SUMMARY

A. Introduction

Because of the long-term interest in improving the transportation network of eastern Columbia/Boone County, a multi-component project team was assembled to investigate needs and propose solutions. The project team for the East Columbia Environmental Impact Statement (EC-EIS) project was composed of the Missouri Department of Transportation (MoDOT), the City of Columbia (Columbia) and Boone County. This document will summarize the investigation of the transportation problems associated with eastern Columbia/Boone County, the human and natural resources within the project's study area, the alternatives evaluated, the impacts associated with the alternatives and the coordination efforts used to engage stakeholders.

B. Location and Termini

The study area for this project is located in eastern Columbia and central Boone County of the State of Missouri. **Figure S-1** depicts the general vicinity of the study area.

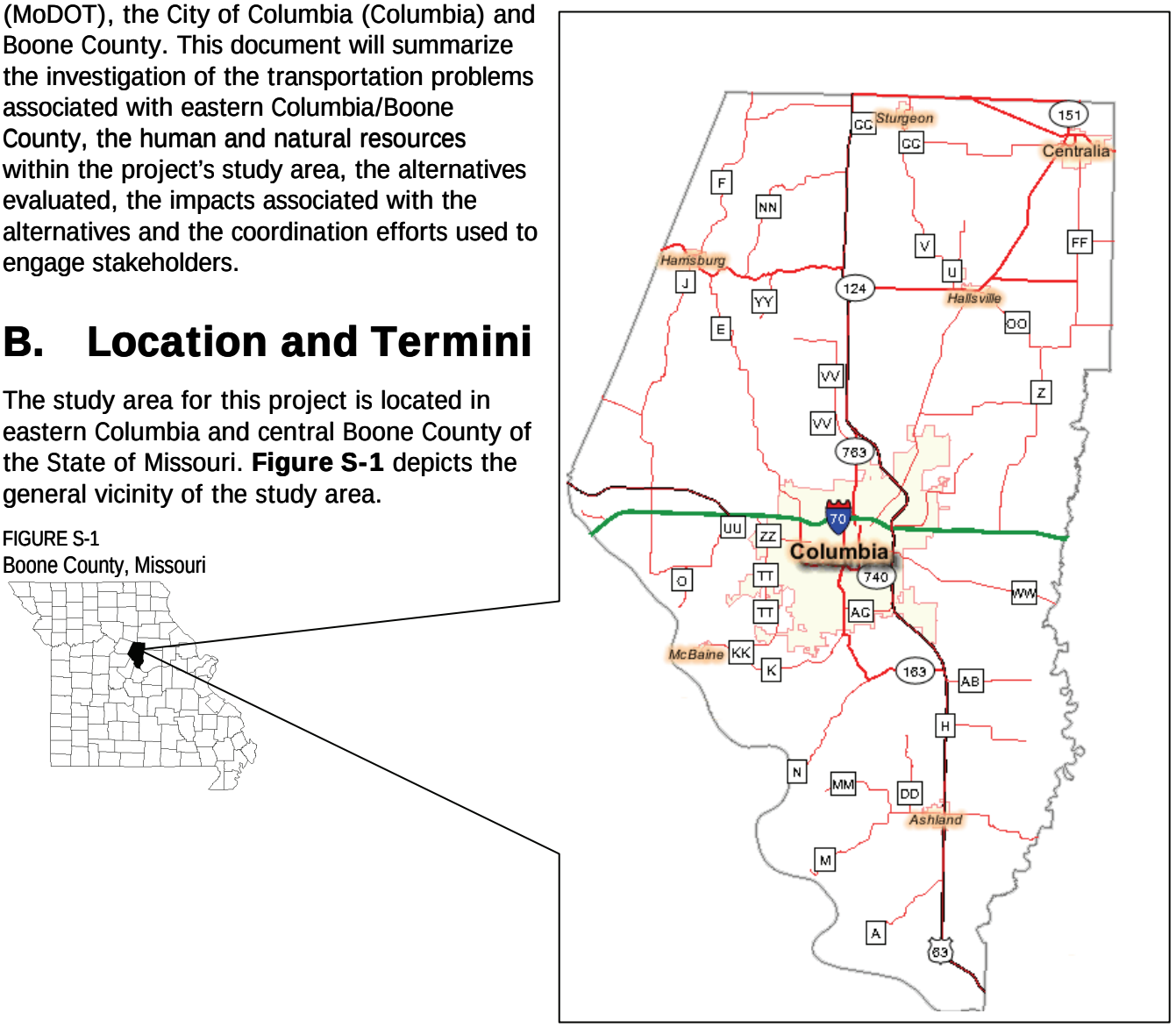

FIGURE S-1
Boone County, Missouri

The study area is generally bounded by US-63 on the west, Rangeline Road on the east, Interstate 70 (I-70) on the north and New Haven Road (Route AC) on the south. The project area is generally rural, with subdivisions and scattered residential development. A small cluster of commercial development exists in the upper-northern portion of the study area, and several industrial businesses are located along Rangeline Road in the northeastern portion. The topography of the study area consists of gentle rolling hills dissected by numerous creeks, including Hominy Branch, Gans Creek, and the South and North Fork of Grindstone Creek.

