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Background
As congestion continues to affect mobility in the region, the Ozarks Transportation Organization (OTO) is particularly concerned with traffic movement. The North-South Corridor Study, completed in 2007 for the OTO, examines and prioritizes transportation options that would improve regional and local north-south travel, with particular emphasis on the area south of the James River Freeway and north of I-44. Four routes between Route MM on the west and U.S. 65 on the east were identified by the OTO as potential locations to improve north-south travel in the Springfield area. The four corridors studied include:

- U.S. 160/West Bypass/State Highway FF
- Missouri Highway 13/Kansas Expressway
- Campbell Avenue/U.S. 160
- National Avenue

The North-South Corridor Study has three phases. The first phase of the study is an evaluation of current transportation conditions. The second study phase identifies the traffic implications of continued growth in the OTO area on the existing street and highway system and evaluates transportation options and alternatives. The third phase of the study discusses how the prioritized list of projects could move forward for funding and construction.

Stakeholder and public participation was a key factor to ensure success of the study. With the assistance of the OTO staff, a Technical Subcommittee, comprised of representatives from state and local government organizations, was formed to guide the major decisions and completion of this study. The Subcommittee also had the role of representing the Technical Committee, which recommends approval of the study to the OTO Board for adoption. Eight public meetings were held. Four meetings were held early in the project to discuss project needs and identify potential solutions. The second set of four meetings was held toward the end of the project in order to obtain feedback on the recommended priorities.

On December 18, 2003, the OTO Board of Directors adopted the following top five list of High Priority Projects. In this list is this study itself. The results of this study do not necessarily replace the High Priority Projects. The OTO will need to consider incorporating the recommendations of this study into this list.

- U.S. 60 and U.S. 65 interchange (including at-grade rail crossing on James River Freeway).
- U.S. 65 and I-44 interchange.
- Glenstone/Republic and James River Freeway interchange.
- Transportation planning study to enhance connectivity within the region and MPO with emphasis on North/South corridors (Kansas Expressway, West By-Pass, U.S. 160 North to Willard, Route 13 North to Bolivar, National Avenue, U.S. 65, U.S. 160/Campbell Avenue). (the North-South Corridor Study)
- Development of multi-modal corridor(s) to the new Airport Terminal.

On October 19, 2006, the OTO Board of Directors adopted the following list of High Priority Corridors. This list includes two of the corridors that were evaluated as part of this study.

US 65 – CAPACITY IMPROVEMENTS TO INCLUDE SIX LANES FROM I-44 TO ROUTE 14

Interchange improvements at Chestnut and US 65 including RR grade separation
Interchange improvements at Battlefield and US 65
Interchange improvements at Route 14 and US 65

US 60 – CAPACITY IMPROVEMENTS

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Interchange improvements at James River Freeway and Campbell Avenue
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I-44 – CAPACITY IMPROVEMENTS

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ROUTE 14 – CAPACITY IMPROVEMENTS

Capacity improvements from Business 65 in Ozark to US 160 in Nixa
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SELECTED NORTH SOUTH CORRIDOR RESULTING FROM STUDY

This North-South Corridor Study addresses some of the many areas of traffic congestion in the region. All of these corridors will need to be addressed in order for the OTO region to maintain regional mobility and ensure quality economic development. The recommendations of this study in no way preclude the OTO from addressing the other congested roadways in the region, nor does it suggest the recommendations in this report are more important than the OTO region's Top Five Priority Projects. Although this study provides the MPO the ability to better set priorities, whether or not the recommended corridor from the study is a top 5 project must still be voted on by the OTO Board.

Summary of Current Transportation Conditions
The study provides an inventory of the primary north-south corridors in the study area. This inventory includes an overview of land use, traffic volumes, crash data, and environmental conditions. Major findings are summarized below.

- Land Use/Growth – the Springfield area is growing rapidly. While growth has occurred throughout the region, a concentration of new growth is occurring south of the James River Freeway. The City of Willard is experiencing growth as well. This growth is resulting in increased traffic volumes and congestion of the existing streets and highways.

- Traffic congestion is currently occurring on north-south routes. The most congested locations are shown to be:
  - Kansas Expressway – Atlantic to Sunset
  - Campbell Avenue – Battlefield to Missouri Route CC
  - National Avenue – Trafficway to westbound Route 60 ramps

- The locations with the highest crash rates include:
  - West Bypass – Division to Chestnut
  - Kansas Expressway – Eastbound I-44 ramps to Kearney
  - Kansas Expressway – College to Walnut
  - Campbell Avenue – Battlefield to westbound U.S. 60 ramps
  - National Avenue – Battlefield to Montclair

- Fixed route transit service is limited to the City of Springfield and not supported in other locations.

Implications of Continued Growth
The projected growth of the area south of the James River Freeway is expected to result in higher traffic volumes and slower travel times. An analysis of existing and future conditions indicate limitations with connecting the area south of the James River with the rest of the metropolitan area. Given the assumptions of future growth developed by the OTO and used in the Long Range Transportation Plan, the traffic model for the forecast year 2030 shows that the north-south travel demand would be approximately 70,000 trips over the available capacity (see **Table ES-1**). This level of demand does not include volumes on U.S. 65, which is also forecast to experience traffic congestion. Additional transportation strategies are needed within the corridors under study, even if U.S. 65 is eventually widened. Similarly, U.S. 160 connecting Willard to the Springfield metropolitan area will be 12,000 trips over capacity (see **Table ES-2**).

Table ES-1 Comparison Future No Build with Current Conditions (South of James River Freeway)

Variable	2000	2030	% Growth
Volumes at James River	37,470	112,800	248%
Roadway Capacity at James River	37,200	37,200	0%
Peak Travel Time (minutes) between Republic Road and Route 14 (6.6 miles)	16.3	56.4	250%
Average Peak Speed (m.p.h.)	24.2	6.9	-71%

Table ES-2 Comparison Future No Build with Current Conditions (U.S. 160 North)

Variable	2000	2030	% Growth
Volume on U.S. 160 South of Willard	14,040	24,200	72%
Roadway Capacity of U.S. 160	13,600	13,600	0%
Peak Travel Time (minutes) From Willey St. in Willard to I-44 (6.4 miles)	14.5	24.6	70 %
Average Peak Speed (m.p.h.)	26.6	15.6	-41%

The transportation strategies investigated in this study follow the approach endorsed by the Federal Highway Administration as reflected in the OTO Congestion Management System (CMS). Initial strategies included:

- Travel Demand Management
- Transit Service Options
- High Occupancy Vehicle Lanes
- Transportation System Management
- Intelligent Transportation Systems
- Land Use Planning and Site Requirements
- Increasing Road Capacity

The review of existing conditions and growth forecasts indicate that even with full implementation of transit, TSM, TDM, and land use planning strategies, additional roadway capacity will be needed in order to maintain an acceptable level of travel mobility.

The initial build alternatives developed as part of the study are described below:

West Bypass/State Highway FF
Beginning north of Weaver Road, the two-lane section of Highway FF would be widened to a four-lane expressway section or possibly relocated from the current alignment. South of Farm Road 194 (county line), a new four-lane expressway section would be constructed that would cross the James River, continue in a southeastern direction, and connect to Highway 14 on the west side of the City of Nixa. The route could ultimately be extended farther southeast connecting with U.S. 160 south of the City of Nixa.

Missouri Highway 13/Kansas Expressway
In this alternative, the Kansas Expressway would be extended farther south as a new four-lane expressway. The new alignment would likely move slightly eastward in order to avoid residential areas. Farther south, the alignment could use or be located close to Farm Road 141. It would continue southward to Highway 14 aligning with Route M.

Campbell Avenue/U.S. 160
In this alternative, the existing Campbell Avenue designated as U.S. 160 south of the James River Freeway, would be widened from four lanes to six lanes. In this alternative, the six lane widening would begin north of U.S. 60 and continue south of Highway 14.

National Avenue
In this alternative, National Avenue would be extended southward from Gaslight as a four-lane arterial roadway. The alignment of this new roadway section would shift in order to minimize impact to residential areas and follow or parallel the Cheyenne Road alignment. The alignment could then continue in a southwest direction to connect back with U.S. 160.

Highway 13 North of I-44
This alternative would construct a new freeway connection for Highway 13 with a U.S. 160/West Bypass and I-44 interchange. This new connection would have grade-separated connections with the existing Highway 13 then extend to the southwest. U.S. 160 north of I-44 would connect with the new Highway 13 connection.

U.S. 160 widening north of I-44
This alternative would widen U.S. 160 from two lanes to four lanes north of I-44 to Willard.

Evaluating the Alternatives
The degree to which alternatives achieve project objectives is determined through the application of evaluation criteria that reflect the project objectives. The evaluation criteria for the North-South Corridor Study include the following items:

- Mobility Benefits
  - Travel time reduction for regional north-south traffic
- Growth & Economic Development Benefits
  - Provide opportunity for new development
- Environmental – Impact to the natural environment
  - Minimize impact to wetlands, streams, rivers, floodplains, parks and historic sites
- Environmental – Impact to the built environment
  - Minimize impacts to existing buildings, commercial areas and neighborhoods
- State/federal funding eligibility
  - The degree in which the project serves statewide travel interests and/or would be attractive to MoDOT to participate in project funding
- Magnitude of cost
- Potential for extension to connect with U.S. 160 south of the City of Nixa

Using the evaluation criteria described in the first section of this chapter, a recommended prioritization strategy was developed for the six project corridors under study. The project priorities of the alternatives studied are listed in **Table ES-3**. The project priorities are based upon the alternative scoring and weighting process described in this report.

Table ES-3 Recommendations

	New Construction:	System Management:
1)	West Bypass/State Highway FF (44.0)	Campbell Avenue/U.S. 160 (39.0)
	Improve existing and construct new sections of four-lane roadway to extend south of Highway 14.	Transportation System Management including adding turn lanes and improving intersection geometrics, access management, ITS, land use planning and transit service enhancements
2)	Kansas Expressway Extension (41.0)	
	Construct new sections of two-lane roadway to extend south connecting with the extended State Highway FF	
		Further Study:
3)	U.S. 160 widening north of I-44 (40.3)	Highway 13 Connector
	Widen U.S. 160 to four lanes north of I-44 to Willard.	Study as part of MoDOT's Statewide I-44 Corridor Study
4)	National Avenue Extension (36.4)	
	Construct new sections of four lane roadway to extend south of Highway 14.	

Magnitude of Cost

Generalized estimates of probable construction costs were prepared to provide cost comparisons. The costs include construction, right-of-way, engineering and administration, as well as the costs of interchange modification at the James River Freeway at each location. The costs for interchange reconstruction were obtained from the LRTP and these figures will be refined as further engineering studies are completed. For Missouri Highway 13/Kansas Expressway, cost estimates do not include the cost for right-of-way already purchased by Greene County.

Alternative	Estimated Cost (Mil. $)
West Bypass/State Highway FF	94.0
Missouri Highway 13/Kansas Expressway	102.4
Campbell Avenue/U.S. 160	84.3
National Avenue	113.5
Highway 13 Connector	77.1
U.S. 160 widening north of I-44	42.2

Project Refinement / Recommendation

Based upon these findings, a new alternative was developed. This alternative is shown in **Figure ES-1.** The refined alternative includes the West Bypass/Highway FF extension as a four-lane expressway route as previously indicated. The alignment for the Kansas Expressway would continue south from Republic Road. South of the proposed east-west arterial, it would turn to the southwest and connect with the West Bypass/Highway FF alignment. The two would share a common alignment as that route would extend south of the City of Nixa and connect with U.S. 160. The Kansas Expressway extension would initially be constructed as a minor arterial to be more compatible with the residential character north of the James River. The cost of the refined alternative is estimated at $226 million. Also shown in the figure are the U.S. 160 (Campbell Avenue) and National Avenue general alignments. The generalized alignments for the U.S. 160 north of I-44 and the Highway 13 connector are shown in **Figure ES-2**.

Next Steps and Timeline

The study discusses the anticipated steps needed to move each project from recommendation to construction. Since full funding for these alternatives will not be available immediately, a key concern is to be able to preserve the opportunity for future construction in these high growth locations. The time needed between this study phase and project construction is a minimum of five to seven years. The actions completed during that time include environmental documentation, determining route location, completing roadway design, and purchasing right-of-way. Given the need to limit building activity within the area identified for roadway improvement, the use of zoning, subdivision and corridor mapping was identified as important steps that local governments can take to helping these transportation projects to occur.

The next step in the project development process is to complete an environmental impact study (EIS for the West Bypass/Highway FF extension/ Kansas Expressway extension. An earmark was included in SAFETEA-LU for which an amount of $1.4 million is remaining and could be used for an environmental and location study in the U.S. 160/Kansas Expressway Corridor. The timeline for environmental and location study is approximately 2 to 3 years in length. The OTO Major Thoroughfare Plan should be amended to reflect the corridor locations identified in this study. At the same time, the Cities of Springfield, Battlefield, Nixa, and Greene and Christian Counties should monitor building permit activity immediately adjacent to the identified corridors and within the anticipated right-of-way corridor for new sections of roadway in anticipation of future right-of-way requirements.

Following completion of the EIS, the anticipated right-of-way corridor can be further refined on the local major thoroughfare and zoning maps. If a development or a sale of a property becomes apparent, communities should work with MoDOT on hardship right-of-way purchases in order to preserve the corridor prior to the completion of right-of-way plans and initiation of right-of-way acquisition. Given anticipated funding constraints, a plan for the phased construction of each corridor is included in Final Report.

Figure ES-1 Recommended General Corridor Alignments

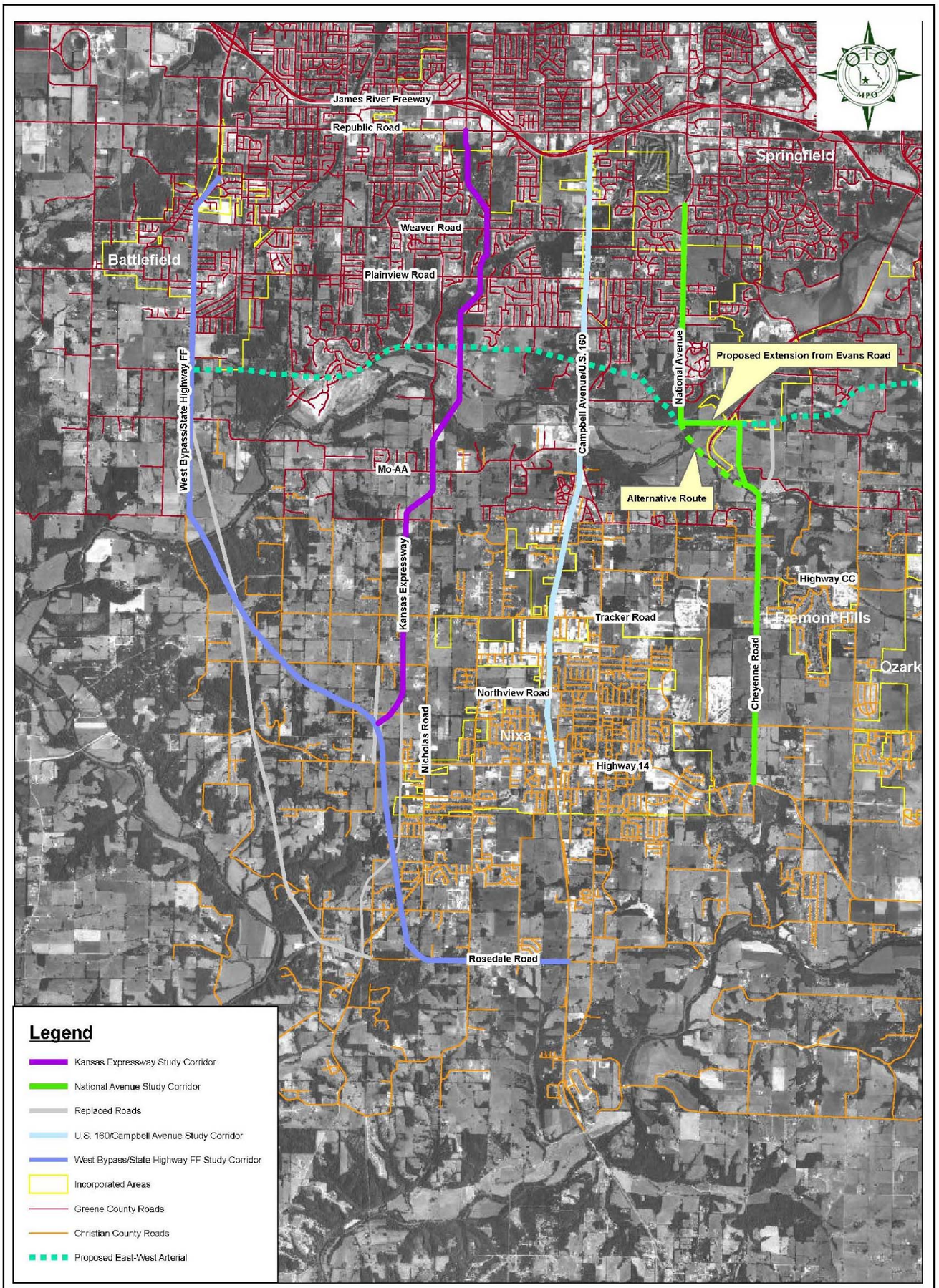
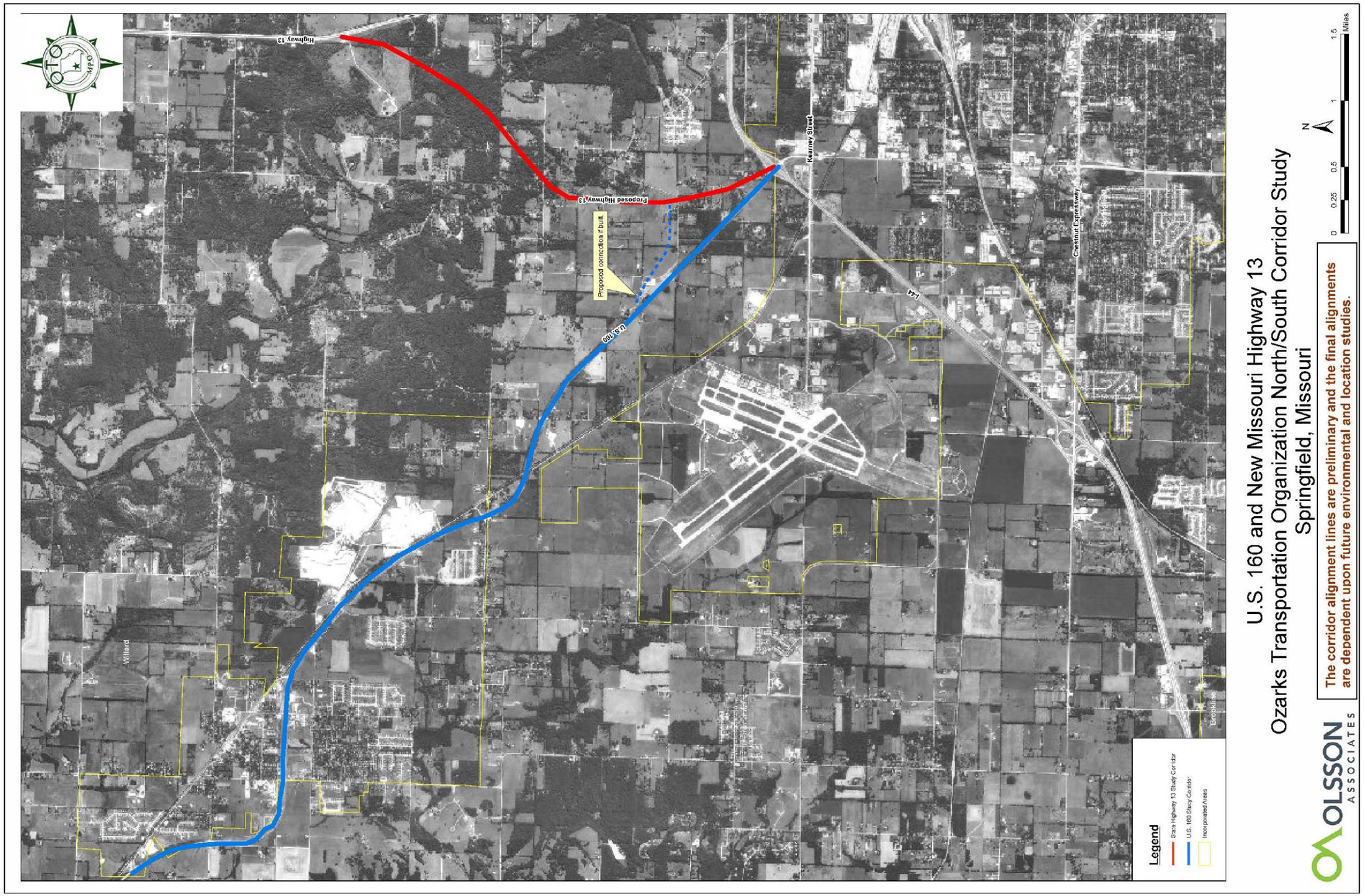


Figure ES-2 Recommended General Corridor Alignments North of I-44



1.0 INTRODUCTION

1.1 Study Background & History

The OTO is the Metropolitan Planning Organization (MPO) designated by the U.S. Department of Transportation and the State of Missouri to coordinate federal transportation actions within its planning area. Following the 2000 census, the planning area was expanded to include Christian County and the cities of Nixa, Ozark, Republic, and Strafford. With the additions, the population of the planning area increased to over 200,000, designating the area as a Transportation Management Area (TMA). The former Springfield MPO was re-organized within the OTO and includes the member governments within the TMA planning area shown in **Figure 1.1**. The TMA receives federal funds to allocate within the planning area and works closely with its planning partners: the Missouri Department of Transportation (MoDOT), Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA). OTO responsibilities include coordinating its members' Major Thoroughfare Plans, developing a Congestion Management Plan, and developing typical design standards for roadway classification in the TMA area. This study is being conducted by the OTO on behalf of its member agencies. Public and agency involvement on this study is described in Chapter 2.

The Ozarks Transportation Organization (OTO) area is located in the heart of the Ozarks region and includes portions of Greene and Christian Counties. The Ozarks region experienced significant growth during the 1990's and continues to experience some of the largest population growth rates in the nation today. The two-county area grew by over 22% between 1990 and 2000. In the five year period between 2000 and 2005, the growth has been nearly 16%. Within the last ten years, Christian County has been the second fastest growing county in Missouri, by percentage, while Greene County has added more than 40,000 people.

