2 Businesses 0 Public Facilities	72 Residences 2 Mobile Homes 4 Businesses 0 Public Facilities
Economic Development Impacts	No impacts.	30-year benefits of \$353 million and 1,190 jobs.	30-year benefits of \$402 million and 1,520 jobs.	30-year benefits of \$372 million and 1,290 jobs.	30-year benefits of \$413 million and 1,560 jobs.
Water Quality	No impacts.	No impacts.	No impacts.	No impacts.	No impacts.
Air Quality Impacts	No impacts.	No violation of NAAQ Standards.	No violation of NAAQ Standards.	No violation of NAAQ Standards.	No violation of NAAQ Standards.
Noise Impacts (Receptors)	346 residents 96 businesses 9 parks 4 churches 2 institutional facilities 1 cultural site	18 residents 5 parks 4 churches	20 residents 4 parks 4 churches	24 residents 5 parks 4 churches	11 residents 4 parks 4 churches
Wetlands	No impacts.	242 hectares (597 acres) (potential) 37 stream crossings 109 ponds	215 hectares (531 acres) (potential) 40 stream crossings 109 ponds	240 hectares (592 acres) (potential) 37 stream crossings 111 ponds	207 hectares (512 acres) (potential) 38 stream crossings 96 ponds
Water Body Modifications and Wildlife	No impacts.	Minor impacts to fish habitats. Impacts to a 16+ hectare (40+ acre) forested area.	Minor impacts to fish habitats. Impacts to a 16+ hectare (40+ acre) forested area.	Minor impacts to fish habitats. Impacts to a 16+ hectare (40+ acre) forested area.	Minor impacts to fish habitats. Impacts to a 16+ hectare (40+ acre) forested area.
Terrestrial Communities	No impacts.	3 natural features: one prairie site, one remnant prairie site and one remnant fen site. No impacts to endangered, threatened or rare species.	4 natural features: two prairie sites, one remnant prairie site and one remnant fen site. Impacts one-watch listed species: the Northern Crawfish frog.	3 natural features: one prairie site, one remnant prairie site and one remnant fen site. No impacts to endangered, threatened or rare species.	4 natural features: two prairie sites, two remnant prairie sites. No impacts to endangered, threatened or rare species.

Evaluation Factor	No-Build Alternative	Alternative A (West)	Alternative A (East)	Alternative B (West)	Alternative B (East)
Cultural Resources (Architectural)	No impacts.	3 DOE resources and 6 requiring further study.	3 DOE resources and 6 requiring further study.	4 DOE resources and 7 requiring further study.	3 DOE resource and 4 requiring further study.
Hazardous Waste Sites	No impacts	1 high potential site which should be avoided and 7 sites of moderate potential impact.	4 sites of moderate potential impact.	2 high potential sites which should be avoided and 3 of moderate potential impact.	3 sites of moderate potential impact.
Visual Quality	No impacts	Moderately low visual impact.	Moderately low visual impact.	Moderately low visual impact.	Moderately low visual impact.
Energy Impacts	No significant impacts. Energy consumption would be expected to increase in areas with increased congestion.	Construction activities would result in energy consumption. Energy consumed for travel would decrease.	Construction activities would result in energy consumption. Energy consumed for travel would decrease.	Construction activities would result in energy consumption. Energy consumed for travel would decrease.	Construction activities would result in energy consumption. Energy consumed for travel would decrease.
Construction Impacts	No impacts	Temporary impacts to noise, air, and water. Mitigated by implementation of pollution control measures.	Temporary impacts to noise, air, and water. Mitigated by implementation of pollution control measures.	Temporary impacts to noise, air, and water. Mitigated by implementation of pollution control measures.	Temporary impacts to noise, air, and water. Mitigated by implementation of pollution control measures.
Public Lands	No impacts.	Crossing of the KATY Trail State Park and Bethlehem WMA.	Crossing of the KATY Trail State Park and Bethlehem WMA.	Crossing of the KATY Trail State Park and Bethlehem WMA.	Crossing of the KATY Trail State Park and Bethlehem WMA.

Table S.D-2
Summary of Social, Economic and Environmental Factors
Preferred Alignment : Alternative A (East)
(Factors that have been updated since DEIS)

Evaluation Factor	Discussion	Quantity (if applicable)				TOTAL
		Lafayette	Johnson	Henry	Route 7	
Relocation Impacts	Displacements reduced as compared to DEIS:					
	Residences	12	33	5	3	53
	Mobile Homes	2	10	0	0	12
	Businesses	1	8	2	0	11
	Public Use	0	3	1	0	4
Noise Impacts	Potential Impacts to Noise sensitive Receptors within 65 dba criteria:					
	Residences	13	29	7	3	52
	Mobile Homes	0	9	0	0	9
	Businesses	0	0	0	0	0
	Public Use	0	1	1	0	2