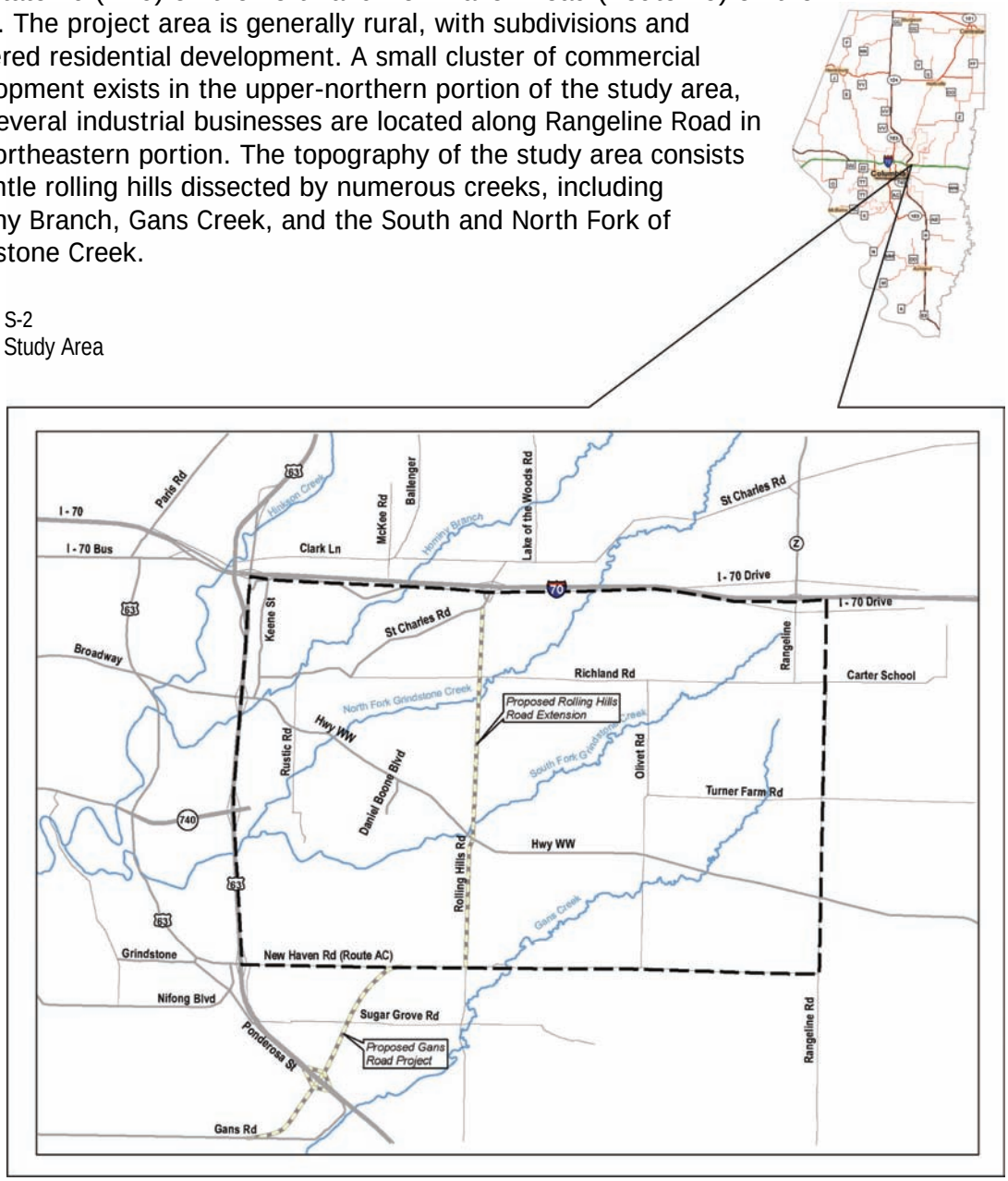

FIGURE S-2
EC-EIS Study Area

C. Purpose of and Need for Proposed Action

Purpose and need refers to the transportation-related problems that a project is intended to address. The generation and evaluation of alternatives are conducted to develop the most appropriate solution to the identified problems.

The transportation problems associated with the EC-EIS study area can be summarized as:

Traffic Congestion and Safety Concerns within the Existing Roadway Network— The current roadway network's congestion and crash environment is expected to worsen over time. One of the purposes of this project is to reduce congestion and improve safety conditions within the roadway network.