With the growth in population comes a significant increase in average daily traffic volumes on the area's freeways, expressways, and arterials. The OTO area has two major regional east-west freeways: Interstate 44 (I-44) and U.S. Route 60, which is known locally as the James River Freeway. The area has one north-south freeway in the Springfield area, which is U.S. Highway 65 (U.S. 65). As the area has grown there has been increasing congestion on north-south arterial roads resulting in reduced travel mobility. The purpose of this study is to examine strategies and alternatives to improve travel mobility along north-south roadways in the OTO area. Existing transportation conditions on north-south corridors are described in Chapter 3. Project alternatives and priorities are described in Chapter 4.

The anticipated steps needed to move each project from recommendation to construction are described in Chapter 5. Since full funding for these alternatives will not be available immediately, key issues to be addressed in this study include improving the coordination of land use and transportation decisions in the corridor, preserving the opportunity for future construction, and developing a consensus for corridor priorities. General implementation strategies are described, followed by a discussion of steps that could be taken in order to implement each of the corridor improvements identified.

1.2 Previous Plans and Studies

A number of previous studies and work products provide a context for examining north-south mobility issues in the Springfield area. These work products are briefly summarized below.

Figure 1.1 OTO Study Area

Long Range Transportation Plan
The OTO developed a Long Range Transportation Plan (LRTP) for the Springfield metropolitan area in 2006 in accordance with federal and state regulations and as a guide for future transportation decisions. The plan was designed to address not only long-range transportation goals, but also short-term transportation needs. The LRTP presents multiple modes of transportation from passenger travel to freight and is the backbone for a well-developed transportation network. The LRTP describes and identifies a number of future north-south roadway projects.

The LRTP is a result of joint collaboration between the many transportation stakeholders in the area and is designed to focus on policies and strategies related to transportation as well as assist in prioritizing transportation needs through the year 2030.

OTO Travel Demand Model
Federal and state transportation regulations require an LRTP be prepared for urban areas of greater than 50,000 people. Current FHWA and FTA planning regulations also require that an MPO have an analytical process in place for evaluating projects. One of the most common analytical evaluation tools is a four-step travel demand model. The OTO, as part of the LRTP process, used the software TransCAD to develop a travel model for the MPO area. The model was calibrated to year 2000 conditions and used anticipated future land uses to project year 2030 traffic volumes. The information from that model resulted in alternative improvement scenarios that eventually formed the basis for the recommendations found in the LRTP.

Springfield-Branson Corridor Transportation Study
The Corridor Transportation Study began in November 1998 under the direction of the Springfield-Branson Corridor Transportation Committee in conjunction with MoDOT. The study established the transportation needs of tourists, workers and residents traveling between the Springfield and Branson areas.

The study consisted of two phases, with the first phase concentrating on the impact of continued growth during the next 20 years along the Springfield-Branson Corridor, as well as providing an analysis of the area's transportation and development needs and opportunities. The second phase was initiated to ensure the transportation system is proportionate with community growth into the 21st century. The study recommended capacity improvements to U.S. 65 between I-44 and U.S. 60 (James River Freeway) and on U.S. 160 (Campbell Avenue) between U.S. 60 (James River Freeway) and Nixa or a new roadway to the west of U.S. 160 (Campbell Avenue).

OTO Major Thoroughfare Plan
The Major Thoroughfare Plan (MTP) was adopted by the OTO Board in 2004 and was modified to include portions of Christian County. The MTP provides a map of major street and road classifications within the OTO boundary and includes future roadway projects.

Kansas Expressway Extension Study
In the mid-1990's the Greene County Commission took upon the task of planning a new arterial that would connect Greene and Christian Counties. The new arterial was to alleviate congestion on existing Campbell Avenue, and became known as the Kansas Expressway Extension. Greene County hired a consulting firm to study various alignments for the extension of Kansas Expressway from Republic Road south to Steinert Road. The future arterial was designed to have controlled access in a 100-foot right-of-way. After presenting three alternate routes for public hearings and comments, the Greene County Commission selected the route that is currently mapped today. Through negotiations with property owners and developers working through the Greene County Subdivision process, more than 90 percent of the mapped corridor from Republic Road south to Steinert Road is currently owned by Greene County. None of the right-of-way for the future Kansas Expressway mapped in the city limits of Springfield is owned by the City or County. The corridor is shown on the Major Thoroughfare Plan and is protected through the zoning and subdivision platting process.

The Greene County Commission has approached the State and Federal Legislature many times in the past for funding assistance to make the future corridor a reality, but with no success. The future roadway has an estimated cost of more than $20 million, and with only local funding for the project the roadway has never made the County's priority list for construction.

Greene County is currently working with Christian County to complete a preliminary design of the future road to Route 14 in Christian County. The design has been placed on hold until the completion of the OTO project.

Other Previous Plans and Studies
Along with the above mentioned transportation studies, other studies have previously been prepared. These studies include the U.S. 65 Corridor Plan, Highway M-National Avenue Corridor Study, Springfield-Greene County *Vision 20/20* Strategic Plan, and the South National Avenue Corridor Study.

1.3 Project Purpose

The purpose of this project is to examine and prioritize transportation options that would improve regional and local north-south travel, with particular emphasis on the area south of the James River Freeway and north of I-44. The alternatives identified should support the economic vitality of the OTO area by relieving current and future congestion through safe, efficient, cost-effective, and environmentally sound improvements. Through an inclusive process that balances a variety of viewpoints, interests, and regulatory requirements, the transportation alternatives should also satisfy community values and maintain or enhance the social, economic, environmental, and safety conditions in the area. In addition to the purpose of the project, the following goals identified in the OTO LRTP were considered in evaluating the project alternatives.

1. Support the economic vitality of the metropolitan area, especially by enabling regional competitiveness, productivity, and efficiency.

2. Increase the safety of the transportation system for motorized and non-motorized users.

3. Increase the security of the transportation system for motorized and non-motorized users.

4. Increase the accessibility and mobility of people and freight.

5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.

6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.

7. Promote efficient system management and operation.

8. Emphasize the preservation of the existing transportation system.

1.4 Study Process

Other studies in the area have reviewed the issues of north-south travel through the OTO boundaries. These reports have provided background material that has been applied to the analysis of improvement alternatives.

This study process will examine how to improve north-south travel patterns via of different corridors throughout the area. Initial alternatives will be screened to arrive at a set of final alternatives, which will include a no-build alternative. The final alternatives will be examined in more detail considering engineering, environmental impacts, costs, and public input, among other items, to identify a ranking of preferred north-south corridors. Identifying improvements to recommended corridors will complete the primary goal of this study process. Additional goals of this study include identifying and prioritizing long-term projects. Short-term improvements to areas of the study corridors will be identified in this report as well as to provide lower cost projects that can be accomplished quickly.

After priorities are established in this study, the next steps will be to evaluate the priorities with other regional priorities for funding.

2.0 PUBLIC PARTICIPATION PROCESS

A key component of this project was the design and implementation of a public involvement program to reach stakeholders throughout the region. Member agencies and citizens in their communities were given opportunities to provide input for this study through agency interviews and open houses.

2.1 Overview of the Public Participation Process

Recognizing the importance of community understanding and support for the North/South Corridor Study, Olsson, CJW, and the OTO provided opportunities for public and agency input.

The intent of the public participation component for the North/South Corridor Study was to achieve four (4) main goals:

A. To ensure all agencies affected by the study were involved throughout the process;
B. To ensure the public received adequate information and was involved in the study process from its inception;
C. To ensure the agencies and the public were comfortable providing their input and knew where to obtain further information regarding the study; and
D. To ensure the entire public participation process was unbiased, open, and responsive to the input provided by the agencies and the public.

In order to achieve these goals, Olsson, CJW and the OTO worked collaboratively to inform the agencies and the public of upcoming activities. The team also provided stakeholders with all relevant information, as well as the resources necessary to obtain data and provide input regarding the study.

2.2 Public Involvement Activities

The success of this study is dependent upon developing open, working relationships with each individual agency, as well as with the public. To foster these relationships, individual agency interviews were conducted to help the team better understand the needs of and opportunities for each agency. Additionally, open houses were conducted at four (4) separate sites to give the public an opportunity to better understand the goal of the study, as well as to discuss their thoughts and opinions concerning north-south traffic.

2.2.1 OTO Agency Interviews

Representatives from Olsson and CJW met with OTO staff to identify the stakeholders that would need to be contacted and interviewed. Representatives of Olsson, CJW, and the OTO conducted separate interviews June 19-20, 2006, with 10 agencies regarding the North/South Corridor Study. These agencies are shown in **Table 2.1**.

Table 2.1 Agencies Interviewed

Agencies	
Christian County	City of Springfield
City of Battlefield	City of Willard
City of Nixa	Greene County
City of Ozark	Missouri Department of Transportation
City of Republic	Springfield-Branson National Airport

The intent of the agency interviews was to gain an understanding of the purpose and need of this study. The same questions were asked to each individual agency:

A. Why is this project needed?
B. What is the purpose of the project? What issues are we trying to address?
C. What must happen to make this project successful?
D. Do you know of any important social, economic or environmental resources that could be affected by this project?
E. What is your community's preferred solution?
F. Is there any solution that is a "deal breaker" for you? If so, why?
G. Do you have any pertinent traffic data or development related data that would be useful for this project?
H. Is there anything else of importance to you that we haven't discussed?

Findings
Each agency cited alleviation of traffic congestion as the primary purpose and need in identifying preferred improvements for north-south travel in the area. However, several agencies also cited the need to enhance the economic growth and development of the region, recognizing that the southern portion of the Springfield area is currently enjoying significant growth that needs to be better served.

Success of the project was defined differently by each agency, though there was some consensus that the public involvement and communication aspects of the project were critical. In addition, several agencies encouraged a regional perspective to ensure that the preferred alternative would benefit the entire region and not only one or two communities, thereby making funding easier to secure.

The primary social, economic and environmental resources that need to be considered are: sink holes, caves, rock, water crossings, and some historical monuments. Additionally, the location of parks and schools were identified for evaluation.

Through the interview process it was apparent that no solution has a clear consensus. Most of the agencies felt expanding Campbell to six lanes was a short-sighted solution. The cities of Battlefield, Nixa, Ozark, Springfield, and Republic encouraged a review of possible east-west improvements in conjunction with the selected alternative.

2.2.2 Media Releases & Advertisements

In recognizing that the public input and understanding of the North/South Corridor Study is essential to the success of this project, several notices and advertisements were placed throughout the study area. The open houses were publicized in the following ways:

- A press release was issued by the Springfield Public Information Office to area media (TV, radio, print);
- Press releases were emailed to the *Republic Monitor* and *Nixa News Enterprise*;
- Posted on the City of Springfield Web site;
- Posted on the Ozarks Transportation Organization Web site;
- Contacted KY3 News Station;
- Posted on Portable Dynamic Message Signs placed throughout the area;
- Letters were sent to the OTO Technical Committee and Board of Directors prior to the Public Meetings; and
- Letters were sent to the individual agencies prior to the Public Meetings.

2.2.3 Public Information Meetings

At the start of the study, Olsson and CJW worked with OTO representatives to identify dates for the public information meetings. Two rounds of public meetings were held – the first to foster an understanding of the study and gather initial information, and the second for the team to present its findings and conclusions. Specific comments received from these meetings are included in the report appendix.

First Round of Public Information Meetings

The initial public meetings were conducted as an "open house" that consisted of several stations containing information about each of the potential improvements. This allowed the public one-on-one contact with representatives from the team. Stakeholders were able to ask questions to obtain a better understanding of the study, as well as to provide input through either conversation or comment sheets provided by the team.

Four public meetings were held in the OTO area on the evenings of July 17 and 18, 2006, to solicit the public's input regarding the five proposed routes for the North-South Corridor Study. A total of 110 residents participated in these forums, which were held in the communities of Battlefield, Nixa, Springfield, and Willard. Two three-hour concurrent meetings were held each date to allow ample time and opportunity for those who wanted to attend. **Table 2.2** shows the meeting information.

Table 2.2 Meeting Information

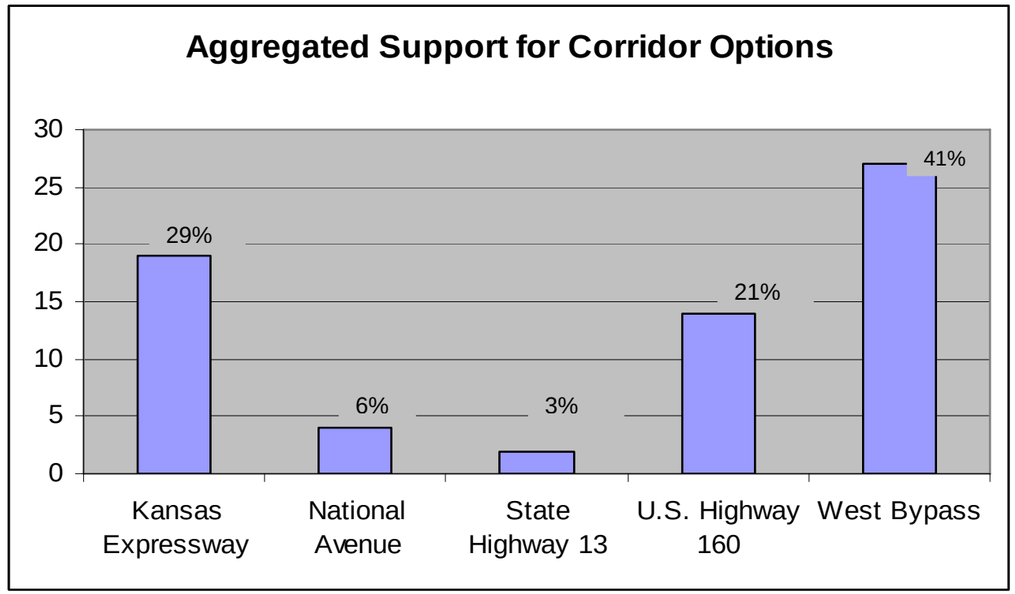
Meeting Location	Meeting Date	Meeting Time
Springfield Library Center Auditorium	July 17, 2006	4-7 p.m.
Nixa Community Room	July 17, 2006	4-7 p.m.
Battlefield Community Room	July 18, 2006	4-7 p.m.
Willard City Hall	July 18, 2006	4-7 p.m.

Findings

Three corridors received the majority of the support from the public attending the meetings: West Bypass, Kansas Expressway, and Campbell Avenue/U.S. Highway 160 (U.S. 160). Together, these proposed corridors accounted for 91 percent of the support expressed throughout the initial public meeting process. **Figure 2.1** summarize these results.

West Bypass received the most support in the Springfield public meeting, while U.S. 160 north of I-44 received high support at the forum in Willard. Campbell Avenue/U.S. 160 and West Bypass were the only corridors to receive support at the meeting in Nixa; however, only two attendees completed comment sheets at that meeting. At the meeting held in Battlefield, Kansas Expressway received the most support.

Figure 2.1 Aggregated Support for Corridor Options



Second Round of Public Information Meetings
The second round of public meetings were conducted as an "open house" that consisted of stations containing information about the proposed corridors and project priorities. This allowed the public more one-on-one contact with representatives from the team. Stakeholders were able to ask questions to get a better understanding of the study as well as provide input through either conversation and/or through comment sheets provided by the team.

Four public meetings were held in the OTO area on the evenings of January 8 and 9, 2007, to solicit the public's input regarding the priorities of the proposed routes for the North/South Corridor Study. A total of approximately 252 residents participated in these forums, which were held in the communities of Battlefield, Nixa, Springfield, and Willard. Two two-hour concurrent meetings were held each date to allow ample time and opportunity for those who wanted to attend. **Table 2.3** shows the meeting information.

Table 2.3 Meeting Information

Meeting Location	Meeting Date	Meeting Time
Battlefield Community Room	January 8, 2007	4:30-6:30 p.m.
Nixa Community Center	January 8, 2007	4:30-6:30 p.m.
Springfield Library Center Concourse	January 9, 2007	4:30-6:30 p.m.
Willard Recreation Center	January 9, 2007	4:30-6:30 p.m.

Findings
Three major concerns were brought up at each of the "open houses." The first major concern is the potential impacts to properties in the proposed corridor areas. Some residents were concerned with the proximity of each of the corridors to their property or homes. And the second major concern of the community members is the project timing. Some residents thought these proposed corridors would be constructed within the next few years.

The third major concern among the residents is the project prioritization. Some residents that attended the Springfield meeting would have rather seen the Campbell Avenue/U.S. 160 widening or the Kansas Expressway extension as the first priority, while most of the community members that attended the Willard meeting wanted to see the widening of U.S. 160 north of I-44 to Willard as the first priority. The residents that attended the public forum in Battlefield were favorable towards the prioritization while there were mixed thoughts from residents at the Nixa public meeting.

All attendees of the public "open houses" were able to discuss with the team their thoughts and/or leave comments for review. Other concerns consisted of environmental impacts, evaluating east/west corridors including the need to construct the East-West Arterial, and concerns about additional traffic on existing routes located north of the James River Freeway as well as the interchanges with the James River Freeway.

Overall, the majority of the residents agreed that something must be done to improve traffic congestion in the OTO area. The team received mostly positive constructive responses at all public "open houses."

2.2.4 Public Presentations

This section will be completed and submitted as an addendum after completion of the study.

2.2.5 Resource Agency Comments

The determination of agency concerns associated with the development of a north-south corridor within the OTO area will be reflected in the selection of a feasible corridor for further study. Informational comments and concerns from federal, state and local agencies have been requested through formal letters and invitations to attend the initial public meetings held July 17-18, 2006. Agencies that were contacted include:

- U.S. Environmental Protection Agency, Region 7
- Missouri Department of Conservation, Endangered Species Division, Southwest Regional Office
- Missouri Department of Natural Resources, Hazardous Waste Program's Compliance/Enforcement Section
- Missouri Department of Natural Resources, State Historic Preservation Office
- U.S. Department of the Interior, Wilson's Creek National Battlefield
- U.S. Department of Agriculture, Natural Resources Conservation Service, Ozark Service Center
- U.S. Department of Agriculture, Natural Resources Conservation Service, Springfield Service Center
- U.S. Army Corps of Engineers, Little Rock District
- U.S. Army Corps of Engineers, Kansas City District
- U.S. Fish and Wildlife Service, Division of Endangered Species, Midwest Region

Comments and concerns conveyed by these agencies were used to gain an understanding of environmental constraints associated with the study areas. Responses from agencies were directed to the OTO.

Missouri Department of Natural Resources, Hazardous Waste Program
The OTO received a letter on August 3, 2006 from the Missouri Department of Natural Resources (MDNR), Hazardous Waste Program (HWP). The MDNR HWP indicated that five Superfund sites are located within the proposed boundary of the project. Three of the sites are closed investigations with no anticipated environmental threat. However, two of the sites are the locations of active investigations by the Superfund Section. The two sites are known or suspected of containing contaminated surface and subsurface soils. Coordination with MDNR HWP is being initiated to obtain locations and details of the two sites.

The MDNR HWP also indicated that there is a known Trichloroethylene (TCE) groundwater plume in the vicinity of 4900 West Kearney Street. This should be noted if the project requires the use of, or interaction with, groundwater in northwest Springfield.

Additionally, the three permitted facilities listed below are involved in the treatment, storage, or disposal of hazardous waste and are located in the project study area. A low potential for contamination exists for the three sites.

- Aaron's Automotive Inc. – 325 W. Cardinal, Springfield, MO
- Kerr-McGee – 3247 W. Chestnut Expressway, Springfield, MO
- Safety-Kleen – 517 W. Katherine, Nixa, MO

Further review of these files can be arranged by contacting HWP's records manager.

U.S. Army Corps of Engineers, Kansas City District
The OTO received a letter on August 8, 2006 from the U.S. Army Corps of Engineers, Kansas City District (the Corps). The Corps indicated that they have jurisdiction over all waters of the U.S. Discharges of dredged or fill material in waters of the U.S., including wetlands, require prior authorization from the Corps under Section 404 of the Clean Water Act (33 USC 1344). Should the proposed improvements require the discharge or fill in waters of the U.S., a Department of the Army permit may be required prior to the initiation of any construction on portions within the Corps' regulatory jurisdiction.

U.S. Fish and Wildlife Service
The OTO received a letter on August 8, 2006, from the U.S. Fish and Wildlife Service noting two species within the project area listed as federally threatened: the Missouri bladderpod (*Lesquerella filiformis*) and the Ozark cavefish (*Amblyopsis rosae*). The U.S. Fish and Wildlife Service recommends surveys be conducted for both of the species and their associated habitats.

U.S. Department of Agriculture, Natural Resources Conservation Service, Springfield Service Center
The OTO received a letter and map of prime farmland on August 22, 2006 from the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), and Springfield Service Center. The USDA NRCS indicated that prime farmland is present within the project area. A map showing the locations of prime farmland and lists of prime farmland were provided.

The USDA NRCS indicated that there are no hydric soils or wetlands on the project site except for the stream channel of the James River. The main areas of concern for conversion of prime farmland are along the James River Valley and the upland area between the Battlefield and Springfield city limits. Construction of taller and longer bridges with limited fill material in the floodplain would help to protect prime farmland and allow unrestricted flow of water in the James River Valley.

The USDA NRCS also indicated the concern of many sinkholes and caves that are present in the upland areas stating that extensive geologic investigations may be required to protect cave systems and any endangered species within the caves. They indicated that storm water management practices may be a big part of protecting ground water quality in this karst bedrock topography.

Additionally, the USDA NRCS stated that protection of historical battlefield archeological sites should be considered especially near the City of Battlefield and areas adjoining Wilson's Creek National Battlefield.

No other official comments have been received to date.

3.0 EXISTING CONDITIONS

3.1 Study Area

Four routes between Route MM on the west and U.S. 65 on the east have been identified by the OTO as potential locations to improve north-south travel in the Springfield area. Although, the study is not limited to the identified corridors it is anticipated that these corridors will each play a role in the overall improvement of north-south travel within the metropolitan area. The four routes are listed below and the existing conditions of each of these routes are described in subsequent sections of this chapter.

- U.S. 160/West Bypass/State Highway FF
- Missouri Highway 13/Kansas Expressway
- Campbell Avenue/U.S. 160
- National Avenue

3.2 U.S. 160/West Bypass/State Highway FF

3.2.1 Corridor Description

U.S. 160 is a two-lane roadway from Willard to I-44 and is a continuation of the West Bypass to the north of I-44. U.S. 160 becomes West Bypass at the diamond interchange of I-44 and continues to the south.