Evaluation Factor	Discussion	Quantity (if applicable)				
		Lafayette	Johnson	Henry	Route 7	TOTAL
Wetland Impacts	Based on a Preliminary Jurisdictional Wetland Determination Survey, the following data was collected:					
	Ponds - hectares (acres)	3.15 (7.78)	6.80 (16.80)	6.56 (16.21)	0.29 (0.77)	16.8 (41.56)
	Streams - number	11	43	17	7	78
	Wetlands - hectares (acres)	1.87 (4.62)	4.39 (10.85)	5.94 (14.68)	0.07 (0.17)	12.27 (30.32)
Water Body Modifications	Impacts on Water Bodies other than Wetlands include:					
	Ponds - hectares (acres)	3.15 (7.80)	6.80 (16.81)	6.55 (16.19)	0.29 (0.73)	16.79 (41.49)
	Streams - hectares (acres)	0.97 (2.41)	4.20 (10.38)	1.50 (3.70)	0.62 (1.54)	7.29 (18.01)
	Riparian Woodlands - ha. (ac.)	5.03 (12.42)	31.95 (78.95)	12.47 (30.81)	5.62 (13.89)	55.07 (136.08)
Historic and Archaeological Investigation	Based on Detailed Phase I Cultural Resource Survey, the findings were:					
	Archaeological	1	1	2	0	4
	Architectural	3	0	2	0	5
	Historic Bridge	0	0	0	0	0
	Historic	0	0	0	0	0
Hazardous Waste Sites	A survey of Alternative A indicates the existence of the following sites:					
	Moderate Potential	1	1	1	0	3
	High Potential	0	1	0	0	1
	Adjacent to Missile Site	1	1	0	0	2

E. AREAS OF CONTROVERSY

In the project planning and development of the Route 13 and Route 7 improvements, some issues of potential controversy have become apparent through the active coordination with resource agencies and the general public. As with almost any public improvement project of a complex nature, there are varying and diverse viewpoints regarding certain aspects of the proposed improvements. In the case of the Route 13 and Route 7 project, an active community involvement program utilizing pre-location public meetings, a scoping meeting, open house meetings, Corridor Advisory Council meetings and project information mechanisms such as newsletters and a project phone line have facilitated the identification of these issues. Consequently, project planning was adjusted as needed to adequately address these potentially controversial issues. The three most prevailing issues include:

- The divisiveness of the Route 13 relocation on agricultural parcels and farming economy,
- The determination of the best Route 13 relocation alignment for the economic future of the City of Warrensburg, and

- The need for improvements to existing Route 13 through the City of Warrensburg even if a new facility is constructed on new location around the City.

1. Division of Agricultural Parcels and Impacts to Farming Economy

Outside of the three urban areas, the project area is predominately rural with agricultural-based land uses. Of the three counties in the corridor (Lafayette, Johnson and Henry Counties), agricultural uses are most predominant in Lafayette County, but the potential for farmland impacts exists along the entire corridor. Throughout the project development, the general public has expressed concerns regarding the impacts of the project on the farming communities and the influence these issues would have on the selection and determination of the best improvement alternative. In addition to concerns about the overall impacts of the improvements on the irreversible conversion of agricultural lands to non-agricultural uses (i.e. transportation facility), localized concerns regarding uneconomical remnants and maintenance of access were expressed by the public.

To address these concerns, farmland impacts were incorporated into the alternative evaluations in two ways. First, an assessment and quantity estimate of the land area impacts to areas with prime farmland soils or soils that are both prime farmland and farmland of statewide importance was performed for each of the reasonable expressway/freeway alternatives. Secondly, an assessment of the economic impacts in terms of lost farmland production due to the conversion of land uses, both directly and indirectly, was completed for each alternative. In general, it was determined that there is little distinction between Alternative A and Alternative B in terms of land area impacts to farmlands. Similarly, there is little difference in the impacts of the alternatives to lost farmland production. It is estimated that approximately \$1.6 to \$1.7 million would be lost, based on a discounted 30-year period, due to the conversion of farmlands, depending on the alternative. In comparison, it is estimated that approximately \$365 million in additional business would likely result from the Route 13 and Route 7 investment, again based on a 30-year period -- significantly out-weighting the economic cost of farmland conversion.

In the development of the alignments for the expressway/freeway alternatives, county assessor maps were reviewed to limit the severance of farmland parcels to the extent possible. Refinements of the preferred alternative will continue through design development to address in more detail local access issues, avoidance and minimization of farm ownership severance, cross circulation for severed parcels, and frontage road requirements. These issues will continue to be addressed through additional design development and negotiations for the acquisition of right of way.

2. Best Alternative for Economic Future of Warrensburg

The evaluation process for the expressway/freeway alternatives in and around the City of Warrensburg has identified the preferred alternative in terms of the engineering and environmental consequences. A local consensus as to the "best" alternative for the economic future in Warrensburg has not been as clearly obvious. Through the community involvement process, varying viewpoints and opinions as to the merits and disadvantages of a western or eastern relocation have been received. Many local

residents feel that an eastern relocation would better complement the existing City infrastructure which is more developed to the east. Furthermore, past and current growth momentum has been focused to the east, towards the Knob Noster and Whiteman Air Force Base area. The local high school and industrial park are located on the eastern side of the City.