Incomplete Linkages between the Major Highways in Eastern Columbia and Boone County—The existing roadway system has some notable areas of discontinuity. One of the purposes of the EC-EIS project is to investigate the type of roadway system that is appropriate for the future of eastern Columbia/Boone County. An essential element of this is to establish adequate continuity.

Inconsistency with Regional and Local Continuity Goals—In addition to the connectivity purposes discussed above, one of the purposes of this project is to provide the transportation infrastructure consistent with the creation of an eastern access point for Columbia.

These transportation problems were considered equivalent in the development and evaluation of alternatives. **Chapters I** and **II** provide the details on the nature of the deficiencies and how they were used in decision-making.

D. Alternatives

The identification of the Preferred Alternative was based on a screening process that included a series of steps where alternatives were developed and evaluated.

Initial alternatives were called Conceptual Alternatives. Those Conceptual Alternatives that were determined to minimally satisfy the project's purpose and need were advanced for further consideration.

Starting with the Conceptual Alternatives, the reasonable range of alternatives (Reasonable Alternatives) were developed to be consistent with the project's purpose and need and to conform to appropriate design standards. This allowed for the establishment of preliminary project footprints and detailed impact assessments, cost estimates and traffic evaluations.

Based on public input, agency coordination and internal analysis, a Preferred Alternative was developed. Discussed throughout this document, the Preferred Alternative includes:

The extension of Route 740 from its current terminus at US-63, using a new alignment, to the St. Charles interchange on I-70.

The improvement of Broadway (Route WW) from US-63 to Olivet Road utilizing the existing alignment.

The probable extension of Ballenger Lane as a locally sponsored project.

See **Exhibit S-2** for a complete depiction of the Preferred Alternative.

The reasonable range of alternatives incorporate the following elements and alignments:

1. Extension of Stadium Boulevard (Route 740) from US-63 to I-70

Five alignments were developed; each configures Route 740 as an expressway. The alignments vary in length between 2.9 and 5.6 miles long.

SC-2A – Route 740 extension using a new alignment to the St. Charles interchange on I-70 (2.9 miles).

SC-2B – Route 740 extension using a new alignment to the St. Charles interchange on I-70 Note: The connection between Route WW and Route 740 will "bypass" the El Chaparral neighborhood (3.1 miles).

SC-2C – Route 740 extension along existing St. Charles Road corridor to the St. Charles interchange on I-70 (3.0 miles).

RR-2A – Route 740 extension using the existing Richland Road corridor to the Route Z interchange on I-70 (5.6 miles).

RR-2B – Route 740 extension using a new alignment to the Route Z interchange on I-70 (5.5 miles).

2. Improvement of Broadway (Route WW) from US-63 to Olivet Road

Three possible alignments for the improvement of Route WW were developed; each configures Route WW as a major arterial west of the Route 740 extension and a minor arterial east of the Route 740 extension. The lengths of the alignments are very similar – roughly 4.0 miles.

WWA – Route WW improved along the existing alignment.

WWB – Route WW routed north of the Boone County Fire Protection District Station 12 and the Lighthouse Community Church.

WWC – Route WW routed between the Boone County Fire Protection District Station 12 and the Lighthouse Community Church.

3. Extension of Ballenger Lane from new Route 740 to Clark Lane (Route PP)

Each Stadium Boulevard extension has a corresponding Ballenger extension. Each version of a Ballenger extension follows the same basic alignment. This is due to the limitations associated with the extension's termini and the distribution of the resources that the extension would impact. The Ballenger extensions were configured as a major arterial. The lengths of the Ballenger extensions vary between 0.7 and 1.6 miles long, depending on the distance to the corresponding Stadium Boulevard alignment. For Stadium Boulevard

alignments SC-2A, SC-2b and RR-2A are 1.2 miles long. The longest is RR-2B at 1.6 miles long. The shortest is SC-2C at 0.7 miles.

Exhibit S-1 depicts the principal elements of the reasonable range of alternatives.

The alternative that best accomplishes the purpose and need for the proposed action, while avoiding, minimizing or mitigating the impacts to the social and natural environment was identified as the ***Preferred Alternative***. The project team believes that the Preferred Alternative best solves the transportation problems and minimizes impacts. The Preferred Alternative can be summarized as:

The extension of Route 740 (Stadium Boulevard)

- The Preferred Alternative uses a new alignment from the existing US-63 interchange to the St. Charles interchange at I-70.
- The Route 740 extension would be an expressway.
- The Lemone Industrial Boulevard (proposed) and Rustic Road overpasses would be investigated.
- T-grade intersections will be required at Route WW, Richland Road/Ballenger Lane and Grace Lane/St. Charles Road (existing). The intersection of Richland Road and Ballenger Lane with Route 740 is at a common location.