West Bypass is currently under construction from Kearney Street to Chestnut Expressway. Upon completion of construction West Bypass will meet expressway standards with a raised median, access control, and adequate signal spacing from I-44 south to James River Freeway. West Bypass becomes State Highway FF at the diamond interchange of James River Freeway and continues as a four-lane arterial south to approximately Weaver Road (Farm Road 178). At Weaver Road, FF transitions to a two-lane rural state route. It traverses south through the City of Battlefield with direct residential access where the City has classified it as a primary arterial on its Major Thoroughfare plan. State Highway FF ends at the edge of Greene/Christian County as a low-volume two-lane county roadway. The entire U.S. 160/ West Bypass/State Highway FF corridor is state maintained. The U.S. 160/ West Bypass/ State Highway FF corridor is shown in **Figure 3.1**.

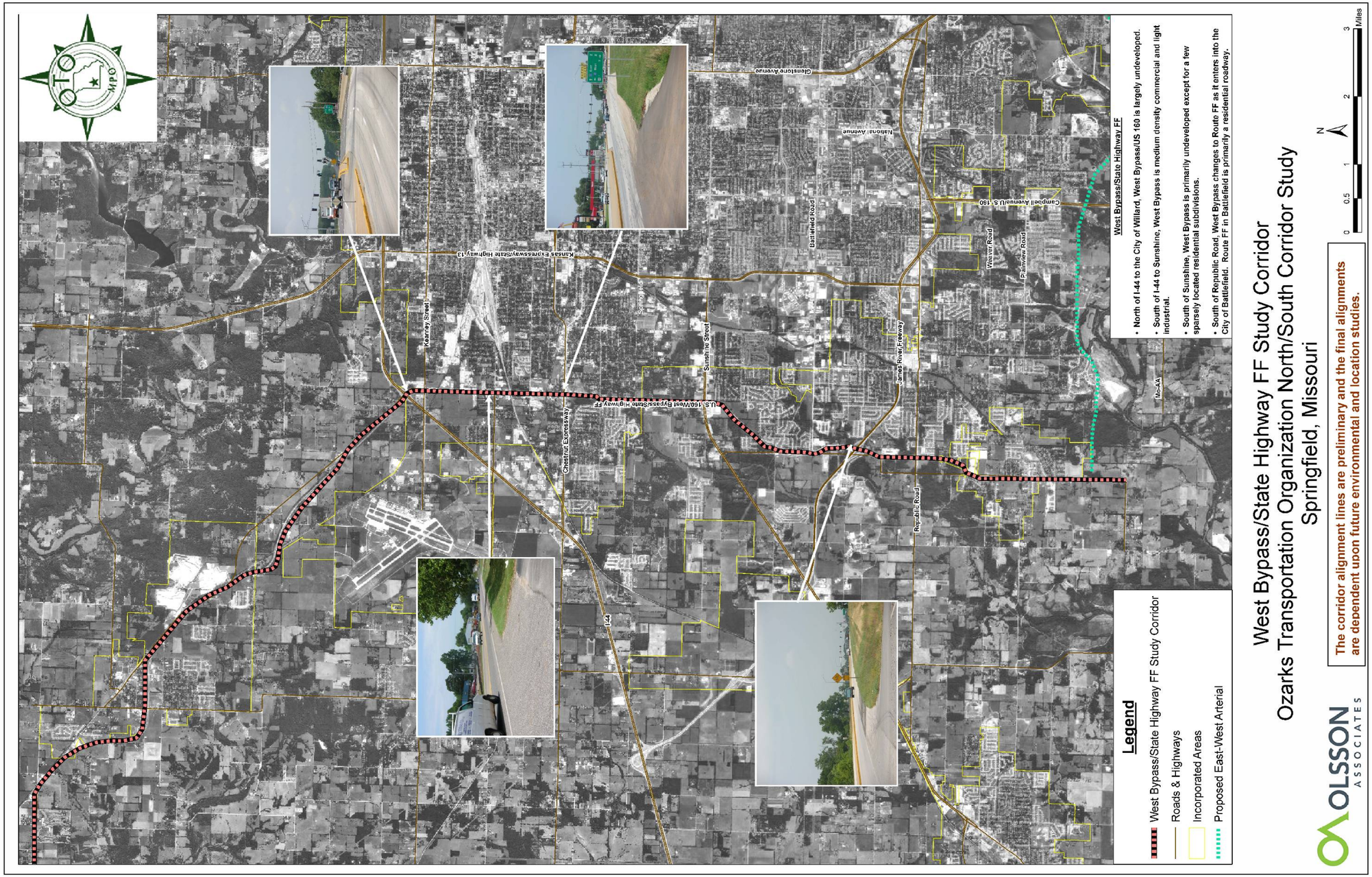
3.2.2 Land Use

A diverse land use pattern and varying lot sizes characterize existing land uses in the West Bypass corridor. The area along the West Bypass/U.S. 160 corridor from the City of Willard south to I-44 is largely undeveloped, with the exception of a large quarry on the east side of U.S. 160, due to lack of sanitary sewer service and the airport fly zone. South of Kearney Street, extending to Sunshine Street, the West Bypass corridor consists of medium-density commercial and light industrial land uses developed on varying lot sizes without consistent access management. Redevelopment potential is great for this area upon completion of the road widening projects. South of Sunshine Street to the James River Freeway, West Bypass is primarily undeveloped and is agricultural in use with the exception of a few sparsely located residential subdivisions. South of James River Freeway, West Bypass turns into State Highway FF and extends south through the City of Battlefield. State Highway FF is currently two lanes and is flanked by low- to medium-density residential development, with minimal, dispersed commercial land uses. When the current widening project along West Bypass is completed between I-44 and Chestnut Expressway, there is reason to believe that significant redevelopment of the adjacent properties will occur, including retail and office.

3.2.3 Existing Traffic Volumes

Traffic Volumes
Traffic volume information was available from multiple sources and reports. Generally, average daily traffic (ADT) volumes, and in some instances, AM and/or PM peak hour volumes were available for different sections of the corridor. It should be noted that traffic volumes shown were collected in different years. Analyzing all the data provides an overall picture of the corridor's traffic volumes. In 2005, the traffic volumes along the corridor generally ranged from 14,000 ADT at the I-44 ramps to a maximum of approximately 28,000 ADT within the central portion of the corridor. **Table 3.1** shows the existing daily traffic volumes for the corridor. The complete list of traffic counts is included in the appendix.

. **Figure 3.1 U.S. 160/West Bypass/State Highway FF Corridor**



Crash History

Three years of crash data were examined along the corridor. This analysis found that the collision rate per 100 million vehicle miles traveled was highest from Mount Vernon Street to Kearney Street along the West Bypass Corridor. **Table 3.2** shows the crash history for the corridor.

Table 3.1 West Bypass Daily Traffic Volumes

West Bypass		2000	2002	2003	2004	2005
From	To					
Route AB	Jackson Street (Route Z)			8,451	8,620	8,792
Jackson Street (Route Z)	Westbound I-44 Ramps			14,097	14,378	14,666
Westbound I-44 Ramps	Eastbound I-44 Ramps		19,682	14,216	14,500	14,790
Eastbound I-44 Ramps	Kearney Street	15,444		17,827	18,184	18,133
Kearney Street	Division Street	15,444	16,716	17,625	17,978	18,338
Division Street	Chestnut Expressway	17,780	16,979	17,450	17,799	18,155
Chestnut Expressway	Mt Vernon Street	17,773		22,004	24,793	25,289
Mt Vernon Street	Sunshine Street/ MO State 413	25,447		27,194	27,738	28,293
Sunshine Street/ MO State 413	Farm Road 156			18,334	18,701	19,075
Farm Road 156	Battlefield Road			20,808	21,224	21,648
Battlefield Road	Highway 60 Westbound Ramps			19,303	19,689	20,083
Highway 60 Westbound Ramps	Highway 60 Eastbound Ramps			24,526	25,017	25,517
Highway 60 Eastbound Ramps	State Highway M/ Republic Road			17,396	17,744	18,099
State Highway M/ Republic Road	Weaver Road			6,829	6,966	7,105

Table 3.2 West Bypass Crash History

West Bypass		2002 Traffic Crashes	2003 Traffic Crashes	2004 Traffic Crashes	3 year Average	Segment Length (Miles)	2002 Crash Rate	2003 Crash Rate	2004 Crash Rate
From	To								
Westbound I-44 Ramps	Eastbound I-44 Ramps				-	0.10	0.0	-	0.0
Eastbound I-44 Ramps	Kearney Street	1	1	0	1	0.25	0.6	-	0.0
Kearney Street	Division Street	20	10	16	15	1.00	3.3	-	2.9
Division Street	Chestnut Expressway	29	21	17	22	1.00	4.7	-	2.6
Chestnut Expressway	Mt Vernon Street	6	2	7	5	0.50	-	0.5	1.5
Mt Vernon Street	Sunshine Street/ MO State 413	14	7	10	10	1.50	-	-	0.7
Sunshine Street/ MO State 413	Farm Road 156	0	1	4	2	1.25	-	-	0.5
Farm Road 156	Battlefield Road				-	0.58	-	-	0.0
Battlefield Road	Highway 60 Westbound Ramps				-	0.57	-	-	0.0
Highway 60 Westbound Ramps	Highway 60 Eastbound Ramps				-	0.10	-	-	-
Highway 60 Eastbound Ramps	State Highway M/ Republic Road				-	0.82	-	-	0.0
State Highway M/ Republic Road	Weaver Road				-	1.05	-	-	-

3.2.4 Existing Environmental Conditions

Correspondence from agencies and comments from the public indicated that there are key environmental areas of concern for the U.S. 160/West Bypass/State Highway FF corridor.

This corridor crosses four floodplains, including South Creek, Wilson Creek and two unnamed tributaries to Wilson Creek. Floodplain impacts within the proposed corridor would result from the placement of fill material for road section on grade or by the placement of bridge piers and associated fill for elevated sections. The corridor is near three churches: Wilson Creek Church, Pleasant Springs Church, and Bethany Church. The corridor is also near Bissett School, Westport School, and Sherwood School. These churches and schools, as well as adjacent neighborhoods, could experience noise impacts from the proposed corridor.

A transportation crossing of a jurisdictional waterway would require a Section 404 permit. A 404 permit would be needed for South Creek and associated unnamed tributaries, Wilson Creek and associated unnamed tributaries, and unnamed tributaries to the James River, as well as wetlands on the National Wetland Inventory.

A project in this corridor could result in the relocation or partial acquisition of businesses and residences located along U.S. 160/West Bypass/State Highway FF. Existing land use indicates that there are more than 90 businesses and 100 residences located along the existing corridor. There are no known historic resources identified within the corridor, but there could be archaeological sites. Cemeteries, although not historic, are also near the project corridor and include Brick Church Cemetery and Phillips Cemetery. The City of Springfield has mapped numerous areas where karsts topography occurs, including sink holes and caves. Threatened and endangered species within the corridor include Indiana Bat, Gray Bat, Missouri bladderpod, and the Ozark cavefish, which may be using riparian corridor along streams and local caves.

3.3 Missouri Highway 13/Kansas Expressway

3.3.1 Corridor Description

Missouri Highway 13 is a major north-south link between the Kansas City urban area and the Springfield area. Highway 13 is a four-lane, divided expressway with grass medians north of the city limits. Highway 13 becomes Kansas Expressway inside the city limits of Springfield, entering north of I-44 as a five-lane expressway with tightly spaced signalized intersections, including ramp terminals and outer roads. From I-44 south to Kearney Avenue, Highway 13 is a five-lane road with a two-way center left-turn lane with tightly spaced signals and direct driveway access.

The City, in conjunction with MoDOT, has a project to move the signal located south of I-44 at the northern Wal-Mart entrance farther south to the shared access for Quik Trip, McDonald's, and Wal-Mart. Although these improvements will provide some relief, Highway 13 at I-44 is congested during peak travel periods.

MoDOT maintains Kansas Expressway through the City of Springfield to the intersection of James River Freeway. The City of Springfield maintains Kansas Expressway from the eastbound ramps at the James River Freeway interchange to Republic Road. Many improvements have been made at the major arterial intersections on Kansas Expressway at Kearney Street, Chestnut Expressway, Sunshine Street, and Battlefield Road. The Kansas Expressway Corridor is shown in **Figure 3.2**.

3.3.2 Land Use

The Highway 13/Kansas Expressway corridor is characterized by diverse land uses concentrated in similar land use groupings along the corridor. North of I-44, Highway 13 is primarily undeveloped. It is the primary route for traffic traveling to and from Kansas City. The Highway 13/I-44 interchange is the location for intensive commercial land uses and is a gateway into the City of Springfield. This rapidly growing commercial area is characterized by numerous, inconsistently spaced access points onto the roadway. Highway 13 becomes Kansas Expressway south of I-44. From I-44 to Grand Street the corridor is characterized by commercial land uses on a wide range of lot sizes and with some older residential neighborhoods. The corridor from Grand Street to James River Freeway consists of limited residential land uses with commercial development at major intersections: specifically Sunshine Street and Battlefield Road. A major land use in the corridor south of Sunshine Street is the federal prison medical facility. Kansas Expressway has developed into a commercial corridor from James River Freeway to Republic Road where Kansas Expressway ends. With the proposed Kansas Expressway Extension the commercial character of the corridor is expected to continue a couple hundred feet farther south before entering existing residential subdivisions where right-of-way has already been acquired by Greene County.

3.3.3 Existing Traffic Volumes

Traffic Volumes
Traffic volume information for this study was available from multiple sources and reports. Generally, average daily traffic (ADT) volumes, and in some instances, AM and/or PM peak hour volumes were available for different sections of the corridor. It should be noted that traffic volumes shown were collected in different years. Analyzing all the data provides an overall picture of the corridor's traffic volumes. In 2005, the traffic volumes on the corridor generally ranged from 19,000 ADT at the south end to a maximum of approximately 38,000 ADT within the central portion of the corridor. **Table 3.3** shows the existing traffic volumes for the corridor. The complete list of traffic counts is included in the appendix.

Figure 3.2 Highway 13/Kansas Expressway Corridor

Crash History
Three years of crash data were examined along the corridor. This analysis found that the collision rate per 100 million vehicle miles traveled was highest from Kearney Street to the south I-44 Ramp Terminal. This is likely due to intersection crashes resulting from poor access control and signal spacing in the area, coupled with high traffic demands generated by the surrounding commercial land use in the area. This section of Kansas Expressway should be reviewed in detail by MoDOT and monitored for future capital construction and potential safety projects in the area. **Table 3.4** shows the crash history for the corridor.

3.3.4 Existing Environmental Conditions

Correspondence from agencies and comments from the public indicated that there are key environmental areas of concern for the Highway 13/Kansas Expressway corridor.

This corridor will cross seven floodplains including the James River, Ward Branch, Workman Branch, South Creek, Fassnight Creek, Wilson Creek, and the Little Sac River. If a widening project were pursued, floodplain impacts would be minimal as bridges and culverts already exist in these locations. Potential considerations to be addressed could include the placement of fill material for road section on grade or by the placement of bridge piers and associated fill for elevated sections.

The roadway is close to four churches: Union Hill Church, Walnut Hill Church, Union Chapel and Calvary Church. The corridor is also near Williams School, York School, Study School, McGregor School, Wanda Grey School, and Sherwood School. These churches and schools, as well as neighborhoods, could experience noise impacts from the proposed corridor.

Changes to the expressway could require a Section 404 permit for impacts to the James River and associated unnamed tributaries, Ward Branch and associated unnamed tributaries, Workman Branch, South Creek, Fassnight Creek, Wilson Creek, and the Little Sac River, as well as wetlands on the National Wetland Inventory. In addition, water quality concerns exist for this corridor because the James River is listed as a 303(d) Impaired Water for mercury levels exceeding the Total Maximum Daily Load limits.

Roadway widening within the corridor could result in the relocation or partial acquisition of businesses and residences located along Highway 13/Kansas Expressway. Existing land use indicates that there are more than 110 businesses and 400 residences located along the existing corridor. There are no known historic resources identified within the corridor, but there could be archaeological sites. Cemeteries, although not historic, are also located near the project corridor and include McConnell Cemetery, Patterson Cemetery, Yarbarough Cemetery, and Saint Mary's Cemetery. Greene and Christian Counties have numerous areas where karst topography occurs, including sink holes and caves. A known location identified by the public comments occurs along Kansas Expressway near River Cut. Threatened and endangered species within the corridor include Indiana Bat, Gray Bat, Missouri bladderpod, and the Ozark cavefish, which may be using riparian corridor along streams and local caves.

3.4 Campbell Avenue/U.S. 160

3.4.1 Corridor Description

Campbell Avenue between Division Street and Grand Street is a one-way northbound road with two through lanes. From Grand Street to Sunshine Street, Campbell Avenue is a two-way road with two northbound through lanes and one southbound through lane. From Sunshine Street to Republic Road, Campbell Avenue is a five-lane roadway with a two-way left-turn center lane. From Division Street to Republic Road, Campbell Avenue has little to no access control and is maintained by the City of Springfield. South of Republic Road Campbell Avenue becomes U.S. 160 and is maintained by MoDOT. U.S. 160 is a four-lane expressway section with grass medians from James River Freeway to Route 14 in the City of Nixa. South of Route 14, U.S. 160 becomes a two-lane highway. The Campbell Avenue/U.S. 160 Corridor is shown in **Figure 3.4**.

3.4.2 Land Use

The Campbell Avenue corridor begins at Division Street in north central Springfield and continues south through downtown and the city. The northern section, which is a two-lane, one-way roadway from Division Street to Grand Street, is characterized by intensive urban land uses including portions of the central business district and traditional residential land uses. South of downtown the Campbell Avenue corridor is characterized by residential neighborhoods. Near the intersection of Campbell Avenue and Sunshine Street is a major commercial center where the Bass Pro Shop headquarters is located. Intensive, strip commercial land uses characterize the corridor south of Sunshine Street to James River Freeway. South of James River Freeway Campbell Avenue becomes U.S. 160, which is a major arterial roadway with limited access management. Residential and commercial development is rapidly occurring along this section of the corridor, which serves as the primary transportation corridor between Nixa and Springfield.

3.4.3 Existing Traffic Volumes

Traffic Volumes
Traffic volume information was obtained from multiple sources and reports. Generally, average daily traffic (ADT) volumes, and in some instances, AM and/or PM peak hour volumes were available for different sections of the corridor. It should be noted that traffic volumes shown were collected in different years. Analyzing all the data provides an overall picture of the corridor's traffic volumes. In the year 2005, traffic volumes along the corridor generally ranged from 25,000 ADT toward the southern end of the corridor to a maximum of approximately 44,000 ADT near U.S. 60. **Table 3.5** shows the existing traffic volumes for the corridor. The complete list of traffic counts is included in the appendix.

Crash History
Three years of crash data were examined. This analysis found that the collision rate per 100 million vehicle miles traveled was highest throughout the northern section of the corridor. Sections of Campbell Avenue and U.S. 160 should be reviewed in detail by MoDOT and monitored for future capital construction and potential safety projects in the area. Table 3.6 shows the crash history for the corridor

Table 3.3 Kansas Expressway Existing Traffic Volumes

Kansas Expressway		2000	2001	2003	2004	2005
From	To					
Norton Road	Westbound I-44 Ramps	27,980		28,899	29,477	30,067
Westbound I-44 Ramps	Eastbound I-44 Ramps	19,880		28,975	29,555	30,146
Eastbound I-44 Ramps	Evergreen	27,980	30,161	28,439	29,008	29,588
Evergreen	Kearney Street	28,821	27,731	27,694	28,248	30,111
Kearney Street	High Street	33,005		29,645	30,209	29,946
High Street	Atlantic			30,948	31,648	32,281
Atlantic	Division Street	32,790	30,528	34,935	33,169	33,832
Division Street	Nichols	31,822		33,589	32,569	32,601
Nichols	Chestnut Expressway	24,855		33,017	33,677	34,351
Chestnut Expressway	College Street	32,790		33,711	33,080	33,742
College Street	Walnut Street	34,801		35,383	36,091	36,813
Walnut Street	Mt Vernon Street	34,688		35,314	36,020	35,760
Mt Vernon Street	Grand Street	33,082	36,232	32,730	33,385	34,053
Grand Street	Bennett	35,417		37,350	38,097	36,844
Bennett	Sunshine	31,695	33,485	38,001	36,731	36,959
Sunshine	Sunset	32,189		29,817	30,803	31,419
Sunset	Battlefield Road			29,425	31,479	30,713
Battlefield Road	Walnut Lawn	32,927	25,586	25,971	28,990	27,097
Walnut Lawn	Chesterfield Boulevard	24,855		25,601	27,750	28,305
Chesterfield Boulevard	Westbound Hwy 60 Ramps	25,616		28,521	29,647	30,086
Westbound Hwy 60 Ramps	Eastbound Hwy 60 Ramps	19,302	30,161	24,495	24,985	25,485
Eastbound Hwy 60 Ramps	Republic Road	13,883	33,712	18,481	18,851	19,228

Table 3.4 Kansas Expressway Crash History

Kansas Expressway		2002 Traffic Crashes	2003 Traffic Crashes	2004 Traffic Crashes	3 year Average	Segment Length (Miles)	2002 Crash Rate	2003 Crash Rate	2004 Crash Rate
From	To								
Norton Road	Westbound I-44 Ramps	4	9	1	5	0.14	-	-	0.7
Westbound I-44 Ramps	Eastbound I-44 Ramps	4	0	2	2	0.10	-	-	1.9
Eastbound I-44 Ramps	Evergreen	6	7	7	7	0.06	-	-	11.0
Evergreen	Kearney Street	41	43	50	45	0.54	7.3	-	9.0
Kearney Street	High Street	6	11	6	8	0.25	-	4.1	2.2
High Street	Atlantic	4	2	5	4	0.25	-	0.7	1.7
Atlantic	Division Street	17	13	20	17	0.50	-	2.0	3.3
Division Street	Nichols	0	3	4	2	0.50	-	0.5	0.7
Nichols	Chestnut Expressway	4	3	5	4	0.33	-	-	1.2
Chestnut Expressway	College Street	3	3	4	3	0.40	-	0.6	0.8
College Street	Walnut Street	4	4	5	4	0.08	-	-	4.7
Walnut Street	Mt Vernon Street	4	1	3	3	0.21	-	-	1.1
Mt Vernon Street	Grand Street	5	10	6	7	0.56	-	-	0.9
Grand Street	Bennett	23	7	12	14	0.50	-	-	1.7
Bennett	Sunshine	4	13	16	11	0.50	-	1.9	2.4
Sunshine	Sunset	13	16	9	13	1.10	-	1.3	0.7
Sunset	Battlefield Road	0	4	3	2	0.47	-	0.8	0.6
Battlefield Road	Walnut Lawn	3	2	1	2	0.53	-	0.4	0.1
Walnut Lawn	Chesterfield Boulevard	2	4	5	4	0.48	-	0.9	1.0
Chesterfield Boulevard	Westbound Hwy 60 Ramps	3	1	5	3	0.19	-	0.5	2.4
Westbound Hwy 60 Ramps	Eastbound Hwy 60 Ramps	0	0	0	0	0.11	-	-	0.0
Eastbound Hwy 60 Ramps	Republic Road	0	0	2	1	0.23	-	-	1.3