In contrast, others feel that a western relocation would be the catalyst to spur economic development and growth in the western part of the City. Development to the west at this point in time has been somewhat limited due to natural barriers of the area, such as topography and floodplains. Due to the influence of Kansas City area traffic destined to or originating from the Central Missouri State University campus, many feel that a western relocation would best serve local traffic. Granted that a western alternative would provide the greatest reductions in traffic volumes and congestion relief along the existing route, traffic studies have shown regional traffic would be better served by an eastern relocation, as measured by regional factors such as total kilometers (miles) of travel, hours of travel and operating speeds. On this basis, as well as based on the potential environmental consequences, particularly wetland impacts, an eastern relocation around Warrensburg was recommended in the Draft EIS.

3. The Need for Improvements to Existing Route 13 in Warrensburg

Based on analyses of the transportation impacts of a relocation of Route 13 around the City of Warrensburg, it has been determined that regardless of the location of the bypass, improvements would be needed to the existing route within the City due to the remaining traffic demand. Existing Route 13 in the City of Warrensburg, consisting of a two- or three-lane roadway with several traffic signals, will experience traffic loadings in the design year that will range from 16,200 vpd north of Missouri Route DD to 26,100 vpd south of Business Loop U.S. 50 with the preferred alignment for the relocation in place. If the bypass is not constructed, the existing Route 13 will experience traffic demand ranging from 19,600 vpd to 30,300 vpd in these same locations. Although a significant reduction in traffic is achieved on the existing route with the bypass in place, some sections of existing Route 13 may need to be improved to serve the demand traffic. At the current time, there are no planned or committed projects to improve existing Route 13 (McGuire Street) in Warrensburg. Some spot improvements, such as the pedestrian grade separation at the CMSU campus currently being constructed by MoDOT, will undoubtedly occur during the design period.

F. UNRESOLVED ISSUES

The social, economic and environmental issues potentially affected by the proposed action have been assessed and evaluated. Potential impacts of each competing alternative improvement have been compared with the No-Build Alternative and each other to determine those alternatives with the least impact. Furthermore, these impacts have been evaluated relative to the benefits which would be realized by the implementation of the proposed action. In most cases, sufficient analysis has been performed to determine a more absolute measure of the potential impacts, as compared to a relative measure as used in the DEIS.

Pursuant with the adopted wetlands assessment protocol of the MoDOT and in cooperation with the Corps of Engineers as part of the Merged NEPA/CWA Process,

determination of the expressway/freeway alternative with the least impact to wetlands and "Waters of the U.S." has been made based on preliminary assessments and impact evaluations. To the extent possible, wetland impacts have been avoided and minimized in the determination of the preferred alignment. It is anticipated that through the continued avoidance of wetlands by means of spanning streambeds with bridge structures, a nation-wide permit for Section 404 of the CWA will be applicable. Final determination of the applicability of a nation-wide permit will not be possible until the design of the preferred alternative has advanced to a point that the exact limits of construction can be identified and the impact area has been assessed for wetland areas.

In accordance with the MoDOT cultural resources protocol, investigations have been performed for the assessment and evaluation of the potential impacts of the reasonable expressway/freeway alternatives. These investigations have included a review of known archaeological sites, the interpretation of predictive models for the potential of impacting unrecorded archaeological sites, and field review of all architectural and bridge resources located along the alternatives. Through these investigations, architectural resources along the alternatives have been identified and alignment shifts have occurred to miss all sites that were eligible for the NRHP. A Phase II Cultural Resource Analysis is currently underway on two archaeological sites that have been identified as eligible for further site investigation.

G. PERMIT REQUIREMENTS

Permits would not be required for the "No-Build" Alternative.

A permit for Section 10 of the Rivers and Harbors Act (U.S. Army Corps of Engineers), which regulates the obstruction or alteration of navigable water of the United States, would not be required. None of the expressway/freeway alternatives cross a navigable stream and consequently would not be regulated by this act.

Section 404 of the Clean Water Act (U.S. Army Corps of Engineers) prohibits the discharge of dredged or fill material into "Waters of the U.S." unless exempted or authorized by the Corps of Engineers (COE). Based on preliminary investigations performed for the COE, it has been determined that Waters of the U.S., including wetlands, are present in the study corridor. These waters have been identified as stream areas, ponds, wetlands, and abandoned strip mine pits. Since impacts to these areas by the expressway/freeway alternatives would be avoided and minimized through alignment decisions or by spanning the streambeds with bridge structures, it is anticipated that nationwide permit(s) may be applicable at many crossings.

Section 9 of the Rivers and Harbors Act (U.S. Coast Guard) regulates construction of bridges and causeways on navigable waterways of the United States. Similar to Section 10, this project would not be regulated by this act.

MoDOT, in coordination with the MDNR, has developed a construction water pollution control program to protect the adjacent environment from sedimentation and construction material pollutants discharged from construction activities. These procedures and specifications would be utilized for the highway construction, and MoDOT is committed to assuring the best management practices by the highway contractor. This agreement

satisfies the requirements for a National Pollutant Discharge Elimination System (NPDES) permit, Section 402 of the federal Clean Water Act and the Missouri Clean Water Act. Other construction-related permits include temporary batch plant permits issued by MDNR.