The improvement of Broadway (Route WW)

- The improvements will extend from US-63 to approximately 200 feet west of Olivet Road. The improvement will utilize the existing alignment; the footprint will be widened to the side that minimizes impacts to existing resources.
- Route WW would be a major arterial west of the Route 740 extension and a minor arterial east of the Route 740 extension.
- All existing intersections on Route WW would be maintained.
- The crossing of Grindstone Creek (North Fork) would involve the realignment of Route WW. This will eliminate a tight curve. This will also facilitate the proposed intersection with the extension of Route 740.

The probable extension of Ballenger Lane

- This element would be processed as a locally sponsored project.
- The Ballenger Lane extension would be a major arterial.
- The Ballenger Lane extension may include an at-grade intersection with existing I-70 Southeast (Outer Road).
- The intersection of Richland Road and Ballenger Lane with Route 740 are at a common location.

Pursuant to the circulation, coordination and evaluation of this DEIS, the Preferred Alternative may be accepted, refined or rejected/replaced. This alternative will be identified

as the ***Selected Alternative***. Final evaluations (such as for archaeology field studies and wetland delineations) will be completed and the results presented in a Final Environmental Impact Statement (FEIS). The FEIS will be subject to circulation, coordination and evaluation. The NEPA process will conclude with a record of decision (ROD) that concisely outlines the selected alternative, its impacts and the mitigation, monitoring and enforcement provisions associated with the selected alternative.

E. Impacts

The process that led to the identification of the Preferred Alternative included the evaluation of impacts. The impact analysis was multifaceted, encompassing numerous elements such as: right-of-way requirements, environmental impacts, socioeconomic consequences, disruptions to important cultural resources, community impacts, building relocations and engineering considerations along with an examination of the compatibility with local transportation priorities. **Chapter III** identifies the resources contained within the project's study area.

Impacts associated with the Preferred Alternative include the conversion of farmland, the acquisition of land and structures, stream and floodplain crossings, wetland impacts, woodland impacts and work in proximity to several neighborhoods. **Table S-1** is an impact summary for the reasonable range of alternatives. In general, the impacts associated with the reasonable range of alternatives are very similar. The impacts associated with the entire reasonable range of alternatives are discussed and compared in **Chapter IV**. **Table S-2** is an impact summary for the Preferred Alternative.

F. Public Involvement / Agency Coordination

The public involvement techniques used for this project included newsletters, Web sites, news media releases, formal and informal meetings and other general coordination. The agency coordination process included four collaboration points where project updates were provided and input requested. **Chapter V** discusses the public involvement and agency coordination activities that have been conducted. Public involvement efforts will continue throughout the duration of the project.

G. Important Issues

Because the EC-EIS project entails a comprehensive evaluation of the transportation needs for a large multi-jurisdictional area, controversy and conflicts were inevitable. To mitigate this, the project team established and approved a partnering agreement (see **Appendix D**). This agreement guided the three parties in working together cooperatively to fulfill NEPA requirements associated with this project. A key element of the partnering agreement is:

> *"...the partners acknowledge and declare their intent to arrive at a consensus agreement about future local, regional and statewide transportation needs in such a way as to increase the likelihood that such future governing bodies will appropriately support the study's recommendations."*

Two of the most contentious issues that the partners worked through were the Ballenger Lane extension and the most appropriate connection between US-63 and I-70.

1. The appropriateness of a Ballenger Lane extension has been investigated throughout the development of the EC-EIS. The probable extension of Ballenger Lane (over I-70 to Clark Lane/Route PP) was added to the CATSO Roadway Plan in 1997. Because of the Ballenger extension's relationship with the extension of Stadium Boulevard it was investigated as part of the EC-EIS. The traffic modeling analysis of a Ballenger Lane extension found that it would have a negligible impact on the operation of Stadium Boulevard from US-63 to I-70. Consequently, the Ballenger extension was determined to not be essential to the EC-EIS. However, the traffic analysis did suggest that the Ballenger extension may moderate volume levels on Clark Lane. This local benefit led to the agreement that if a Ballenger Lane extension was included in the project's Preferred Alternative it would be processed and financed solely as a local project. Ultimately, the financing for the Ballenger Lane extension may include federal funding obtained by the local partners. Should federal funding be involved in the Ballenger Lane extension financing, this document would clear the project under NEPA and would mandate that the project be in accordance with the environmental commitments in this document.
2. The Preferred Alternative is not the unanimous decision of the partners. Reasonable Alternative RR-2B was viewed as a superior alternative by a minority. Alternative RR-2B extends Route 740 using a new alignment to the Route Z interchange (the Preferred Alternative extends to the nearer interchange at St. Charles Road). The perceived advantages associated with RR-2B include:
    - Based on the assumption that project completion would not occur in the near term (10 years), RR-2B will better address the needs of Columbia that exist at that time.
    - The configuration utilizes a relatively unpopulated corridor.
    - Alternative RR-2B minimizes the alteration of the existing local roadway system.
    - The I-70/St. Charles Road Interchange is inadequate for proposed project.