Figure 3.4 Campbell Avenue/ U.S. 160 Corridor

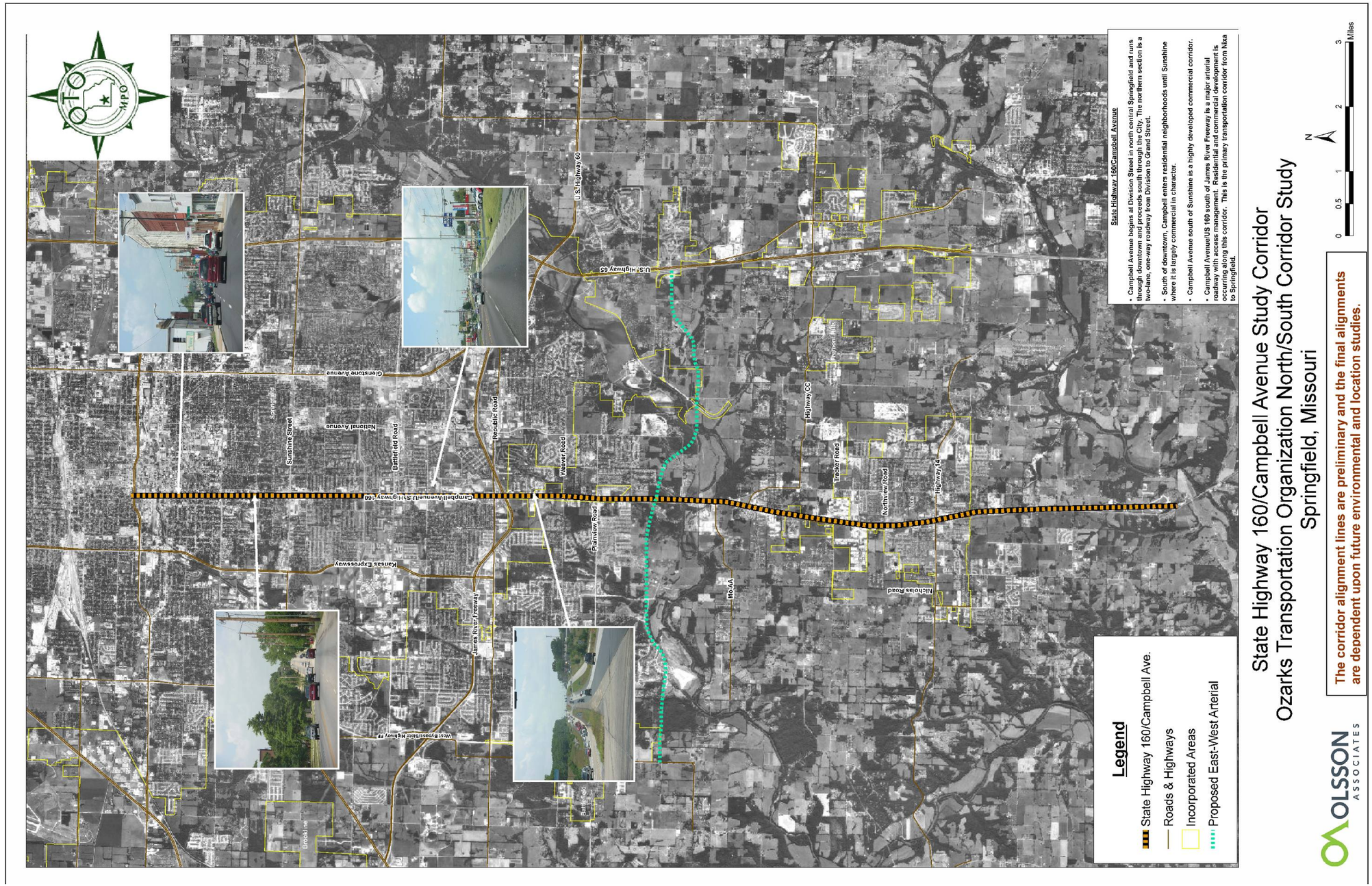


Table 3.5 Campbell Avenue/U.S. 160 Existing Traffic Volumes

Campbell Avenue/ Highway 160		2001	2003	2004	2005
From	To				
Battlefield	Walnut Lawn	38,011	40,761	41,576	37,900
Walnut Lawn	Primrose	40,522	33,175	33,838	41,323
Primrose	Republic Road	37,455	42,192	37,585	42,959
Republic Road	Westbound Hwy 60 Ramps	35,743	36,604	37,336	38,083
Westbound Hwy 60 Ramps	Eastbound Hwy 60 Ramps	39,381	39,395	40,183	40,987
Eastbound Hwy 60 Ramps	El Camino Alto	38,313	37,694	38,448	39,217
El Camino Alto	Lakewood	38,313	39,494	40,284	44,438
Lakewood	Weaver	37,862	36,269	36,994	39,663
Weaver	Plainview	35,291	35,624	36,336	38,198
Plainview	Missouri State Highway AA	32,759	33,267	33,932	34,878
Missouri State Highway AA	Missouri State Highway CC		33,734	27,164	33,721
Missouri State Highway CC	Tracker		22,879	23,337	23,804
Tracker	Aldersgate		24,780	25,276	25,782
Aldersgate	Northview		24,198	24,682	25,176
Northview	Wasson		24,062	24,543	25,034
Wasson	State Highway 14		24,296	24,782	25,278

3.4.4 Existing Environmental Conditions

Correspondence from agencies and comments from the public indicated that there are key environmental areas of concern for the Campbell Avenue/U.S. 160 corridor.

This corridor crosses five floodplains including the James River, Ward Branch, South Creek, Wilson Creek, and Fassnight Creek. Floodplain impacts within the corridor could result from the placement of fill material for road section on grade or by the placement of bridge piers and associated fill for elevated sections. The existing roadway is near Riverdale Church, as well as Mann School, Kickapoo School, Holland School, Portland School, Sunshine School, Jarrett School, McGregor School, Saint Agnes School, and Bailey School. These churches and schools, as well as existing neighborhoods, could experience noise impacts if the existing roadway was modified.

Changes to the roadway would require a Section 404 permit for impacts to unnamed tributaries to Finley Creek, the James River, Ward Branch, South Creek, and Fassnight Creek, as well as wetlands on the National Wetland Inventory. Additionally, water quality concerns exist for this corridor because the James River is listed as a 303(d) Impaired Water for mercury levels exceeding the Total Maximum Daily Load limits.

Roadway widening within the corridor could result in the relocation or partial acquisition of businesses and residences located along Campbell Avenue/U.S. 160. Existing land use indicates that there are more than 240 businesses and 320 residences located along the existing corridor. There are no known historic resources identified within the corridor, but there could be archaeological sites. Cemeteries, although not historic, are also near the project corridor and include Maple Park Cemetery and James Cemetery. The region has numerous areas of karst topography, including sink holes and caves. Threatened and endangered species concerns within the corridor include Indiana Bat, Gray Bat, Missouri bladderpod, and the Ozark cavefish which may be using riparian corridor along streams and local caves.

Table 3.6 Campbell Avenue/U.S.160 Crash History

Campbell Avenue/ Highway 160		2002 Traffic Crashes	2003 Traffic Crashes	2004 Traffic Crashes	3 year Average	Segment Length (Miles)	2002 Crash Rate	2003 Crash Rate	2004 Crash Rate
From	To								
Battlefield	Walnut Lawn	41	60	53	51	0.50	-	-	7.0
Walnut Lawn	Primrose	47	36	58	47	0.55	-	-	8.5
Primrose	Republic Road	29	38	39	35	0.46	3.9	5.4	6.2
Republic Road	Westbound Hwy 60 Ramps	9	8	9	9	0.07	-	-	9.4
Westbound Hwy 60 Ramps	Eastbound Hwy 60 Ramps	2	5	0	2	0.10	-	-	0.0
Eastbound Hwy 60 Ramps	El Camino Alto	4	3	2	3	0.13	-	-	1.1
El Camino Alto	Lakewood	11	9	13	11	0.37	-	-	2.4
Lakewood	Weaver	7	4	7	6	0.32	-	-	1.6
Weaver	Plainview	3	7	3	4	0.50	-	-	0.5
Plainview	Missouri State Highway AA					1.76	-	-	0.0
Missouri State Highway AA	Missouri State Highway CC					0.50	-	0.0	0.0
Missouri State Highway CC	Tracker			7		1.27	-	-	0.6
Tracker	Aldersgate			7		0.38	-	-	2.0
Aldersgate	Northview			8		0.39	-	-	2.3
Northview	Wasson			6		0.50	-	-	1.3
Wasson	State Highway 14			15		0.25	-	-	6.6

3.5 National Avenue

3.5.1 Corridor Description

This route is maintained as Farm Road 163 by Greene County and as National Avenue in the City of Springfield. National Avenue begins as Farm Road 163 at the intersection of Farm Road 102, or Valley Water Mill Road, in Greene County. The road is a two-lane rural roadway from Farm Road 102 to Kearney Street.

National Avenue transitions from two to five lanes between Kearney Street and Chestnut Expressway. At Chestnut Expressway, National Avenue becomes a five-lane section with tightly spaced signals south to the intersection of Sunset Avenue. At Sunset Avenue, National Avenue becomes a raised median-controlled access facility to Weaver Road. At Weaver Road, National Avenue exits the city limits of Springfield and transitions to Greene County Farm Road 163, where it is a five-lane section to the intersection of Gaslight Road. At Gaslight Road, the route transitions from five lanes to a new three-lane roadway to its terminus at Farm Road 192.

3.5.2 Land Use

The National Avenue corridor from I-44 to Chestnut Expressway is primarily residential in character with the Ozarks Technical Community College (OTC) located on the northwest corner of National Avenue and Chestnut Expressway. From Chestnut Expressway to Cherry Street, National Avenue is a mixed-use commercial and industrial corridor with several access points. From Cherry Street to Grand Street the National Avenue corridor contains Missouri State University (MSU) on the west and residential land use on the east. From Grand Street to Battlefield Road, National Avenue is an established residential corridor with driveway access directly onto the roadway. St. John's Hospital is located on the southeast corner of National Avenue and Sunshine Street. National Avenue transitions to an established commercial corridor from Battlefield Road to Republic Road and is characterized by medical facilities including Cox Hospital and many other medical offices near National Avenue and Primrose Street. South of Republic Road, National Avenue becomes less developed with a transition from office/commercial land uses into residential land uses.

Figure 3.5 National Avenue Corridor

3.5.3 Existing Traffic Volumes

Traffic Volumes
Traffic volume information was obtained from multiple sources and reports. Generally, average daily traffic (ADT) volumes, and in some instances, AM and/or PM peak hour volumes were available for different sections of the corridor. It should be noted that traffic volumes shown were collected in different years. Analyzing all the data provides an overall picture of the corridor's traffic volumes. **Table 3.7** shows the existing traffic volumes for the corridor. The complete list of traffic counts is included in the appendix.

In the year 2005, traffic volumes along the corridor generally ranged from 10,000 ADT to a maximum of approximately 40,000 ADT. Traffic volumes were lower on the north and south ends of the corridor and highest in the middle near Sunshine Street. The complete list of traffic counts is included in the appendix.

Crash History
Three years of crash data were examined. This review process found that the collision rate per 100 million vehicle miles traveled was highest from Montclair Street to Republic Road along the National Avenue Corridor. This is likely due to intersection crashes resulting from poor access control and signal spacing in the area, coupled with high traffic demands generated by the surrounding commercial land use in the area. Sections of National Avenue should be reviewed in detail by the City of Springfield and monitored for future capital construction and potential safety projects in the area. **Table 3.8** shows crash history for the corridor.

Table 3.7 National Avenue Existing Traffic Volumes

National Avenue		2000	2001	2003	2004	2005
From	To					
Norton	Kearney	9,636	9,385	10,735	10,950	9,877
Kearney	Dale			16,234	16,568	16,899
Dale	Commercial		19,518	19,059	19,440	19,829
Commercial	Division		18,170	19,075	19,456	19,845
Division	Central		20,234	21,051	21,472	21,902
Central	Chestnut Expressway	21,985	20,915	23,079	23,541	22,639
Chestnut Expressway	Trafficway	27,337	25,451	25,468	25,977	26,497
Trafficway	St Louis		28,923	30,091	30,693	31,307
St Louis	Walnut	32,759	27,041	27,041	29,995	30,595
Walnut	Elm		32,281	30,350	30,957	31,576
Elm	Cherry		31,856	32,868	33,683	30,528
Cherry	Grand	34,838	34,505	34,810	34,669	34,933
Grand	Bennett		34,945	34,845	35,700	35,515
Bennett	Sunshine	30,313	35,236	37,912	35,883	36,601
Sunshine	Cherokee		35,725	38,714	36,566	37,297
Cherokee	Seminole		30,961	32,376	33,024	33,684
Seminole	Sunset			32,855	34,685	35,379
Sunset	Woodland			33,224	33,888	34,566
Woodland	Battlefield	29,331		31,931	34,353	35,040
Battlefield	Montclair	30,193		34,364	34,891	35,589
Montclair	Walnut Lawn			35,784	34,316	35,002
Walnut Lawn	Primrose			33,715	35,597	36,309
Primrose	Westbound Highway 60 Ramps	36,164	39,108	39,239	40,024	39,801
Westbound Highway 60 Ramps	Eastbound Highway 60 Ramps		28,578	29,733	30,327	30,934
Eastbound Highway 60 Ramps	Republic Road		24,426	19,431	25,921	26,439
Republic Road	Weaver Road			14,892	15,190	15,494

3.5.4 Existing Environmental Conditions

Correspondence from agencies and comments from the public indicated that there are key environmental areas of concern for the National Avenue corridor.

This corridor crosses six floodplains including the James River, an unnamed tributary to Finley Creek, Ward Branch, South Creek, Wilson Creek, and Fassnight Creek. Floodplain impacts within the proposed corridor could result from the placement of fill material for road section on grade or by the placement of bridge piers and associated fill for elevated sections. The existing alignment does not pass within the proximity of any churches, but is close to Kickapoo School, Cowden School, Delaware School, Phelps School, Teft School, Drury University, OTC, MSU, Boyd School, Robberson School, and Freemont School. These schools, as well as nearby neighborhoods, could experience noise impacts if the roadway were to be modified.

Changes to the roadway could require a Section 404 permit for impacts to an unnamed tributary to Finley Creek, the James River and associated unnamed tributaries, Ward Branch, South Creek, Wilson Creek, Fassnight Creek, and unnamed tributaries to Pea Ridge Creek, as well as wetlands on the National Wetland Inventory. In addition, water quality concerns exist for this corridor because the James River is listed as a 303(d) Impaired Water for mercury levels exceeding the Total Maximum Daily Load limits.

Table 3.8 National Avenue Crash History

National Avenue		2002 Traffic Crashes	2003 Traffic Crashes	2004 Traffic Crashes	3 year Average	Segment Length (Miles)	2002 Crash Rate	2003 Crash Rate	2004 Crash Rate
From	To								
Norton	Kearney	9	3	10	7	0.75	-	-	3.3
Kearney	Dale	6	2	7	5	0.38	2.7	0.9	3.0
Dale	Commercial	0	4	2	2	0.32	-	-	-
Commercial	Division	2	1	6	3	0.31	-	-	2.7
Division	Central	3	9	4	5	0.60	-	-	-
Central	Chestnut Expressway	4	5	4	4	0.16	-	-	2.9
Chestnut Expressway	Trafficway	17	22	13	17	0.29	-	-	-
Trafficway	St Louis	0	2	0	1	0.07	-	-	-
St Louis	Walnut	13	16	8	12	0.20	-	8.1	-
Walnut	Elm	7	3	2	4	0.10	-	-	-
Elm	Cherry	10	2	5	6	0.10	-	1.7	4.1
Cherry	Grand	11	14	17	14	0.50	-	2.2	2.7
Grand	Bennett	10	6	9	8	0.51	-	0.9	1.4
Bennett	Sunshine	12	14	7	11	0.50	-	2.0	-
Sunshine	Cherokee	24	17	15	19	0.25	-	4.8	-
Cherokee	Seminole	8	5	4	6	0.25	-	1.7	-
Seminole	Sunset	13	12	21	15	0.50	-	2.0	-
Sunset	Woodland	2	3	2	2	0.25	-	1.0	-
Woodland	Battlefield	10	9	11	10	0.30	-	2.6	-
Battlefield	Montclair	1	12	11	8	0.13	-	7.4	-
Montclair	Walnut Lawn	18	12	11	14	0.34	-	2.7	-
Walnut Lawn	Primrose	8	13	14	12	0.40	-	2.6	-
Primrose	Westbound Highway 60 Ramps	9	9	12	10	0.28	2.3	2.2	-
Westbound Highway 60 Ramps	Eastbound Highway 60 Ramps	0	1	2	1	0.10	-	-	-
Eastbound Highway 60 Ramps	Republic Road	1	1	3	2	0.22	-	0.6	-
Republic Road	Weaver Road	2	4	5	4	1.07	-	0.7	-

Changes to the roadway could result in the relocation or partial acquisition of businesses and residences located along National Avenue. Existing land use indicates that there are more than 110 businesses and 600 residences located along the existing corridor. There are no known historic resources identified within the corridor, but there could be archaeological sites. Cemeteries, although not historic, are also near the project corridor and include Nokes Cemetery, Temple Israel Cemetery, and Hazelwood Cemetery. The City of Springfield has numerous areas where karsts topography occurs, including sink holes and caves. Threatened and endangered species within the corridor include Indiana Bat, Gray Bat, Missouri bladderpod, and the Ozark cavefish, which may be using riparian corridor along streams and local caves.

3.6 Traffic Flow Conditions for the Corridors

The daily traffic volumes for each of the four corridors were compared with estimates of daily traffic volume capacity in order to approximate peak hour travel conditions. While traffic flow on arterials is directly dictated by intersection operation, this planning level analysis was used to illustrate the general severity of peak hour traffic congestion on the major north-south corridor. The capacity definitions are listed in the appendix. Locations where traffic flow is often congested or nearing congested levels are illustrated in **Figure 3.6**.

3.7 Non-Vehicular Transportation

This section examines the framework of non-vehicular or non-auto transportation facilities in the study area and the potential interactions between such facilities and the corridors under consideration. *Journey 2030: Ozarks Transportation Organization Long Range Transportation Plan* provides an extensive and detailed review of these facilities. This section uses that analysis as a starting point for analyzing the existing conditions.

3.7.1 Airport

The Springfield-Branson National Airport is the main air facility in southwest Missouri and is the air link to the national air transportation system and international markets. It is located in the northwest portion of the City of Springfield in the central part of Greene County. The West Bypass corridor is the closest to the Springfield-Branson National Airport. The Springfield-Branson National Airport is owned by the City of Springfield and operated by an administrative board of the City, the Springfield-Branson National Airport Board. The City of Springfield and Greene County also have a private aircraft airport, the Downtown Airport, which is located near East Division Street. This facility, along with the general aviation facility at the Springfield-Branson National Airport, serves the charter and private aircraft needs for the community. Both facilities have easy access to the roadway network in the study area and, as a result, create multi-modal impact nodes on the transportation network.

New technologies and “just in time sourcing” suggest that the airport will have an increased role in the regional and national movement of goods. The airport is a “Top 100” Air Cargo airport. As airport overcrowding and congestion increase at many of the country’s major airports, opportunities for economic development at sites, such as the Springfield-Branson National Airport, should increase.

The Springfield-Branson National Airport currently provides important passenger and cargo service to the area. In 2003, there were 888,738 enplanements and deplanements. Airport officials project a 3 percent annual increase in enplanements and deplanements through 2016. In response to this anticipated increase over the next 10 years, the Springfield-Branson National Airport has begun constructing a new terminal. The new terminal will initially provide 12 gates, with the capacity to expand to 16. This expansion is said to be a selling point for the airport and the region.

The Springfield-Branson National Airport was recognized as a major community asset by *Vision 20/20*. The airport should be supported, enhanced, and protected from incompatible future development.

3.7.2 Transit and Paratransit

City Utilities is responsible for providing fixed route and paratransit public transit service to the City of Springfield. Fixed route transit service is an integral mode of transportation for citizens in the Springfield area. Public transit serves as an alternative for persons without access to other transportation modes. It also meets the needs of persons unable to use, own, or operate an automobile. This includes low-income individuals, the elderly, disabled persons, students, and other under-served populations. The fixed-route service affects the City of Springfield’s transportation system by providing trips that would otherwise require an automobile. The current City Utilities fixed-route system consists of 14 fixed bus routes operating weekdays with limited weekend, holiday, and night service. All of the corridors contain portions of fixed routes or the location of fixed-route stops. Passengers have the opportunity to transfer from one route to another at the Park Central Transfer Facility. The system operates on a timed transfer “pulse” basis with most buses arriving and departing the Transfer Facility at the same time. City Utilities also operates “Access Express,” a complementary paratransit service. According to the Americans with Disabilities Act (ADA), Access Express must provide service at a level consistent and equal to fixed-route operations. **Figure 3.7** illustrates the locations of fixed-route service on the corridors considered in this study.

Missouri State University (MSU) provides a campus shuttle service with its main hub being the Park and Ride Intermodal Facility on Elm Street. An additional Intermodal Facility was recently completed on Grand Street. The MSU service connects buildings throughout the campus and connects the campus to various locations in Springfield’s Center City. This service is designed principally for MSU Downtown Campus students, faculty, and employees, while the shuttle service is available to the community free of charge when traveling between MSU sites for community events occurring in MSU facilities. **Figure 3.8** shows the MSU shuttle system routes and how these routes connect to various facilities. The MSU routes do not impact the corridors in this study.

Transit service outside the City of Springfield is provided by OATS, Inc. The mission of OATS, Inc. is to "provide reliable transportation for transportation disadvantaged Missourians so they can live independently in their own communities." This paratransit service is provided to customers based upon reservations. OATS, Inc serves both Christian and Greene Counties.