This minority did not dispute the advantages of Preferred Alternative. They valued its closer conformance with the Major Roadway Plan, its avoidance of new major stream crossings, its minimization of residential relocations, its lower total construction costs and its smaller project footprint.

H. Lead Agency

The *lead federal agency* for the EC-EIS project is the Federal Highway Administration (FHWA), with MoDOT as its co-lead. The *project team* for the EC-EIS is composed of MoDOT, Columbia and Boone County. They and their consultants are responsible for conducting the environmental and engineering evaluations, carrying out the public involvement activities, coordinating with state and federal review agencies and preparing this EIS.

I. Regulatory Compliance and Pending Actions

The planning, agency coordination, public involvement and impact evaluation for the project were coordinated in accordance with National Environmental Policy Act (NEPA), the Clean Water Act (CWA), the Clean Air Act (CAA), the Farmland Provision Policy Act, Executive Order 11988 on Wetland and Floodplain Protection, the Fish and Wildlife Coordination Act, the Endangered Species Act (ESA), the National Historic Preservation Act (NHPA) and other state and federal laws, policies and procedures for environmental impact analyses and preparation of environmental documents.

This document complies with United States Department of Transportation (USDOT) and FHWA policies to determine whether a proposed project would have disproportionate impact on minority or low-income populations. It meets the requirements of the Presidential Executive Order on Environmental Justice 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*. Neither minority nor low-income populations will experience disproportionately adverse impacts under the reasonable range of alternatives.

River and wetland impacts associated with the reasonable range of alternatives are subject to permitting and associated water quality certification under Sections 404 and 401 of the CWA. Based on the identified Preferred Alternative, wetland delineations were authorized to verify the extent and quality of aquatic resources. This data will be used for permitting and mitigation purposes. In accordance with established procedure, the wetland delineation results will be presented in the FEIS. During the design phase, specific impacts to wetlands and other waters of the United States would be assessed to determine whether those impacts could be avoided or further minimized. Unavoidable impacts to wetlands and streams would require mitigation.

Relocation Assistance Plans for all potential acquisitions and relocations require approval by MoDOT before being implemented. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, provides for payment of just compensation for property acquired for a federal aid project. The relocation program provides assistance to relocated persons in finding comparable housing that is decent, safe and sanitary. This applies to businesses, farms, nonprofit organizations and residential properties.

Upon identification of a Preferred Alternative, further investigation was authorized to verify that the improvements would not affect important archaeological resources. In accordance with established procedure, the results of this work will be presented in the FEIS. If the proposed improvements affect archaeological or historical resources eligible to the National Register of Historic Places (NRHP), the impacts to the sites will be addressed in accordance with the regulations (36 C.F.R. 800) implementing Section 106 of the National Historic Preservation Act (NHPA) (16 USC. 470). Information regarding impacts to archaeological sites will be reported in the FEIS.

Further coordination would determine whether the proposed improvements would affect protected species discussed in **Chapter III**. Coordination would also be continued with the United States Fish and Wildlife Service (USFWS) to determine whether the project would adversely affect federally protected species.

Coordination would also continue with the participating and consulting agencies, in accordance with the project's coordination plan (**Appendix G**).

J. Environmental Commitments

During the design and implementation of the selected alternative, MoDOT is committed to obtaining necessary permits and performing other actions that would minimize and mitigate the impacts of the project on the environment. Those commitments are summarized below:

1. Relocation assistance will be provided for all businesses, nonprofit organizations and residents that must be relocated. Assistance would be provided by MoDOT in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act. Relocation assistance under the program will be made available without discrimination to all who will be relocated.
2. This project will comply with the Americans with Disabilities Act of 1990.
3. A Missouri Department of Transportation-approved maintenance of traffic plan will be developed and implemented for the construction phases of the project. Construction schedules, road closures and detours will be coordinated with police forces and emergency services to reduce impact to response times of these agencies.
4. The design process will include periodic consultation with utility owners to ensure compatibility of the roadway design with continued service, proper design of any utilities requiring relocation, construction techniques and timing and technical assistance during construction.
5. During the final design process, MoDOT will consider options to minimize new right-of-way acquisition. The potential minimization of right-of-way acquisitions will not impact the ability of the project to satisfy the purpose and need approved by NEPA.
6. The Missouri Department of Transportation will coordinate with the U.S. Army Corps of Engineers (USACE) to ensure compliance with Sections 401 and 404 of the CWA. This will address impacts to streams, wetlands and other waters of the United States during the design process. Clean Water Act permits will require a detailed delineation and evaluation of waters and wetlands affected by the project and minimization of impacts. In accordance with established procedure, the wetland delineation results will be presented in the FEIS. During the design phase, specific impacts to wetlands and other waters of the United States will be assessed to determine whether those impacts can be avoided or further minimized. Unavoidable impacts to wetlands and streams will require mitigation. Development of mitigation strategies will be determined through the permitting process with the USACE and the Missouri Department of Natural Resources (MDNR).
7. Best management practices will be implemented to minimize soil erosion and sedimentation. Methods for stormwater management, during and after construction, will be in accordance with the MoDOT's *2004 Standard Specifications Book for Highway Construction* and the project's National Pollutant Discharge Elimination System (NPDES) stormwater permit.

8. Floodplain permits will be obtained from the State Emergency Management Agency (SEMA).

9. If encountered during construction, appropriate study and remediation of hazardous waste sites will be performed, as needed, to minimize exposure of construction workers and the public to hazardous wastes and to ensure proper disposal of contaminated earth and other substances. This includes proper disposal of demolition debris in accordance with Missouri state law.

10. Dust control during construction will be performed in accordance with MoDOT's standard methods, which require application of water or approved dust control measures on haul roads and during grading. Pavement material batch plants will be situated in accordance with MoDOT's *Standard Specifications Book for Highway Construction* or any special provisions developed during coordination with MDNR regarding air quality standards and emissions. Portable material plants will be operated in accordance with MDNR air quality requirements/guidelines. A permit must be obtained from the MDNR to open burn or open burn with restrictions.

11. To reduce the impacts of construction noise, MoDOT has special provisions in construction contracts which require that all contractors comply with all applicable local, state and federal laws and regulations relating to noise levels permissible within and adjacent to the project construction site. Construction equipment would be required to have mufflers constructed in accordance with the equipment manufacturer's specifications. Further, MoDOT would monitor project construction noise and require noise abatement in cases where the criterion is exceeded.

12. There would be no impacts to schools. The Cedar Ridge Elementary (located at the corner of Route WW and Roseta Avenue) would not be directly affected by the improvement of Route WW. However, because of its location along Route WW, indirect and construction-related impacts are expected. Allowances may be necessary to maintain school bus access to some areas during construction. Coordination with the school administrators will be made in accordance with MoDOT standard procedures and are considered an environmental commitment of this project.

13. The improvement of Route WW is adjacent to the American Legion Park. No direct impacts are expected. However, because of its location along Route WW, indirect and construction-related impacts are possible. Allowances may be necessary to maintain access during construction. Coordination with the administrators will be made in accordance with MoDOT standard procedures and are considered an environmental commitment of this project.

14. All of the alternatives have the potential for inclusion of bicycle and pedestrian facilities. The final design process will include review and design of appropriate facilities based on existing and projected land use. The current presence of housing, schools, parks and commercial uses along the corridors and the expectation of similar future development, indicate a potential need for bike and pedestrian accommodations. An environmental commitment of this project is coordination with the City of Columbia and Boone County in the development of a user appropriate final design.

15. Missouri Department of Transportation's Noise Policy will be used to address noise impacts. Where appropriate, possible noise abatement types and locations will be presented and discussed with the benefited residents during the preliminary design phase. Noise abatement measures deemed reasonable, feasible and cost effective will be considered. In accordance with established procedure, the traffic noise analysis will be updated and presented in the FEIS. During the design phase, specific impacts will be assessed to determine whether those impacts can be avoided or further minimized.
16. The development and construction of the Ballenger Lane extension is entirely a locally sponsored project. However, all of the policies, restrictions and commitments that affect the other components of the Preferred Alternative, apply to the Ballenger Lane extension. To assist the local project team, a MoDOT-supplied advisor will be made available to assist with the "local" development of this project.
17. Missouri Department of Transportation is committed to minimize lighting impacts. Efficient lighting and equipment will be installed, where appropriate, to optimize the use of light on the road surface while minimizing light intruding on adjacent properties.
18. The Preferred Alternative utilizes the I-70 interchange at St. Charles Road. During the traffic analysis portion of EC-EIS project, the interchange configuration contained in the I-70 EIS was used. While this analysis concluded that the St. Charles Road interchange would operate satisfactorily with any of the reasonable alternatives, a commitment as to the specific design of the interchange is not being made at this time.