Figure 3.6 Existing Congestion for the Four Corridors

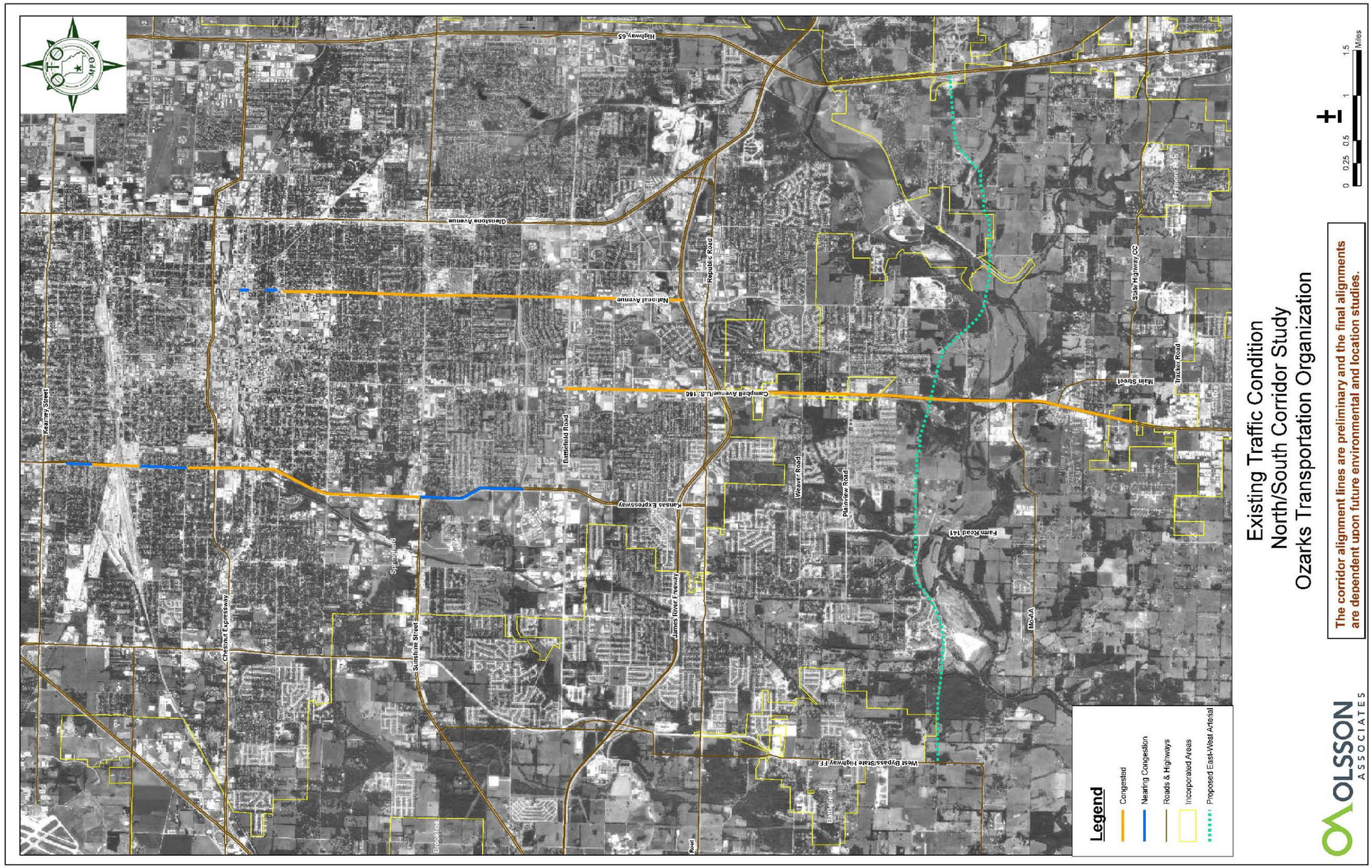
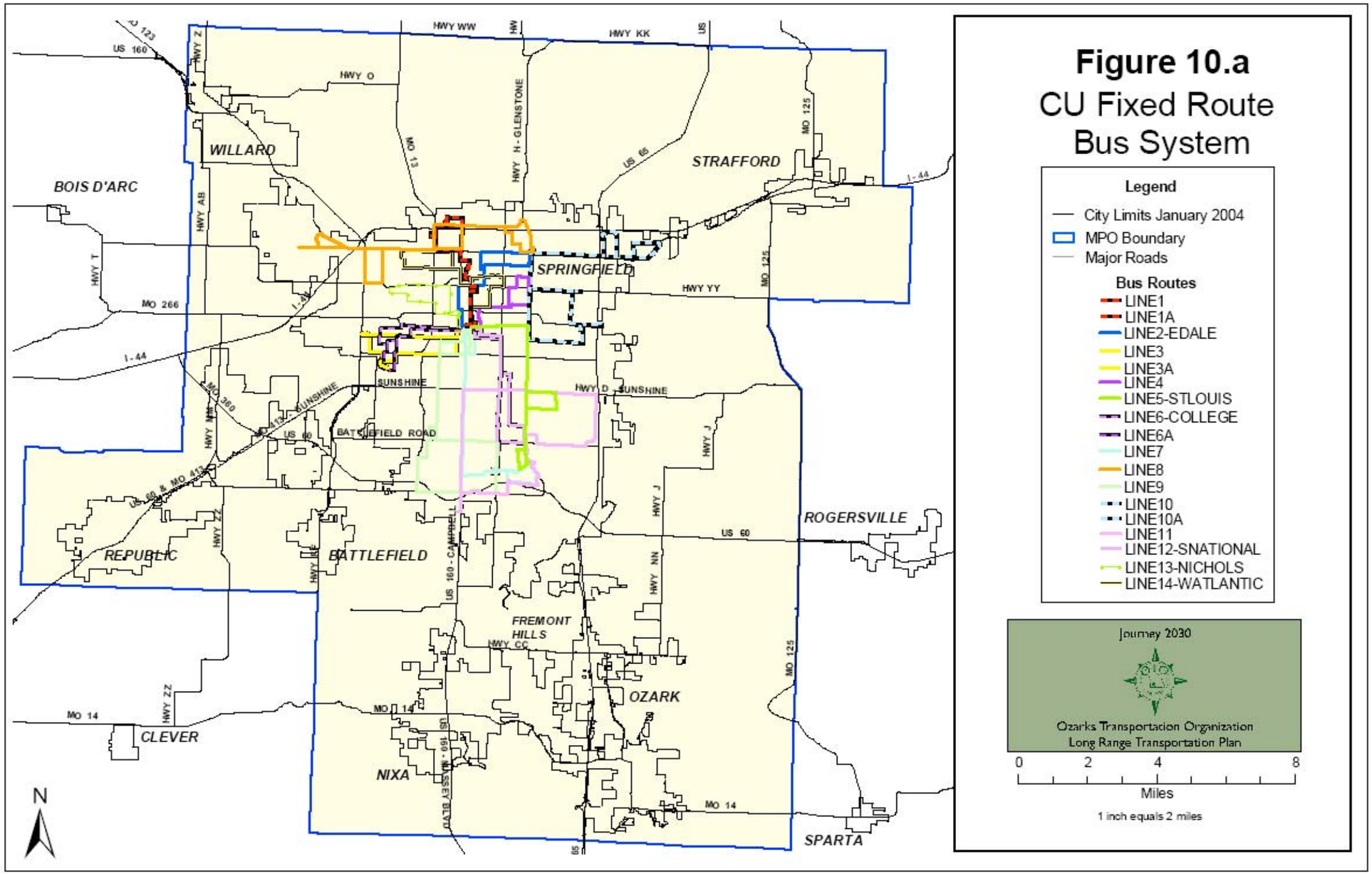
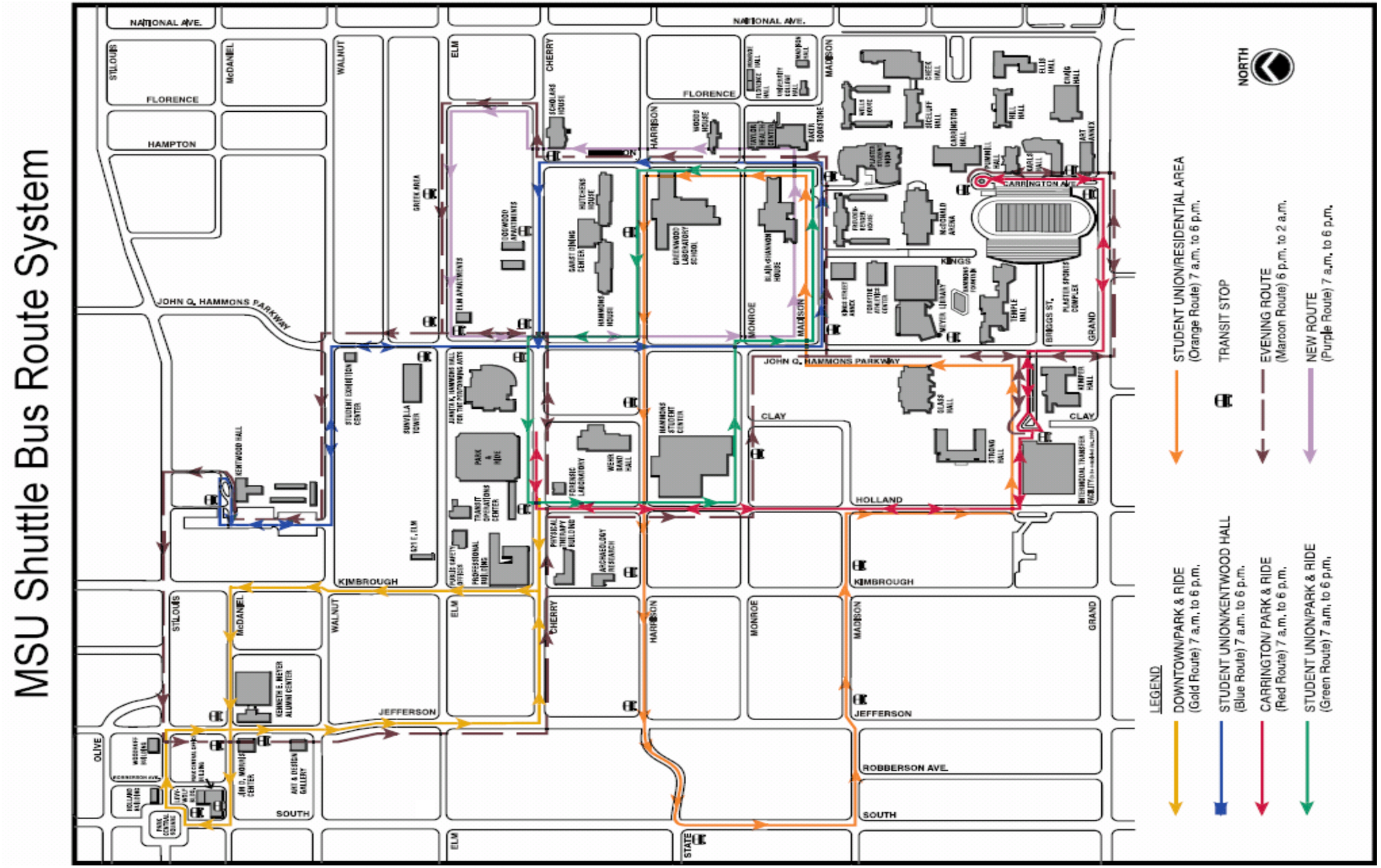


Figure 3.7 CU Fixed Route Bus System



Source: www.ozarkstransportation.org/Documents/LRTPoptimized.p

Figure 3.8 MSU Shuttle Bus Route System



Source: www.ozarkstransportation.org/Documents/LRTPoptimized.pdf

3.7.3 Bicycle and Pedestrian

Bicycle
The Comprehensive OTO Area Bicycle-Pedestrian Plan recognizes existing needs, challenges and conditions of the bicycle and pedestrian transportation system in the metropolitan area, while planning for future needs and opportunities. This plan is a policy guide for the OTO members and their citizens, administrators, boards, and elected officials. The plan is intended to assist in day-to-day decision-making on issues concerning development and future growth. In general, the purpose of the Comprehensive OTO Area Bicycle-Pedestrian Plan is to provide OTO members with a document identifying planning, legal, and management techniques. These techniques will promote the optimum use of natural and manmade assets and assure the best possible bicycle and pedestrian transportation system for all citizens at the least social and economic cost.

The OTO planning area is defined as the area that is anticipated to become urbanized over the next 20 years. This urbanized area contains cities in both Greene and Christian counties. The cities that will be influenced by the OTO Area Bicycle-Pedestrian Plan include Willard, Stafford, Springfield, Nixa, Ozark, Battlefield, and Republic.

The main purpose of the plan is to identify both off-street (trail) and on-street routes throughout the area. These established routes are to be viewed as the transportation network for bicyclists and pedestrians so they make up the visual portion of the plan. **Figure 3.9** depicts on-street connections, greenway trails, and other off-street facilities. These facilities interconnect with all the corridors under consideration in this study, in the form of crossings, on-street facilities, and sidewalks. The inventory indicates a fairly dense network of on-street bicycle routes in the City of Springfield and a number of off-street trails primarily in undeveloped areas. North-south bicycle routes are limited in the study area south of the James River Freeway. Trail connections are provided north of I-44 to Willard.

Pedestrian
One of the goals established through the *Vision 20/20* comprehensive planning process is to develop a safe, high-quality, continuous, barrier-free pedestrian system that functions as an integral part of the Springfield-Greene County transportation system. Pedestrian facilities are categorized by user characteristics rather than facility type. Pedestrian facilities need to be treated as a part of the transportation system that provides connections between schools, residences, recreation, shopping, and employment. The pedestrian system is also necessary for providing connectivity to the transit system and parking areas. Pedestrian improvements, like all transportation decisions, need to be prioritized. Conceivably, the most important users of the pedestrian system are school-age children. Therefore, the most critical sidewalk and pedestrian system improvements are those deficiencies around schools, parks and recreation areas and their neighborhood connections. Another priority would be providing pedestrian connections in high employment areas. Sidewalks are provided on many north-south corridors within the City of Springfield, and the trail connections are provided in some locations in rural areas. Pedestrian connections are more limited on north-south routes south of the James River Freeway. A sidewalk across the James River Freeway is provided at National Avenue, but not at other interchanges with North-South arterials.

Smart land use and growth patterns are crucial factors in determining the feasibility of walking as an alternative mode of transportation. By encouraging strategies such as mixed-use development, clustering housing near retail and employment activities, and using grid or modified grid patterned street systems that provide direct pedestrian connections, the practice of walking trips will begin to replace some vehicle trips. In addition, by keeping the built environment at a “human” scale, a more comfortable pedestrian environment is created. Smaller full spectrum lighting fixtures, stores with display windows, and slower moving traffic can contribute to creating a more pedestrian-friendly environment.

3.7.4 Railroads

When examining railroad trends in the area, it would appear that the importance of the railroad industry has lessened. However, since the merger of the Burlington Northern and Santa Fe Railway Company, train traffic through Springfield has increased. The increase in train traffic is in part because of changing federal air quality requirements, where many power plants located in the southern United States have switched to coal from Powder River Basin in Wyoming and Montana. To reach many of these plants, some of these coal trains run through the Springfield metropolitan area to haul coal to an intermodal facility in either Memphis, Tennessee, or Birmingham, Alabama, for interchange with eastern rail carriers. In addition, rail traffic in the Springfield area includes intermodal traffic moving freight from California ports to Memphis and Birmingham and back to California. The increase in coal and intermodal freight traffic has amounted to an average number of 54 trains per day moving through the Springfield metropolitan area. In addition, because of Springfield’s close proximity to major intermodal transfer facilities in Tulsa, Memphis, St. Louis, and Kansas City, rail traffic in the Springfield area is expected to continue to increase over the next 20 years.

From an economic development standpoint, approximately 850 “railroad” jobs remain in the area. Rail lines, including many in the Partnership Industrial Center and in Springfield’s Center City, serve a variety of industries throughout the area. The current Jordan Valley Park operations are used to stage and/or switch trains. The federal government has earmarked a study to research relocation of rail capacity away from the Jordan Valley Park area. Over the last decade, some abandoned railroad land has been used for Greenways trail routes in the area through participation in rails-to-trails programs. Railroads within the metropolitan area are shown in **Figure 3.10.** The figure illustrates that all of the corridors in the study are impacted by railroad facilities in the form of at-grade and grade-separated crossings. Kansas Expressway is the corridor with the highest total number of crossings.

3.8 Summary of Existing Conditions

Chapter 3 provided an inventory of the primary north-south corridors in the study area. This inventory has included an overview of land use, traffic volumes, crash data, and environmental conditions. Each issue is summarized below.

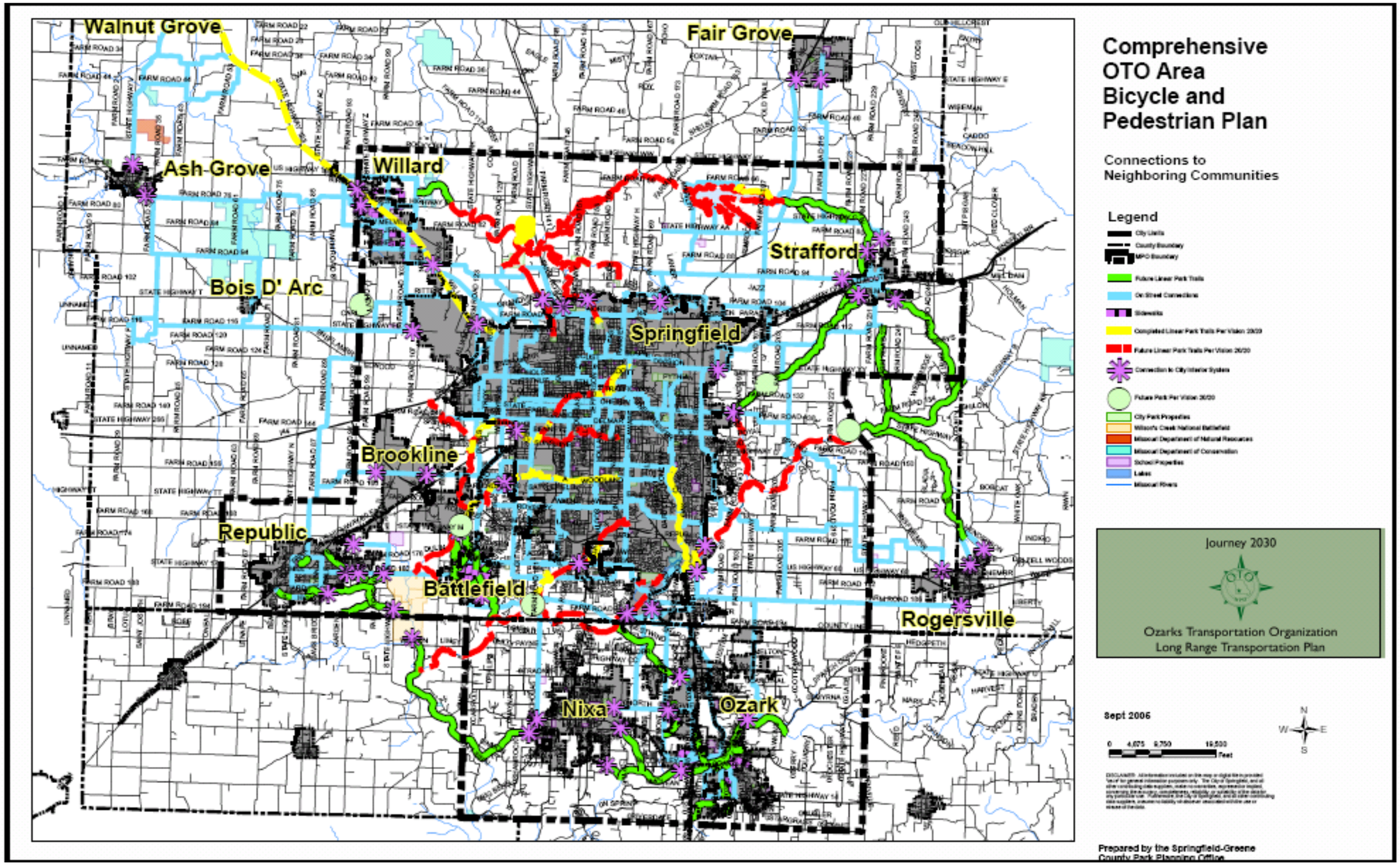
- Land Use/ Growth – The Springfield area is growing. While the growth has occurred throughout the region, a concentration of new growth is occurring south of the James River Freeway, resulting in increased traffic volumes and congestion of the existing streets and highways.