Table S-1
IMPACT SUMMARY FOR THE REASONABLE RANGE OF ALTERNATIVES: ROUTE 740 IMPROVEMENTS WITH BALLENGER EXTENSIONS AND ROUTE WW IMPROVEMENTS[1]
EAST COLUMBIA ENVIRONMENTAL IMPACT STATEMENT, BOONE COUNTY

EVALUATION FACTORS/IMPACTS	NO-BUILD ALTERNATIVE No Improvements	PREFERRED ALTERNATIVE SC-2A/WWA/Ballenger Off Existing Alignment to St. Charles Interchange	ALTERNATIVE SC-2B/WWA/Ballenger Off Existing Alignment to St. Charles (Bypassing El Chaparral)	ALTERNATIVE SC-2C/WWA/Ballenger Along Existing St. Charles Corridor	ALTERNATIVE RR-2A/WWA/Ballenger Along Existing Richland Corridor to Route Z Interchange	ALTERNATIVE RR-2B/WWA/Ballenger New/Parallel Alignment to Route Z Interchange
PURPOSE AND NEED (satisfy critical elements?)						
1) Address Traffic Congestion and Safety Concerns	No	Yes	Yes	Yes	Yes	Yes
2) Complete the Major Highway Linkages	No	Yes	Yes	Yes	Yes	Yes
3) Improve Access to Eastern Columbia	No	Yes	Yes	Yes	Yes	Yes
ENVIRONMENTAL IMPACTS						
Wetland and Pond Impacts						
Emergent, Forested and Shrub (PEM/PFO/PSS) Wetlands	0 acres	0.60 acres	0.70 acres	0.71 acres	3.56 acres	0.71 acres
Ponds and associated unconsolidated (PUB) Wetlands	0 acres	0.99 acres	0.14 acres	1.53 acres	1.61 acres	0.39 acres
Recommended for Environmental Site Assessments	0 sites	2 Sites	2 Sites	2 Sites	4 Sites	3 Sites
Major New Stream Crossings	None	Hominy Branch	Hominy Branch North Fork of Grindstone (2)	Hominy Branch	Hominy Branch	Hominy Branch North Fork of Grindstone (2) South Fork of Grindstone
Major Stream Crossing at Existing Locations	N/A	Hominy Branch Expanded Crossing of North Fork Expanded Crossing of South Fork	Hominy Branch Expanded Crossing of North Fork Expanded Crossing of South Fork	Hominy Branch Expanded Crossing of North Fork Expanded Crossing of South Fork	Hominy Branch Expanded Crossings of North Fork (2) Expanded Crossings of South Fork (2)	Hominy Branch Expanded Crossing of North Fork Expanded Crossing of South Fork
Expected Stream Impacts *Perennial*	0 feet	1,500 feet	2,300 feet	1,800 feet	3,200 feet	2,200 feet
Expected Stream Impacts *Intermittent*	0 feet	1,500 feet	1,000 feet	3,000 feet	2,800 feet	3,000 feet
Expected Stream Impacts *Ephemeral*	0 feet	11,500 feet	14,200 feet	8,400 feet	12,400 feet	15,800 feet
Total Stream Impacts	0 feet	14,400 feet[2]	17,500 feet	13,200 feet	18,400 feet	21,000 feet
Total 100-Year Floodplain Encroachments	0 acres	12 acres	11 acres	12 acres	18 acres	11 acres
Total Right-of-Way Acquisition	0 acres	275 acres	299 acres	258 acres	395 acres	412 acres
Terrestrial Habitat Impacts: Woodlands	0 acres	110 acres	152 acres	104 acres	120 acres	165 acres
Terrestrial Habitat Impacts: Croplands	0 acres	1 acres	7 acres	1 acres	7 acres	9 acres
Terrestrial Habitat Impacts: Grassland/Pasture/Mowed	0 acres	71 acres	71 acres	79 acres	128 acres	131 acres
Terrestrial Habitat Impacts: Scrub/Shrub	0 acres	56 acres	32 acres	34 acres	75 acres	53 acres
Terrestrial Habitat Impacts: Urban/Developed	0 acres	37 acres	37 acres	41 acres	65 acres	53 acres
Noise Sensitive Receptors within 400 feet of footprint	N/A	Carmel Creek, Lake of the Woods, Bay Hills	Carmel Creek, Lake of the Woods, Bay Hills, El Chaparral	Carmel Creek, Lake of the Woods	Carmel Creek, Bay Hills, Eastport Gardens & Village, Sunrise Est.	Carmel Creek, El Chaparral, Cedar Grove
Cultural Resources Eligible for the NRHP	None	None	None	None	None	None
Public Land Impacts	None	None	None	None	South Lake of the Woods Park	None
Federally-Listed Endangered Species within Boone County	Gray bat (*Myotis grisescens*) Habitat - Caves Indiana bat (*Myotis sodalis*) Habitat - Small stream corridors with well developed riparian woods; upland forests Pallid sturgeon (*Scaphirhynchus albus*) Habitat - Mississippi and Missouri Rivers Running buffalo clover (*Trifolium stoloniferum*) Habitat - Disturbed bottomland meadows Topeka shiner (*Notropis topeka*) Habitat - Small prairie (or former prairie) streams					
USFWS Coordination	N/A	Alternatives SC-2C and SC-2A (in that order) would minimize the potential for impacts to the foraging habitats (the area's stream corridors) of the gray bat and the Indiana bat.				
Known Caves/Sinkholes	Nearest Known Approximately 6 Miles South (MDNR)					
Section 6(f) Lands	"No Land and Water Conservation funded park projects were found in the study area" (MDNR)					
DISPLACEMENT AND COST IMPACTS						
Total Structure Displacements	0	37	32	56	49	34
Important Community Resource Displacements	0	1 (Fire Station)	1 (Fire Station)	1 (Fire Station)	1 (Fire Station)	1 (Fire Station)
Residential Structure Displacements	0	15	14	23	20	14
Primary Commercial/Industrial Structure Displacements	0	9	9	9	5	5
Construction Cost Estimate	$0	$132,200,000	$143,900,000	$134,200,000	$188,200,000	$170,800,000
SOCIO-ECONOMIC/COMMUNITY IMPACTS						
Expected Community Impacts	None	Adds new roadways (new alignments)	Adds new roadways (new alignments)	Uses existing roadway network	Uses existing roadway network	Adds new roadways (new alignments)
Expected Travel Pattern/Continuity Impacts	None	Provides capacity improvements in currently developing portion of Columbia/Boone County			Provides opportunity for continuation of Route 740 (Columbia Outer Belt)	