- There are locations of traffic congestion currently on north-south routes. The most congested locations are shown to be:
  - Kansas Expressway – Atlantic to Sunset
  - Campbell Avenue – Battlefield to Missouri Route CC
  - National Avenue – Trafficway to westbound Route 60 ramps

- The locations with the highest crash rates include:
  - West Bypass – Division to Chestnut
  - Kansas Expressway – Eastbound I-44 ramps to Kearney
  - Kansas Expressway – College to Walnut
  - Campbell Avenue – Battlefield to westbound U.S. 60 ramps
  - National Avenue – Battlefield to Montclair

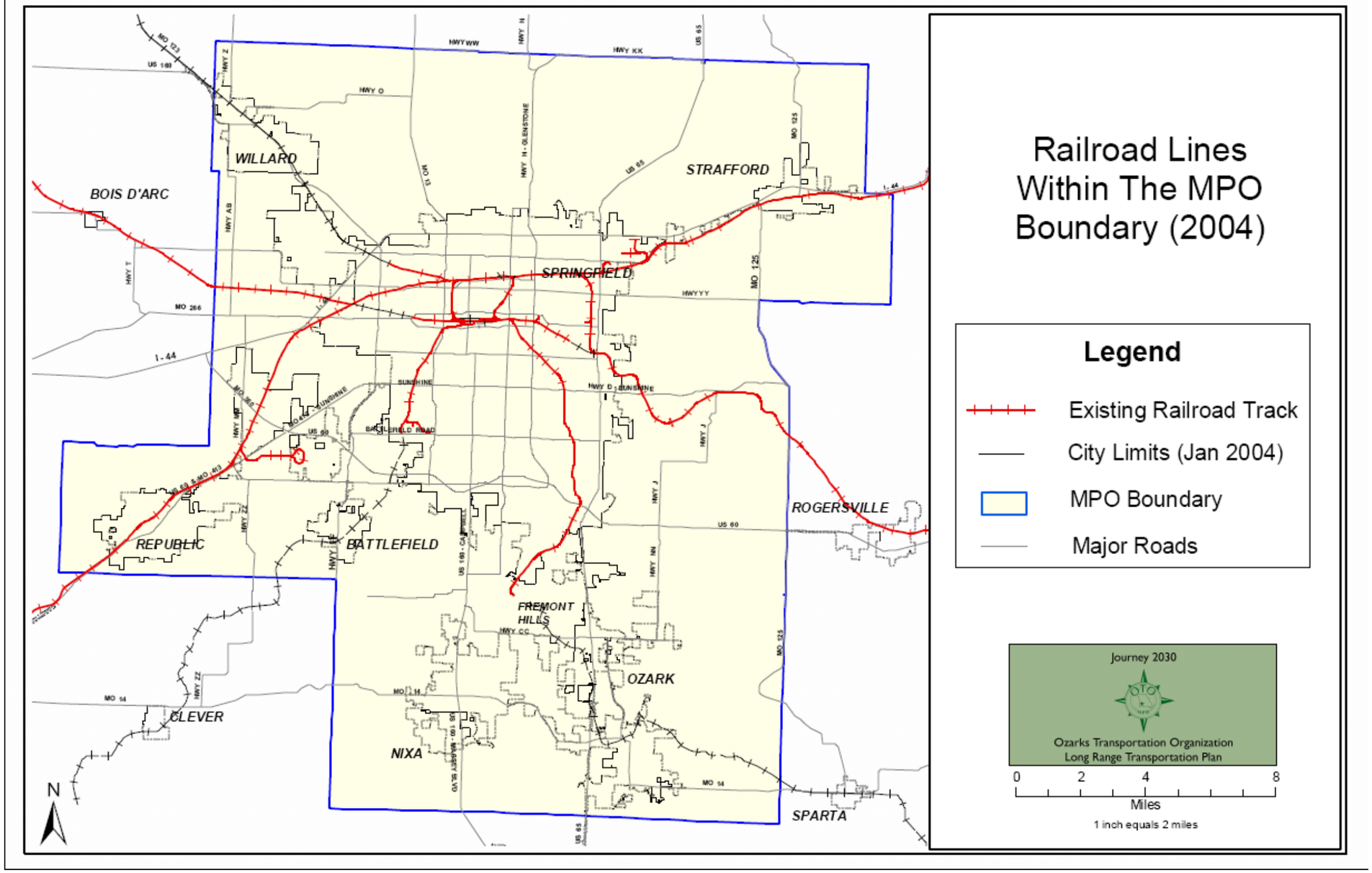
- Fixed route transit service is limited to the City of Springfield and not supported in other locations.

Figure 3.9 Bicycle and Pedestrian Plan



Source: www.ozarkstransportation.org/Documents/LRTPoptimized.pdf

Figure 3.10 Railroad Lines



Source: www.ozarkstransportation.org/Documents/LRTPoptimized.pdf

4.0 ALTERNATIVE CORRIDOR SCREENING & EVALUATION

This chapter describes the process used to examine and prioritize transportation options that would achieve the study goal to improve existing and anticipated future regional and local north-south travel, with particular emphasis on the area south of the James River Freeway. Through an inclusive process that balances a variety of viewpoints, interests, and regulatory requirements, the alternatives evaluation should also reflect community values and maintain or enhance the social, economic, environmental, and safety conditions in the area.

4.1 Anticipated Future Year Conditions

In addition to addressing existing transportation needs, this study considered strategies to respond to anticipated future population and employment growth. The OTO prepares and maintains future growth forecasts for the Springfield area. The growth forecasts were developed based upon predicted socio-economic growth between the years 2000 and 2030. The growth rates between 1990 and 2000 were extrapolated for the 2030 horizon year, and then reviewed for rationality by the OTO and Olsson/CJW staff for the included cities. Individual areas were reviewed for anticipated development potential and the likelihood of future development type. Following this review, the respective totals for metropolitan dwelling units, retail employment, and non-retail employment were determined. These socio-economic growth forecasts were then input into a transportation model to project future traffic flow.

A summary of the metropolitan area growth totals is displayed in **Table 4.1**.

Table 4.1 Comparison of Socioeconomic Data

Variable	2000	2030	% Growth
Population	257,743	501,726	95 %
Households	104,422	205,837	97 %
Retail Employment	22,544	48,997	117 %
Other Employment	137,663	290,043	111 %
Total Employment	160,207	339,040	112 %

Year 2030 traffic projections were prepared using a travel demand model that has been developed for use by the OTO. These models use the socio-economic forecasts to predict number of trips and the routes used for these trips. The model represents roadway network attributes, which are attached to links and nodes that represent roads and intersections, or other major changes in geometry. After processing the socioeconomic data and network information, the travel demand model produces traffic volume forecasts on the roadway network.

No Build Alternative
The No Build Alternative represents conditions that would exist in the future if no new transportation projects are constructed or implemented. The No Build Alternative includes the existing streets and lane widths, as well as projects that are currently programmed, funded and planned to begin construction within the next five years. From the volume forecasts, roadways can be identified where high traffic volumes result in traffic congestion and travel delay. The year 2030 forecast results show that with the existing plus committed roadway network, regional growth -- particularly growth in the southern portion of the region -- will lead to congested roadway conditions on the north–south corridors. The congested roadways are identified in **Figure 4.1**.

Projected growth in the area south of the James River Freeway results in higher traffic volumes and slower travel times. Both the existing conditions analysis and the future analysis indicate limitations with the connectivity of areas south of the James River with the rest of the metropolitan area. Given the assumptions of future growth developed by the OTO and used in the Long Range Transportation Plan, the traffic model shows, for the forecast year of 2030, that the travel demand on north-south roadways at the James River would increase as shown in **Table 4.2** and would be approximately 70,000 trips over the available capacity. The two crossings within the study area at the James River are limited to U.S. 160 and Cox Road. Cox Road is a two-lane secondary arterial. This level of demand does not include volumes on U.S. 65, which is also forecast to experience traffic congestion. Thus, additional transportation strategies are needed within the four corridors under study, even if U.S. 65 is widened.

Table 4.2 Comparison Future No Build with Current Conditions (South of James River Freeway)

Variable	2000	2030	% Growth
Volumes at James River	37,470	112,800	248%
Roadway Capacity at James River	37,200	37,200	0%
Peak Travel Time (minutes) between Republic Road and Route 14 (6.6 miles)	16.3	56.4	250%
Average Peak Speed (m.p.h.)	24.2	6.9	-71%

In the northern region of the OTO, the City of Willard is connected to the metropolitan area by U.S. 160. Traffic growth will limit mobility from Willard on U.S. 160 north of Springfield. The projected traffic increase and resulting increase in travel time on U.S. 160 between I-44 and the City of Willard is shown in **Table 4.3.** A second location of concern in the northern portion of the OTO area is in the vicinity of the interchange of Highway 13 and I-44. Highway 13 is currently being upgraded to a freeway/expressway between Springfield and Kansas City. The existing diamond interchange, frontage roads and driveways are not consistent with this type of roadway and result in congestion and safety considerations.

Faster growing suburban areas located south of the James River Freeway and north of I-44 have limited arterial networks to accommodate growing traffic volumes. For the southern area, the topography and floodway of the James River is a costly and complex constraint to adding additional roadway network.

Table 4.3 Comparison Future No Build with Current Conditions (U.S. 160 North)

Variable	2000	2030	% Growth
Volume on U.S. 160 South of Willard	14,040	24,200	72%
Roadway Capacity of U.S. 160	13,600	13,600	0%
Peak Travel Time (minutes) From Willey St. in Willard to I-44 (6.4 miles)	14.5	24.6	70 %
Average Peak Speed (m.p.h.)	26.6	15.6	-41%

There could be numerous ramifications beyond increased travel time if mobility problems are not addressed. These ramifications could include impacts on property values, limitations to residential growth, and limitations to commercial attractiveness, and further implications on tax revenues that might be collected if growth were not constrained by lack of mobility in these locations. Transportation mobility is one important factor individuals consider in locating residences or commercial developments in an area. However, there are other factors as well. It is likely that the economic trends of growth in the areas south of the James River Freeway and in Willard will continue with or without transportation mobility enhancements, but possibly at a slower rate. Improving mobility will support access to the Springfield-Branson National Airport, potentially minimize traffic growth on U.S. 65, and provide alternatives for traffic traveling through the Springfield area.

Evaluating Transportation Options

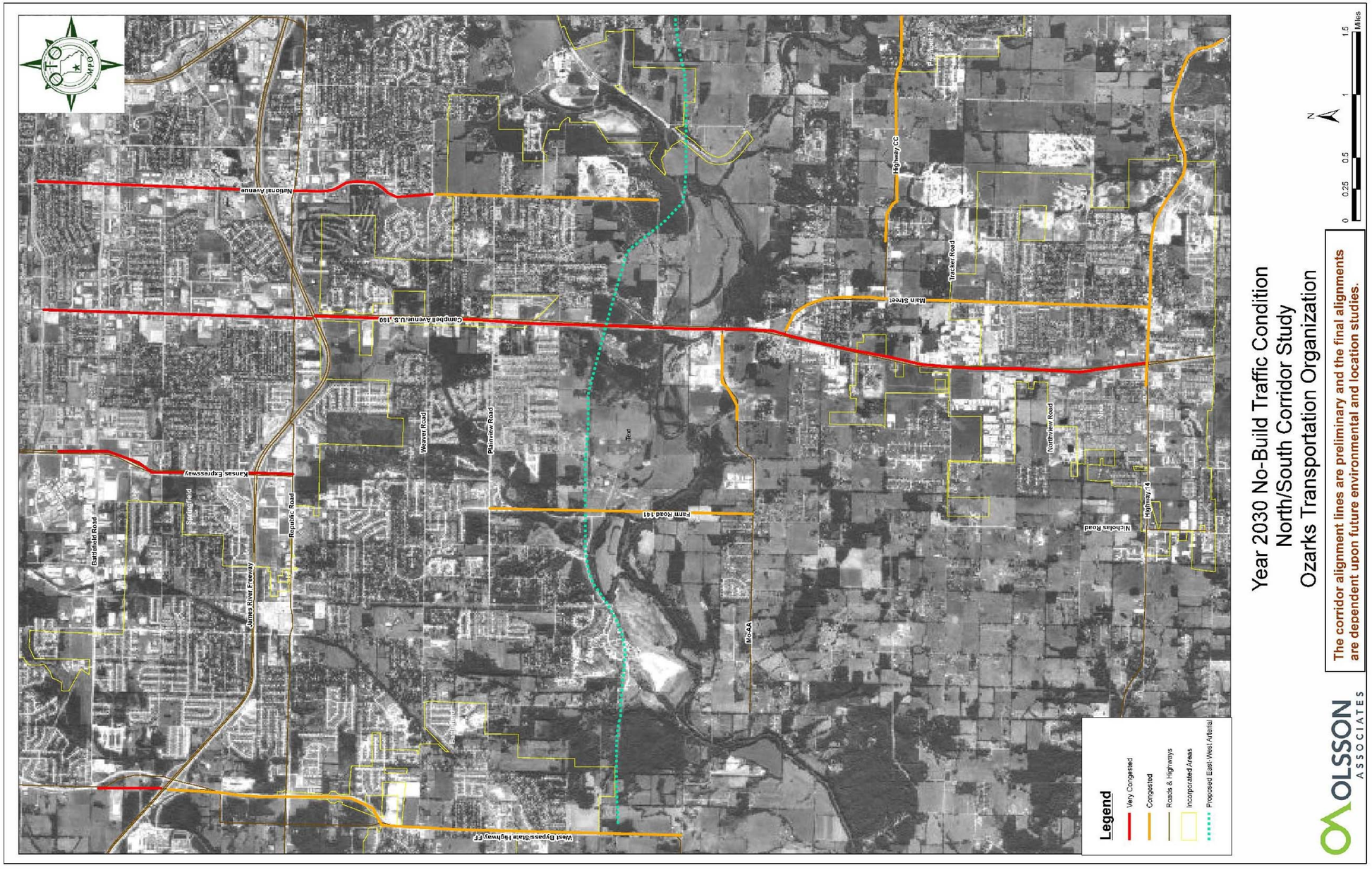
Throughout the remainder of this chapter, different transportation strategies and alternatives will be assessed that could potentially improve travel on the north–south corridors considered in this study. Following the assessment of existing conditions and baseline future conditions, the next step was to develop a process that would be used to evaluate potential transportation strategies and alternatives that would address the identified needs. The evaluation process developed for this study was based upon developing measurements of alternatives to meet study goals as described in Section 1.3 of this report. The evaluation process described was developed with the input of the project Steering Committee.

A three-phase process was used to identify transportation priorities. The process included:

1) A wide range of potential transportation strategies were examined in order to determine the alternatives that were most promising to address study goals.
2) Based on this initial screening, more defined transportation alternatives were developed and evaluated.
3) The most promising alternatives were refined in order to develop the study recommendations.

This evaluation process is described in the following sections.

Figure 4.1 Future Year No-Build Congestion



4.2 Initial Transportation Strategies

The transportation strategies investigated in this study follow the approach endorsed by the Federal Highway Administration as reflected in the OTO Congestion Management System (CMS). This approach is also consistent with the National Environmental Protection Act (NEPA) process. The CMS process includes the following steps:

1) A transportation-system-wide analysis was completed which documents the level of congestion on the north-south arterials.

2) Strategies that evaluate congestion resolution are to be investigated in priority order:

1. Eliminate person trips or vehicle miles of travel;
2. Shift trips from the auto mode to other modes;
3. Shift trips from single occupant auto to multiple occupant vehicles;
4. Improve roadway operations; and
5. Add capacity.

The following initial strategy listing reflects the CMS process and is described as stated in the Long Range Transportation Plan (LRTP).

Travel Demand Management
Travel Demand Management (TDM) strategies focus on ways to minimize the number of vehicle trips. These strategies include offering incentives for using transit or carpooling, encouraging flexible work hours to decrease peak hour travel, or promoting mixed land uses that allow people to live within walking distance of work and other activities. The LRTP describes a number of specific TDM strategies that can be considered.

Transit Service Options
These are strategies to increase the passenger-carrying capacity of transit and transit travel speed, to improve service frequency, and to provide passenger amenities, all which may lead to increased transit use. Such options may include more frequent fixed route transit service and bus rapid transit service.

Example of Bus Rapid Transit


Example of Bus Rapid Transit

High Occupancy Vehicle Lanes

High Occupancy Vehicle (HOV) lanes could be constructed on U.S. 160 for use by transit vehicles or carpool and vanpool vehicles.

Example of HOV lane on a Freeway- could also be used for Arterial

Transportation System Management
Transportation System Management (TSM) provides cost-effective ways of maximizing the capacity of the existing street and highway system. These strategies are defined in the OTO LRTP and typically include strategically placed turning lanes, signal coordination programs, eliminating left turns, or minimizing roadway access points. A set of projects could be completed on existing north-south arterials that would lead to reduced travel delays.

Intelligent Transportation Systems
Intelligent Transportation Systems (ITS) is a type of TSM that focuses on how to get more from the existing transportation system, typically by providing route congestion information and other technology-based transportation solutions. The ITS in the OTO region could be extended to include signals along U.S. 160 south of Plainview Road.


Traffic Operations Center in Springfield

Land Use Planning and Site Requirements
Many suburban areas around the country are re-evaluating how local streets are planned in order to promote shorter distance trips that can be made without accessing the arterial street system. Another key strategy is to provide sidewalks to promote non-vehicular travel.

Some suburban areas are returning to street design concepts used in urban areas that promote neighborhood connections and a good walking environment. Other strategies include zoning classifications that promote mixed land uses and street standards that limit access connections of driveways and minor streets with arterial streets.

Access management along Arterial

Increasing Road Capacity
This strategy addresses traffic congestion problems by adding travel lanes to existing streets and highways, or by constructing new roadways. The widening of U.S. 65 from four to six lanes is assumed in this study. The purpose of analyzing road capacity is to determine priorities for the north-south oriented arterial corridors listed below. In the North-South Corridor Study, seven capacity projects were initially considered:

- U.S. 160/West Bypass/State Highway FF: Construct new sections of four-lane roadway extending south of Highway 14.
- Missouri Highway 13/Kansas Expressway: Construct new sections of four-lane roadway from Republic Road extending south to Highway 14.
- Campbell Avenue/U.S. 160: Widen sections of U.S. 160 to six lanes south of the James River Freeway to Highway 14.
- National Avenue - Construct new sections of four-lane roadway extending south to Highway 14.
- New Alignment west of U.S. 160/West Bypass – Construct, to freeway/expressway standards, a new roadway that would function as the new western outer loop. The loop would extend from Highway 13 to I-44 west of the airport, continue south as part of the James River Freeway and then be constructed as extend south of the James River Freeway to connect to Highway 14.
- Highway 13: Construct a new freeway connection for Highway 13 north of I-44 with a system-to-system interchange with I-44 or connect with the West By-pass.
- U.S. 160 widening north of I-44: Widen U.S. 160 to four lanes north of I-44 to Willard.

4.3 Analysis of Strategies

U.S. 160 south of the James River Freeway is congested today and is forecast to be highly congested in the future. The CMS Plan suggests that specific emphasis be given to improving roadway operations. Given the high level of forecasted traffic volume on U.S. 160, build strategies are anticipated to be needed in order to maintain a desired level of mobility between the southern area of the OTO region and the area north of the James River Freeway.

Improved and extended transit services could contribute to improved mobility in the southern area of the OTO region. Currently, fixed route transit service is limited to the area within the City of Springfield and is provided by City Utilities. Improved transit service may contribute to small improvements in traffic operations by moving greater numbers of people in fewer vehicles. Transit service would provide transportation options to households with limited access to private vehicles and a choice to riders who would prefer to use public transportation rather than drive their personal vehicle. Improvement in transit services including improved transit shelters, travel information, transit signal pre-emption, and increased frequency, leading to higher transit ridership. Extended public transit service would require funding by communities located outside the City of Springfield. New service provided outside the City would likely need to be contracted with City Utilities or organized as part of a regional transit organization.

TSM strategies have previously been used successfully to improve traffic flow. As reported in the CMS, many geometric improvements have been completed on the arterial street system; signalization improvements included re-timing, actuation, and progression for the West Bypass and Kansas Expressway. A list of types of geometric improvements to be included in future transportation programs and plans is included in the appendix.

TDM, which involves shifting trips for single occupant automobiles to higher occupant autos/vans, are being addressed by an expanded Rideshare and Employer Outreach Program. Specific strategies included in the OTO Unified Work Program include employer trip-reduction strategies, improved/increased park-n-ride facilities, rideshare matching services, vanpool/employer shuttle service, and employer flextime programs. All of these strategies contribute to improved travel options and may lead to reduction of traffic congestion.

Given the high level of traffic demands forecasted, with only build strategies the arterial system will not function efficiently unless there is a balance of land use strategies and roadway capacity. In order to best accommodate the land use growth envisioned for the study, corridor project site plans, subdivision plans, and access plans will need to provide for walking trips and shorter-distance connections that can be made without traveling on arterial streets.

The review of existing conditions and growth forecasts indicate that even with the full implementation of transit, TSM, TDM and land use planning strategies, additional roadway capacity will also be needed in order to maintain an acceptable level of travel mobility. The remainder of this chapter will focus on the analysis and comparison of the build alternatives under consideration. The new alignment west of U.S. 160/West Bypass was not pursued further in this study as this is viewed as a project with a longer term horizon than the other projects under consideration in this study. Efforts to integrate transit, TSM, TDM, and land use strategies with these build alternatives should be made to support the overall transportation system performance.

4.4 Description of Build Alternatives

Following provides a more detailed description of the build alternatives examined as part of this study that were considered in addition to non-build transportation strategies described in the previous section. The alignments shown are preliminary and more detailed route alignment studies would need to be completed to provide a more exact alignment location. The build alternatives located in the south portion of the OTO area are shown in **Figure 4-2**. The build alternatives located in the north portion of the OTO region are shown in **Figure 4-3**.

West Bypass/State Highway FF
The West Bypass is part of U.S. 160 north of the James River Freeway. South of the freeway, this route is designated as Highway FF. Highway FF is a four-lane expressway south from James River Freeway to south of Republic Road. As part of this alternative, , the two-lane section of Highway FF beginning just north of Weaver Road would be widened to a four-lane expressway section or possibly relocated from the current alignment. South of Farm Road 194, a new four-lane freeway or expressway section would be constructed to cross the James River, continue in a southeastern direction, and connect to Highway 14 on the west side of The City of Nixa. The route could then be extended farther southeast to connect with U.S. 160 south of The City of Nixa.

Missouri Highway 13/Kansas Expressway
The Kansas Expressway currently ends at Republic Road. In this alternative, the Kansas Expressway extension was initially examined as a new four-lane expressway. The new alignment would likely move slightly eastward in order to avoid existing residential areas. Farther south, the alignment could use or be located close to Farm Road 141. It would continue southward to Highway 14 aligning with Route M. If an alignment were to continue to the south, Route M would be used for a portion of the route which would then bend to the southeast to connect with U.S. 160 south of the City of Nixa.

Campbell Avenue/U.S. 160
In this alternative, the existing Campbell Avenue designated as U.S. 160 south of the James River Freeway, would be widened from four lanes to six lanes. In this alternative, the six lane widening would begin north of James River Freeway and continue south of Highway 14.

National Avenue
National Avenue is currently built to Gaslight. In this alternative, National Avenue would be extended southward from Gaslight as a four-lane arterial roadway. The alignment of this new roadway section would shift in order to minimize impact to residential areas and follow or parallel the Cheyenne Road alignment. The alignment could then continue in a southwest direction to connect back with U.S. 160.

Highway 13 North of I-44
This alternative would construct a new freeway connection for Highway 13 with a shift westward to align with the West Bypass. This new connection would have grade separated connections with the existing Highway 13 then extend to the southwest. U.S. 160 north of I-44 would intersect with the new Highway 13 connection.

U.S. 160 widening north of I-44
This alternative would widen U.S. 160 from two lanes to four lanes north of I-44 to Willard. This route will continue to function as an expressway.

Figure 4.2 Build Alternatives (south)

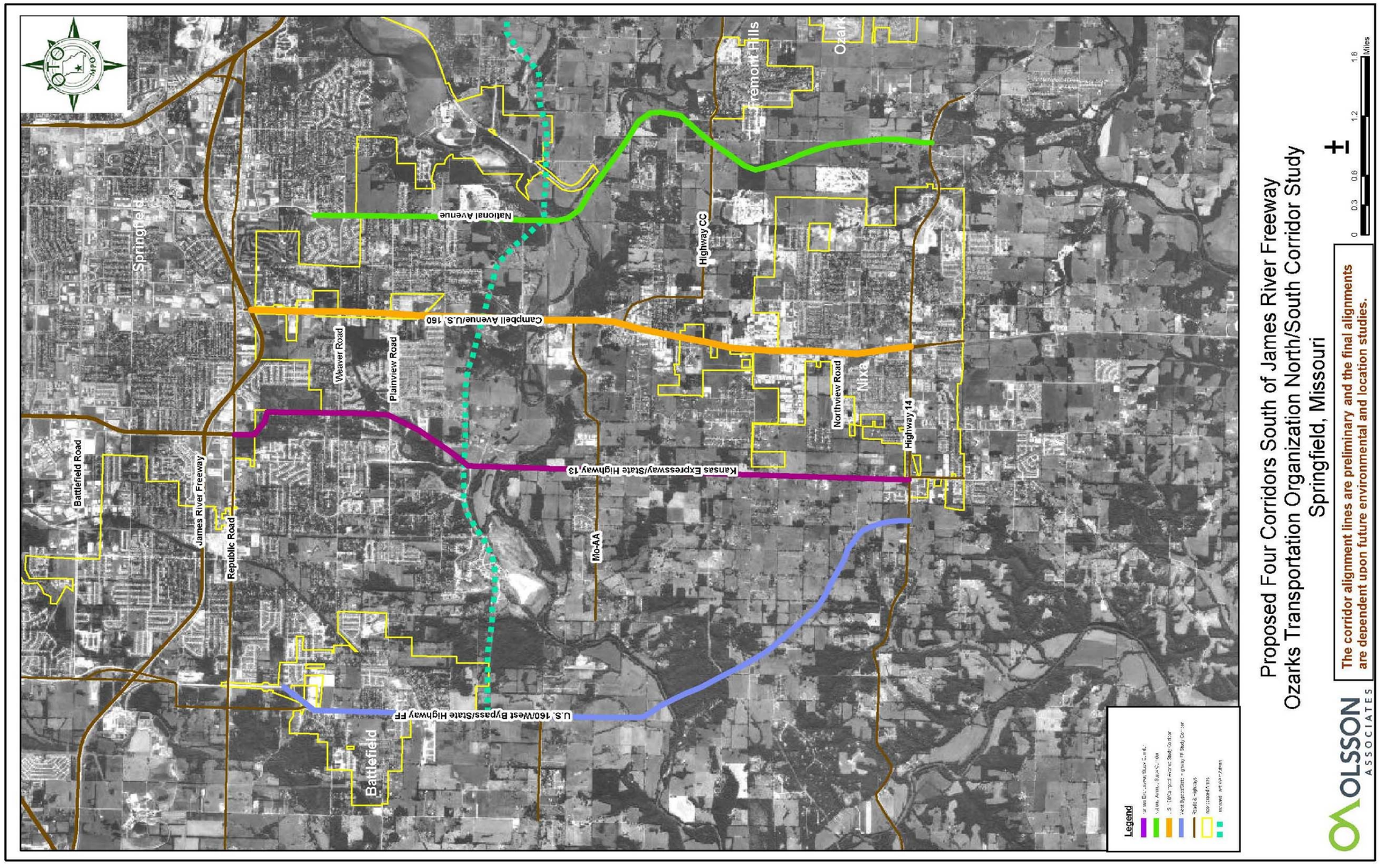
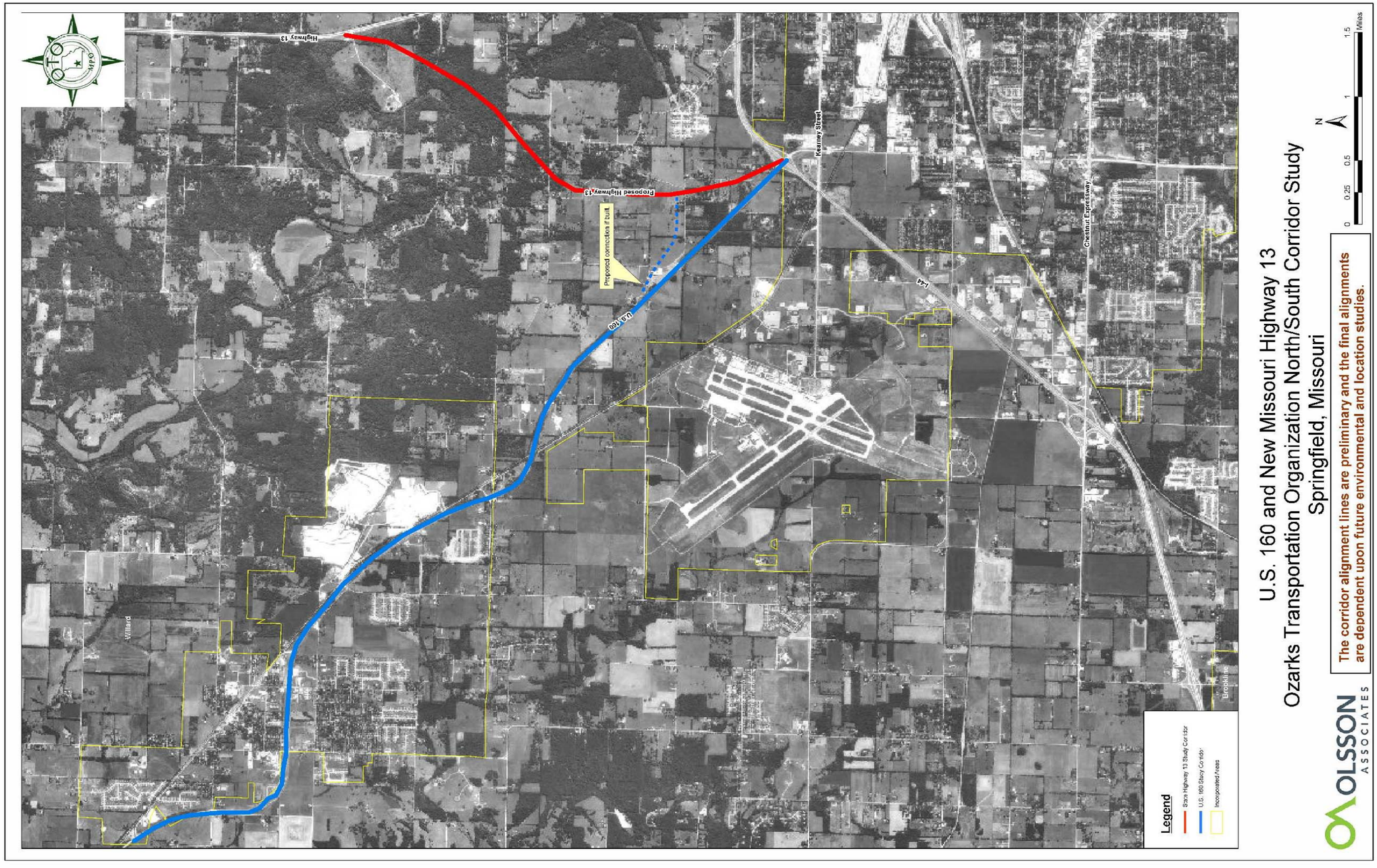


Figure 4.3 Build Alternatives (north)



4.5 Evaluation Criteria

An important step in the process to assess transportation alternatives is to develop a set of criteria to compare the effectiveness of each alternative in achieving study goals. This evaluation considers facility improvements that could address the mobility needs of the north-south corridors and would be consistent with the overall general objectives of the OTO LRTP. Alternatives define a strategy characterized by a conceptual typical section, access plan, and operational elements. The degree to which alternatives achieve project objectives is determined through the application of evaluation criteria that reflect the project objectives. The evaluation criteria for the North-South Corridor Study include the following items:

- Mobility Benefits
  - Travel time reduction for regional north-south traffic
- Growth & Economic Development Benefits
  - Provide opportunity for new development
- Environmental – Impact to the natural environment
  - Minimize impact to wetlands, streams, rivers, floodplains, parks and historic sites
- Environmental – Impact to the built environment
  - Minimize impacts to existing buildings, commercial areas and neighborhoods
- State/federal funding eligibility
  - The degree in which the project serves statewide travel interests and/or would be attractive to MoDOT to participate in project funding
- Magnitude of cost
- Potential for extension to connect with U.S. 160 south of The City of Nixa

These criteria help measure the degree in which an alternative meets the project goals. The evaluation criteria are defined by “relative” measures of effectiveness (MOE). “Relative” MOEs are the relative performances of each alternative as evaluated by the project team. The analytical process used in this study involved designating representative variables that could be quantified and compared between alternatives.

The six alternatives were evaluated by comparing the evaluation criteria using the MOEs previously identified. Using these values, each alternative was assigned a score on a scale from one to five, with one representing the lowest performance relative to the MOE and five representing the highest performance.

Travel Time

Mobility benefits were measured by estimating how much total travel time would be saved if a project were constructed. The estimated travel time savings were obtained using the regional travel model maintained by the OTO. The values shown are the amount of travel time savings and travel times on each alternative estimated for the model’s forecast year of 2030. The values shown are the travel time savings estimated for a typical peak hour that can be attributed to construction on each project individually. The values were obtained by comparing the travel time from the No-Build Alternative with that of each build alternative. When the network travel time summations were compared, the difference was attributed to the roadway alternative being tested in the model. The results were then scaled to a score between one and five.

Alternative	Peak Period Vehicle Hours of Travel Reduced	Scoring
West Bypass/State Highway FF	15,500	3.1
Missouri Highway 13/Kansas Expressway	16,100	3.2
Campbell Avenue/U.S. 160	11,800	2.4
National Avenue	15,600	3.1
Highway 13	3,000	0.6
U.S. 160 widening north of I-44	2,400	0.5

Growth & Economic Development

Growth and economic development benefits were compared by examining general impacts to existing development, including the potential available land for new development. The MOE was the amount of frontage available with each alternative for prime commercial development. The miles of frontage were then assigned scores between one and five to represent the differences between the alternatives. An adjustment was applied to the Campbell/U.S. 160 corridor reducing the MOE from 3 to 2 to reflect the fact that the current corridor has a considerable amount of existing commercial development and would not be able to fully absorb the additional development previously shown.

Alternative	Potential Miles of Commercial Frontage	Scoring
West Bypass/State Highway FF	5.2	4.0
Missouri Highway 13/Kansas Expressway	3.6	3.5
Campbell Avenue/U.S. 160	3.0	2.0
National Avenue	3.0	3.0
Highway 13	1.0	2.0
U.S. 160 widening north of I-44	1.0	2.0

Potential future commercial areas resulting from new access created by the corridor projects should be anticipated at:

- West Bypass/FF – Along the new bypass south of the City of Battlefield, continuing near Highway 14
- Missouri Highway 13/Kansas Expressway – Near Route AA and the future east-west arterial, and north of Highway 14.
- Campbell Avenue/U.S. 160 – Near the future east-west arterial extension and along the existing corridor
- National Avenue - Near Highway 14, along new route near Route CC, and near the future east-west arterial
- U.S. 160 north of I-44 - Along the existing corridor
- Highway 13 north of I-44 – Near U.S. 160 to the north

Impact to the Built Environment
The built environment includes impacts to residential areas that could potentially be directly affected or located close to a possible alignment. This impact is derived from the linear feet of developed land adjacent to each alternative alignment. Positive adjustments were made for the two corridors designated as U.S. 160 where right-of-way for widening is already available and would not require additional acquisition. The MOEs for this category are listed under the developed land column in **Table 4.4**. Scoring is based on a rating given to differentiate the differences between the alternatives.

Impact to the Natural Environment
Impacts to the natural environment include impacts to floodways, parks, historic sites, and karst topography limitations. Relative scores were given based on the amount of streams, wetlands and floodways crossed, plus the linear feet of undeveloped land along the alignment. The scoring is an average of individual ratings to impacts for streams, wetlands, floodplains and undeveloped land. At this level of detail, it is assumed that an alignment will avoid or minimize impacts to schools, cemeteries and churches. Karst impacts were not obtained from an environmental data base, but rather from field observation knowledge of the area. The karst impacts were greater for the Highway 13 Connector and the score was adjusted to reflect this. The MOEs for this category are listed in **Table 4.4** with the average of natural environmental factors shown in the last column.

State/Federal Funding Eligibility
The opportunity for MoDOT participation will involve a number of factors. One factor is whether the alternative under consideration is currently designated a state or US highway, or if it would be an extension of a state or US highway. Another factor would be the ability of the route to accommodate intrastate travel movements. Related to this is the potential for limited access in order to provide for more efficient intrastate travel. MoDOT's practical design policy will require examining cost-effective project alternatives to address needs. In addition, MoDOT will not expand the number of system miles, thus adding new miles will require removal of miles somewhere else currently on the MoDOT system.

Alternative	Consideration	Scoring
West Bypass/ State Highway FF	This is an extension of State Highway FF. It would have the highest potential to be designated as a new state route 160.	3.5
Missouri Highway 13/ Kansas Expressway	This extension could be constructed as a limited access expressway, or as an arterial.	3.0
Campbell Avenue/ U.S. 160	This existing US highway has the highest potential to receive funding.	4.0
National Avenue	This is an extension of a local arterial street and would have the lowest potential for state/federal funding.	2.0
Highway 13 north of I-44	This is a bypass alternative of an existing state route. However, other options are currently being explored by MoDOT that are more consistent with MoDOT's policy of practical design.	3.0
U.S. 160 widening north of I-44	This existing U.S. highway has the highest potential to receive funding.	4.0

Magnitude of Cost
Generalized estimates of probable construction costs were prepared to provide cost comparisons of the alternatives as previously described. The costs include construction, right-of-way, engineering and administration, as well as the costs of interchange modification at the James River Freeway at each location. The costs for interchange reconstruction were obtained from the LRTP and these figures will be refined as further engineering studies are completed. For Missouri Highway 13/Kansas Expressway, cost estimates do not include the cost for right-of-way already purchased by Greene County. The estimated costs were assigned scores from one to five. Scoring is based on a scaling formula to differentiate the differences between the alternatives.

Alternative	Estimated Cost (Mil. $)	Scoring
West Bypass/State Highway FF	94.0	2.5
Missouri Highway 13/Kansas Expressway	102.4	2.3
Campbell Avenue/U.S. 160	84.3	2.9
National Avenue	113.5	1.9
Highway 13 Connector	72.2	3.3
U.S. 160 widening north of I-44	47.1	4.1

The cost estimates are included in the appendix.

An alternatives evaluation matrix was developed which reflects the broad nature of the analysis at this stage of the study. Alternatives were assessed based on the degree to which they impact the criteria. The matrix provides a comparison of corridor characteristic alternatives. An interpretation of the results provides the basis for selection and prioritization of the corridors. The two projects north of I-44 are smaller scaled projects and have been adjusted by one point to reflect this in the scoring.

Other Traffic Impacts
The impacts of the north-south projects on east-west streets were also investigated. Without new north-south routes, traffic primarily uses U.S. 65 and U.S. 160 for north-south travel and disperses on east-west routes such as Route CC or Highway 14 for east-west travel. Other east-west routes such as Republic, Weaver, Plainview, FR 186, and FR 190 accommodate traffic north of the James River. East-west routes south of the James River include Payne, Tracker, Union Chapel, and Dewberry. The travel demand model compared the traffic volumes for the future year with a no-build network with the recommended build projects. The results show that in most cases, building additional north-south routes reduces the traffic volumes on east-west routes as compared to the future no-build network. The only location where traffic volumes tended to increase as compared to the no-build network was in the Nixa area on east-west streets

west of Nicholas. Thus, in addition to the projects and implementation steps listed below, additional street pavement and maintenance would be considered in this area. Future east-west project capacity needs include Highway 14, sections of Route CC, sections of Plainview east of U.S. 160 and sections of Republic Road between the West Bypass and U.S. 160 that are currently two-lane.

The traffic impacts of the alternatives on traffic levels north of the James River Freeway were identified using the Year 2030 OTO traffic model. Given the use of the future year growth forecasts, the model represents how traffic flow would potentially vary on these routes north of the JRF, given capacity increases on that route south of the JRF. The model results should be considered as a comparative indication of trends and not a precise forecasted impact. The results do support concerns expressed by members of the public and the Steering Committee that the extension of Kansas Expressway would increase traffic volumes significantly on Kansas Expressway north of the JRF.

The model results indicate that the traffic impacts of extending Kansas Expressway south of the JRF on the portion of the Kansas Expressway north of the JRF are the highest. A better distribution of traffic occurs with the West Bypass and National Avenue. The extension of either Kansas Expressway or Campbell Avenue would add more traffic to each of these routes to the north of the JRF. While these results provide information on traffic impacts, traffic assignments on all four corridors should also be studied further and refined when the OTO updates the travel model.

Table 4.4 Impact and Environmental Resources

	Streams (linear feet)	Wetlands (acres)	Floodplains (acres)	Schools (#)	Cemeteries (#)	Churches (#)	Undeveloped Land (~ft)	Developed Land (~ft)	Total Score - Natural
West Bypass) James River to Hwy 14)	600 (6 crossings)	1.71	3.51	1	1	0	30547	7475	
	3	2	4	2	2	3	2	4	2.8
Kansas (James River to Hwy AA)	600 (6 crossings)	2.00	7.29	0	0	0	31804	4924	
	3	2	3	3	3	3	2	4	2.5
Campbell (James River to Hwy 14)	300 (3 crossings)	0.4	10.61	1	0	0	17,706	26,437	
	5	5	1	2	3	3	4	2	3.8
National (James River to Hwy 14)	500 (5 crossings)	1.68	8.75	0	0	0	36,142	6,123	
	4	2	2	3	3	3	2	4	2.5
160/Campbell North	400 (4 crossings)	0	7.04	0	0	0	26,365	2,860	
	4	4	3	3	3	3	3	4	3.5
Highway 13 North	300 (3 crossings)	0	5.03	0	0	0	16,692	4,248	
	5	4	4	3	3	3	4	4	4.25

Source: Olsson Associates

Weighting of the Measures of Effectiveness

As part of the evaluation process, the project subcommittee weighed the relative value of the evaluation criteria on a scale from one to three, with three being the most important. The weighting was then used to assist in identifying preferences for the alternatives under consideration. The average weights assigned by the subcommittee are listed below:

Criteria	Weighting
Travel Time Reduction	2.82
New Development Opportunity	1.73
Impact to Natural Resources	2.18
Impact to Built Resources	1.82
State/Federal Funding Eligibility	2.45
Magnitude of Cost	2.55

Using the evaluation criteria described in the first section of this chapter, a recommended prioritization strategy was developed for the six project corridors under study. Both quantitative and qualitative measures described in the previous section were used to differentiate the alternatives. The measures were given a rating between 1 and 5. This rating was primarily based on a qualitative assessment to provide the differing values. The most beneficial values were scored closer to 5 and the least beneficial were scored closer to 1. The methodology was used to highlight differences between alternatives. As both quantitative and qualitative inputs were used, the process is not intended to be a statistics based exercise.

The relative “unweighted” scoring resulted in U.S. 160/Route FF having the highest score followed closely by the Kansas Expressway Extension. U.S. 160/Route FF scored highest in the category of Growth and Economic Development. The Kansas Expressway Extension does provide slightly higher travel time benefits than the other alternatives.

The “unweighted” scoring is objective and does not incorporate the relative importance of the goal. The weights to the MOE that were determined by the Sub-technical Committee were then incorporated into the process. The highest scoring alternatives do remain similar, although the difference between them increased. National Avenue is shown to move higher than U.S. 160/Campbell with the weighted score. It should be noted again that this rating process provides guidance and helps to identify key characteristics associated with the alternatives. Additional issues not specifically described in this process were identified by the Sub-technical Committee and during Public Meetings as summarized in Chapter 2.

Table 4.5 Unweighted and Weighted Scores of the Alternatives
Source: Olsson Associates

		Alternatives					
Criteria:	Weights	US-160 Highway FF	M-13/ Kansas Expwy	Campbell/ US-160	National	New M-13 Connection to I-44	US-160 Widening n/o I-44
Travel Time Reduction	2.82	3.1	3.2	2.4	3.1	0.5	0.6
Growth and Economic Dev't	1.73	4.0	3.5	2.0	3.0	2.0	2.0
Impact to Natural Resources	2.18	2.8	2.5	3.8	2.5	2.5	3.5
Impact to Built Resources	1.82	4.0	4.0	2.0	4.0	4.0	4.0
State/Federal Funding Eligibility	2.45	3.5	3.0	4.0	2.0	3.0	4.0
Magnitude of Cost	2.55	2.5	2.3	2.9	1.9	3.3	4.1
Total Score		19.9	18.5	17.0	16.5	15.2	18.2
Total Weighted Score		44.0	41.0	39.0	36.4	33.2	40.3

4.6 Project Refinement

The evaluation system enabled a number of issues and considerations to be discussed. The issues included:

- The scoring was very close between alternatives, and in particular between Highway FF and the Kansas Expressway.
- MoDOT emphasized the need for the alternatives to support through-traffic movement, which would be further supported by having the alternatives connect back to U.S. 160 south of the City of Nixa.
- There are negative impacts associated with extending Kansas Expressway south of Highway 14 past the high school and other existing development.
- The Highway FF route provides the best opportunity for new commercial development and redevelopment.
- The character of land adjacent to the Kansas Expressway north of the James River is residential and may not be as compatible with an expressway as would other alternatives.
- The were concerns that the Kansas Expressway extension as an expressway would add traffic on the Kansas Expressway north of the James River Freeway, resulting in additional traffic congestion.
- Construction of one of the routes would not provide sufficient vehicle capacity, so the recommended alternative should provide an opportunity to better support improved travel mobility with two identified alignments.

Based upon these findings, a new alternative was developed. This alternative is shown in **Figure 4.4**.

The refined alternative includes the West Bypass/Highway FF extension as a four-lane expressway route as previously indicated. It is recommended that consideration be given to constructing the new sections of this route as a freeway in order to provide greater mobility benefits. The existing section of roadway would be upgraded to expressway standards. The alignment for the Kansas Expressway would continue south from Republic Road as previously indicated. South of Tracker Road, it would bend to the southwest and connect with the West Bypass/Highway FF alignment. The two would share a common alignment as that route would extend south of the City of Nixa and connect with U.S. 160. Access to the West Bypass/Highway FF extension would be limited and potential access points are shown in Figure 4.4.