[1] For presentational clarity, this matrix depicts only configurations with alignment WWA (improvement of Route WW primarily on the existing alignment). The reasonable alternatives for Route WW (WWA, WWB and WWC) are very similar and the analysis concluded that WWA was superior. Within the document, figures and matrices are used to present and compare the costs and benefits of all of the various ways investigated to improve Route WW.

[2] Total Stream Impact of 14,400 feet is listed due to rounding within the lengths of Perennial, Ephemeral, and Intermittent Streams

TABLE S-2

IMPACT SUMMARY - PREFERRED ALTERNATIVE (SC-2A/WWA/Ballenger)

East Columbia Environmental Impact Statement (MoDOT Job No. J5S0636)

EVALUATION FACTORS	IMPACT
PURPOSE AND NEED	
1. Address Traffic Congestion and Safety Concerns within the Existing Roadway Network	Achieved
2. Complete the Major Highway Linkages between Eastern Boone County and Columbia	Achieved
3. Achieve Regional/Local Continuity Goals	Achieved
ENVIRONMENTAL IMPACTS	
Wetland Impacts (Based on Wetland Determination)	0.60 Acres
Ponds Impacts	0.99 Acres
Potential Environmental Site Assessment Involvement	2 Sites
Total Stream Encroachments	14,400 Linear Feet
Floodplain Encroachments	12 Acres
Public Land Encroachments	None Expected
Cultural Resources Impacts	None Expected
DISPLACEMENT/ENCROACHMENT IMPACTS	
Total Structure Displacements	37
Commercial/Industrial Structure Displacements	9
Residential Structure Displacements	15
Support and Other Displacements	13
Total Anticipated Right-of-Way Acquisition	275 Acres
Important Community Resource Displacements	Boone County Fire Station 12
SOCIO-ECONOMIC/COMMUNITY IMPACTS	
Potential for Community Service Disruptions	Low (EMS Access Will Be Improved)
Expected Neighborhood/Community Impacts	Low (Encroachments Are Limited)
Expected Travel Pattern Disruptions	Minimal (All Existing Movements Maintained)
Environmental Justice Issues	None Expected
Business Community Impacts	Limited (Few Business Displacements)
Important Continuity Issues	Consistent With CATSO Transportation Plan
ENGINEERING IMPACTS	
Estimated Project Cost	$132,200,000
Constructability Issues	Will Require Coordination With Proposed Local Projects
Maintenance of Traffic Issues	Normal Construction Detours Can be Expected
Important Drainage Issues	Major Stream Corridor Impacts Limited
Roadway Type Considerations	Phasing of Improvements Possible

Summary of Preferred Alternative

This table summarizes the impacts associated with the Preferred Alternative. This is the alternative that the project team believes best solves the transportation problems and minimizes impacts. The Preferred Alternative can be summarized as:

• **The extension of Route 740 (Stadium Boulevard) -** The Preferred Alternative uses a new alignment from the existing US-63 interchange to the St. Charles interchange at I-70. The Route 740 extension is planned to be an expressway (a limited access, 4-lane divided highway).

• **The improvement of Broadway (Route WW) -** The Preferred Alternative will extend from US-63 to approximately Olivet Road. Route WW is planned to be a major arterial (a multiple-lane roadway with regulated driveway access, at-grade intersections and center median/turn lanes). All existing intersections on Route WW will be maintained.

• **The probable extension of Ballenger Lane –** The Preferred Alternative includes this element that will be processed as a locally sponsored project.The Ballenger Lane extension is planned to be a major arterial.

Exhibits S-2, II-4 and VI-1 depict the Preferred Alternative.