Right turn in/out driveway access would be consistent with OTO Design Standards. The Kansas Expressway extension would be constructed as a primary arterial to be more compatible with the residential character north of the James River. The extension of the Kansas Expressway would be phased, beginning with construction of a 2-lane roadway with turning lanes and in the future could be widened to four lanes as volumes warranted. Access to the Kansas Expressway extension would be consistent with the OTO Design Standards. No residential driveway access would be permitted. The refined alternative shows the Route FF connection with the Kansas extension located as far east as possible in order to provide access and travel time benefits to the Nixa area. If an alignment is located too far to the west, then benefits to the City of Nixa would be reduced. In that case, traffic might use Nicholas Road to reduce their travel distance. The Route FF extension alignment is located to the west of the more concentrated development in the City of Nixa in order to prevent through traffic from traveling on local city streets which serve residences and schools.

Refined Alternative Results
The benefit and impact results of the refined alternative are listed in **Table 4.6**. The Refined Alternative results and scoring show an improvement in travel time reduction and economic development potential. As the project also results in a higher estimated cost, the overall score of the Refined Alternative is similar to the previous higher scoring alternatives. The total score is 20.4 and the total weighted score is 44.6.

Table 4.6 Summary of Refined Alternative MOEs

Criteria:	West Bypass/FF and Kansas Existing Modified	Score
Travel Time Reduction (Peak Hour)	17309	3.6
New Development Opportunity (miles of roadway frontage for Commercial)	8.6	5
Impact to Natural Resources	(see environmental table)	2.8
Impact to Built Resources	(see environmental table)	4
State/Federal Funding Eligibility		3
Magnitude of Cost Interchanges with JRF	226.2	1.6
Total Score		20.0
Total Weighted Score		44.6

The Refined Alternative addresses the project goals more fully than do the other alternatives. This alternative would improve north-south mobility in the area south of the James River Freeway. Improved mobility would benefit not only the residents and businesses located in the area, but would also benefit through traffic moving between the OTO area and Branson. The Refined Alternative, by providing for a major arterial facility on the West Bypass alignment, would serve to increase access to future commercial areas located in the Cities of Springfield and Battlefield, thereby supporting economic development along the West Bypass corridor. Because of the travel and economic development benefits described, it is recommended that the Refined Alternative that includes developing an extension of the West Bypass to freeway/expressway standards and Kansas Expressway to primary arterial standards be pursued as the highest north-south corridor priority. It is also recommended that the widening of U.S. 160 between I-44 and the City of Willard remain as a high priority project as it is currently shown in the OTO list of high priority projects in the LRTP.

The environmental information for the refined alternative is listed in **Table 4.7**.

Table 4.7

	Streams (linear feet)	Wetlands (acres)	Floodplains (acres)	Schools (#)	Cemeteries (#)	Churches (#)	Undeveloped Land (~ft)	Developed Land (~ft)
State Highway FF	800 (8 crossings)	2.36	4.66	1	2	0	37,989	16,739
Kansas Expressway Extension	600 (6 crossings)	2.31	7.27	1	1	1	28,074	7,850
Totals	1400	4.67	11.93	2	3	1	66,063	24,589

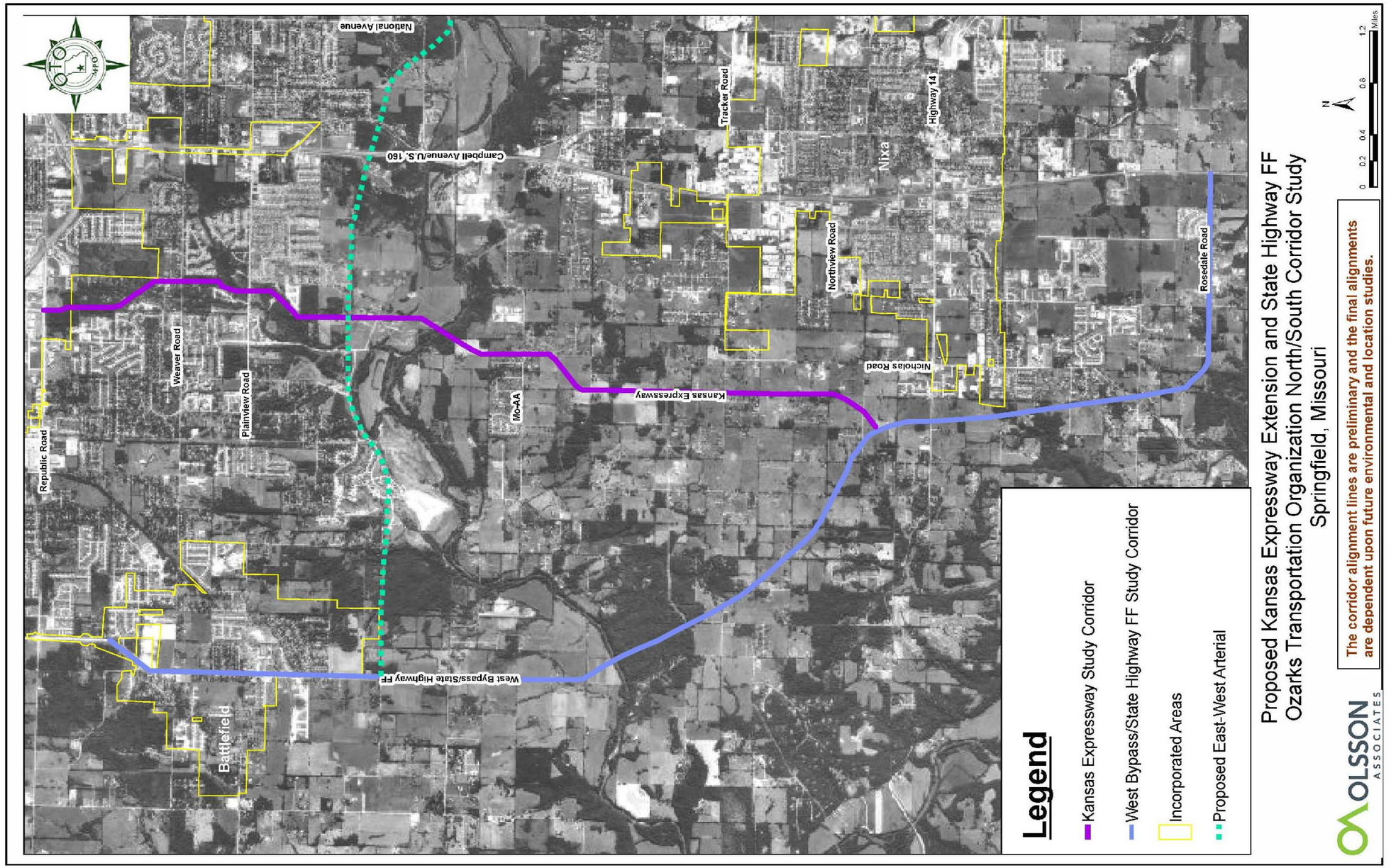
The project priorities of the alternatives studied are listed in **Table 4.8**. The project priorities are based upon the alternative scoring and weighting process described in this chapter. The implementation steps associated with this priority list will be described in the next chapter.

Table 4.8 Project Priorities

New Construction:		System Management:
1)	West Bypass/State Highway FF (44.0)	Campbell Avenue/U.S. 160 (39.0)
	Improve existing and construct new sections of four-lane roadway to extend south of Highway 14.	Transportation System Management including adding turn lanes and improving intersection geometrics, access management, ITS, land use planning and transit service enhancements
2)	Kansas Expressway Extension (41.0)	
	Construct new sections of two-lane roadway to extend south connecting with the extended State Highway FF	
		Further Study:
3)	U.S. 160 widening north of I-44 (40.3)	Highway 13 Connector
	Widen U.S. 160 to four lanes north of I-44 to Willard.	Study as part of MoDOT's Statewide I-44 Corridor Study
4)	National Avenue Extension (36.4)	
	Construct new sections of four lane roadway to extend south of Highway 14.	

Note: The Refined Alternative includes New Construction projects 1 and 2

Figure 4.4 Refined Combination Alternative



5.0 IMPLEMENTATION STRATEGIES

5.1 Recommended Alternative

This chapter discusses the anticipated steps needed to move each project from recommendation to construction. Since full funding for these alternatives will not be available immediately, a key issue is to be able to preserve the opportunity for future construction in these high growth locations. In the first part of this chapter, general implementation strategies are described, followed by a discussion of steps that could be taken in order to implement each of the corridor improvements identified.

Project alternatives and priorities were described in Chapter 4. It was determined that all of the projects under consideration would contribute to addressing project goals, so the priority of projects was established. The impacts of no action called the No-Build Alternative were also discussed in Chapter 4.

On December 18, 2003, the OTO Board of Directors adopted the following top five list of High Priority Projects. In this list is this study itself. The results of this study do not necessarily replace the High Priority Projects. The OTO will need to consider incorporating the recommendations of this study into this list.

- U.S. 60 and U.S. 65 interchange (including at-grade rail crossing on James River Freeway).
- U.S. 65 and I-44 interchange.
- Glenstone/Republic and James River Freeway interchange.
- Transportation planning study to enhance connectivity within the region and MPO with emphasis on North/South corridors (Kansas Expressway, West By-Pass, U.S. 160 North to Willard, Route 13 North to Bolivar, National Avenue, U.S. 65, U.S. 160/Campbell Avenue). (the North-South Corridor Study)
- Development of multi-modal corridor(s) to the new Airport Terminal.

On October 19, 2006, the OTO Board of Directors adopted the following list of High Priority Corridors. This list includes two of the corridors that were evaluated as part of this study. High Priority Corridors represent areas of focus beyond the top five High Priority Projects.

US 65 – Capacity Improvements to Include Six Lanes from I-44 to Route 14

Interchange improvements at Chestnut and US 65 including RR grade separation
Interchange improvements at Battlefield and US 65
Interchange improvements at Route 14 and US 65

US 60 – Capacity Improvements

Interchange improvements at National Avenue and James River Freeway
Interchange improvements at James River Freeway and Campbell Avenue
Upgrade to Freeway from US 65 through Rogersville
US 60 West Relocation Study (MPO portion of US 60/SR37 from AR to JRF)

I-44 – Capacity Improvements

Interchange improvements at Route 13 and I-44
Interchange Improvements at Route 266 and I-44

US 160 – Capacity Improvements

Capacity improvements from Springfield to Willard
Capacity improvements from James River Freeway south through Nixa

Route 14 – Capacity Improvements

Capacity improvements from Business 65 in Ozark to US 160 in Nixa
Bridge Widening over 65

Selected North South Corridor Resulting From Study

This North-South Corridor Study addresses some of the many areas of traffic congestion in the region. All of these corridors will need to be addressed in order for the OTO region to maintain regional mobility and ensure quality economic development. The recommendations of this study in no way preclude the OTO from addressing the other congested roadways in the region, nor does it suggest the recommendations in this report are more important than the OTO region's Top Five Priority Projects. This study provides input on the important issue of prioritizing north-south corridors for needed improvements.

Travel Time Benefits

The OTO Technical Committee requested that comparative travel time and travel speed information be provided for the alternatives. Travel time benefits of the initial four alternatives and for the Combination Alternative were estimated from the OTO Travel Demand Model. While the travel times and speeds provide comparative information, the full summation of travel benefits in terms to total hours of travel time saved was reported in Chapter 4.

The model reflects a number of inputs related to speed, capacity and delay that are approximated. The distances were calculated prior to alignment adjustments. While travel speeds obtained from a travel demand model may vary from actual driving conditions, the information does provide a good comparison between alternatives. The lower speeds shown for year 2030 travel conditions support the need for construction of a new alignment south of the James River Freeway. It also supports considering construction of more than one alignment or possibly to examine a higher classification facility such as a freeway for a portion of an alignment.

The estimated future travel speed and travel times on Campbell Avenue between Republic Road and Route 14 were compared between the No-Build and Build Alternatives. The travel times and speeds on the Build Alternatives are also shown in the table.

Given forecasted growth, travel times on Campbell Avenue are shown to worsen over current conditions, no matter which alternative is selected. However, the Combined Alternative results in the best travel speeds and travel times as compared to the other alternatives. With the Combined Alternative, travel times forecast for the year 2030 improve on U.S. 160 (Campbell) and are even better on the West Bypass/Route FF. With the Combined Alternative, year 2030 travel times on Campbell Avenue would improve from 56 minutes to 31 minutes. The estimated travel speed on Campbell would also improve from 7 mph to 12.6 mph. The travel times and speeds on the West Bypass/Route FF extended would be even better than those on Campbell Avenue for the same connection points with a travel time of 19 minutes and a travel speed would of 22 mph. The travel time comparison for all of the alternatives is listed in the appendix.

5.2 Implementation Strategies

The following section provides a general discussion of implementation strategies for the projects identified in this study, describing the options and steps needed to move each corridor project forward.

Corridor Preservation

1) Description

The term "corridor preservation" refers to techniques that state and local governments can implement to protect identified transportation corridors from development that conflicts with the planned improvements of the transportation corridor. Corridor preservation is used to minimize economic, social, and environmental impacts that could be associated with the future corridor. Corridor preservation is often needed to keep development from encroaching into an identified right-of-way corridor during the early stages of the project: while a location and environmental study is being completed, while the project is being designed, or when funding is being obtained for construction. Corridor preservation tools can include:

- Development agreements with land owners
- Use of land use regulations
- Acquiring property rights within the corridor

2) State Authority and Legislation

States may have either formal or informal corridor preservation policies or legislation that can be used to aid in corridor preservation. Formal programs are usually supported by state legislation that authorizes the department of transportation to actively pursue corridor preservation. In some cases, there is funding set aside to support these activities. Informal policies involve the state working aggressively with local governments to encourage corridor preservation activities through the use of zoning, building permitting, or platting.

Missouri has state legislation that allows MoDOT to file a Corridor Preservation Plan that identifies priority corridors. MoDOT is to be notified of all developments sought along a defined corridor. MoDOT then has 120 days to approve the development, negotiate with the developer, or buy the property. This program only applies to cities or counties that have zoning. The Corridor Preservation Plan has been used in St. Charles County, but not in many other locations in Missouri. When State funds are used to purchase right-of-way, the project must move forward within a 10 year period, or the property owner will have the opportunity to re-acquire the property.

When a property along an identified corridor is being considered for rezoning or platting, the planning commission or zoning board is to notify MoDOT and provide them with plans to review. MoDOT then provides feedback on the plans, which may include modifications that then become criteria for approving the development. If any modifications are not agreed to, MoDOT has the option of making a right-of-way purchase.

3) Local Land Use and Zoning

There are several ways cities and counties can take responsibility to protect or preserve land prior to the time when right-of-way can be purchased. Some local governments use the zoning and building permitting process in order to preserve a specific corridor. The subdivision platting process can be used to require future roadway right-of-way to be shown on plats. The OTO has a Major Thoroughfare Plan (MTP) that defines corridors within its planning boundary. The MTP specifies the design standards and access management considerations that should be used when a roadway is constructed. The projects identified on the MTP can be located on local zoning and land use maps. The MTP and the local maps can be updated if further location design work is completed that would further define the project corridor.

This land use planning process can be used where local land use regulations are established. Within the study area zoning and subdivision platting requirements are in place in the cities of Springfield, Battlefield, and Nixa, as well as in Greene County. These communities have sufficient land use and subdivision regulations to support corridor preservation in the zoning, subdivision, and building permit processes. These communities also have thoroughfare plans that identify future arterial routes and rights-of-way. Christian County does not have a land use plan and uses a performance based scoring system approach to zoning. The lack of zoning classifications and a zoning map adds difficulty in supporting local corridor preservation for the sections of the recommended corridors that are within Christian County. One possible solution is to create an overlay zoning district for a portion of the county where growth could potentially impact the opportunity and cost to construct the recommended projects. Another possibility is to have the county formally recognize the OTO MTP and the associated roadway standards, and then use these tools to support corridor preservation when developments are proposed. Under current policies, Christian County is able to have a platted easement for transportation corridors which specifies a set back of 50 feet from the edge of pavement for state routes and 50 feet from the center line for local streets. Christian County is anticipating asking for a voluntary preservation of corridor right-of-way for the projects identified in this study. Where possible, the county would ask for the donation of the right-of-way to better enable the project to proceed, thereby improving access for the property owner.

Major Project Development Process

1) Planning Framework

MoDOT has a major role in the development of primary arterial corridors that are on or could be placed on the state highway system. MoDOT's long-range transportation planning initiative called *Missouri Advanced Planning* (MAP) will identify the state's transportation vision. MODOT has endorsed a project prioritization process called the Planning Framework. The framework is an open and transparent process for project selection and prioritization that includes public participation. The OTO provides input on project priorities within the OTO planning boundary. This information is then brought into the MoDOT planning framework.

There are two primary times within the project development process in which prioritization takes place. The first is a needs assessment which is completed in order to determine which projects are to be designed. The second prioritization is when decisions are made on which projects will be constructed.

2) Needs Assessment

Within the MoDOT planning framework, there are two levels of needs identification: regional and statewide. The two levels are then classified into two groups: physical system condition needs that target the state of repair of road and bridge components, and functional needs that target how well the transportation system is operating. The projects considered in this study are regional functional system needs. Using the results of the prioritization process as a starting point, MoDOT works with the OTO and other planning partners to classify the needs as:

- **High** – Resources are focused on addressing these needs first. They are the first to be selected for project scoping and preliminary engineering.
- **Medium** – These needs may be addressed as additional resources become available.
- **Low** – No work is in progress to address these needs at this time.

The high-priority needs list is fiscally constrained to approximately 10 years of funding when needs from this list are selected for project scoping. The amount of local contribution can be a factor in obtaining MoDOT project participation.

Project scoping is a process to analyze transportation needs and select the best overall solutions. The process involves a conceptual study to address transportation problems, possible solutions, project impacts, and cost estimates. The scoping process helps identify the most complete, cost-effective solutions early in the project development process. After viable solutions have been found for high-priority needs, the project moves on to the prioritization process. Following project scoping, the level of environmental study is determined and preliminary project design may begin.

3) Location and Environmental Study
A location or environmental study is required for projects involving the new construction of a highway. Depending upon the complexity of the project and the potential environmental issues, the level of environmental study is determined by MoDOT and, if federal funds are to be used on the project, the Federal Highway Administration (FWHA) is also involved. For major projects, an environmental impact statement or environmental assessment is typically completed. As part of the environmental study, a location study report would also be prepared to determine the most advantageous location and roadway type based on project purpose and need, as well as engineering and environmental constraints. This step can take between 1½ and 3 years to complete.

4) Engineering
The FHWA will review the study and make a Record of Decision describing the location of the selected alternative to be constructed. Engineering for the project can then be completed, which typically includes preparing preliminary plans and a public hearing. Upon receiving final location and design approval from FHWA, right-of-way plans and detailed construction plans are developed.

5) Right-of-Way Purchase
Section 227.050 of the Missouri State Statutes requires the filing of detailed right-of-way plans in order to acquire right-of-way. A set of right-of-way plans must be filed with the clerk(s) of all counties and cities through which a project will pass, prior to advertising for the bid opening. For projects in which all right-of-way is obtained through negotiation, certification of the plans by the commission and filing with the circuit court are not required.

6) Hardship or Early Acquisitions
When it is in the public interest to buy hardship cases, full takes, or protective buying prior to the development of right-of-way plans, MoDOT can obtain authorization for right-of-way acquisition based on the approved preliminary plans. This procedure is restricted to special cases and is initiated at MoDOT's request. This is the most common form of corridor preservation being used by MoDOT at this time.

5.3 Potential Funding Sources

As stated in the LRTP, the local governments together with MoDOT normally bear the cost of constructing and upgrading expressways.

Local Government
The OTO receives an annual allocation of Surface Transportation Program (STP) funds from MoDOT. The cities of Springfield, Battlefield, Republic, Nixa, and Ozark, as well as Greene County and Christian County, also receive state allocations of motor fuel tax, vehicle sales tax, and vehicle fees. The cities of Springfield, Nixa, and Republic, as well as Greene County and Christian County, collect local sales tax revenue for transportation projects. The cities of Springfield, Nixa, and Republic have voter approved transportation sales taxes; Springfield has 1/8 cent, Nixa has 1/2 cent, and Republic has 2¼ cents sales tax. The City of Springfield also levies a 1/4 cent sales tax for capital improvements. A listing and description of other potential local revenue sources is included in the appendix.

State and Federal Government
There are separate project prioritization processes for each category in MoDOT's funding distribution method. Federal and state transportation funds from a variety of sources are brought together and divided into five funding categories:

- Safety
- Major projects
- Interstates and major bridges
- Regional and emerging needs
- System maintenance

Within each funding category, projects considered for construction are then divided into three priority levels: high, medium, and low. The high-priority project list is fiscally constrained to five years of funding. The LRTP for the OTO area has estimated the total amount of funding for high- and medium-priority projects to be $560 million from all sources for the time period between 2009 and 2030. While this amount may appear to be large, the current funding situation is tight at the state level. There are numerous projects within the OTO area and throughout the State competing for the available transportation funds. Although some funding has been allocated for projects south of the James River Freeway, this funding may need to be re-allocated to be consistent with the recommendations of this study; the recommendations will need to receive a high-priority rating from the OTO in order to improve chances for receiving funding in the short term.

Project Programming
The OTO then places priority projects into the Transportation Improvement Program. The OTO determines the projects in its area that will be programmed for construction. These transportation improvement plans are integrated into the five-year Statewide Transportation Improvement Program without modification. Projects identified from the North-South Corridor Study should be added to the LRTP and the Major Thoroughfare Plan if not already included. The study corridors are compared to the MTP in **Figure 5.1**, which indicates the additions and modifications to be made.

5.4 Corridor Project Implementation

This section details suggested steps to construct or preserve the identified transportation corridor/alignments.

West Bypass/Route FF/ Kansas Expressway Extension
The West Bypass and Kansas Expressway Extension project was identified as the highest priority and the project to initiate first. The area adjacent to portions of the potential alignments is expected to continue to develop. Because of the high level of development pressure on the Kansas Expressway corridor, the need for corridor preservation is more immediate for this corridor than for the West Bypass/Route FF alignment. This project will initially include construction of the West Bypass/Route FF as a four lane expressway and the initial construction of the Kansas Expressway as a two-lane roadway to arterial street standards.

The OTO Board of Directors approved an amendment to the Long Range Transportation Plan that included the following language:

Extend Kansas Expressway as a four-lane divided roadway south of the James River Freeway to Farm Road 190 in southern Greene County. Consider extending Kansas Expressway as a four-lane divided roadway south of Farm Road 190 to Route 14 in Christian County when:

A. *The proposed east-west arterial in southern Greene County is constructed from National Avenue to Cox Road;*
B. *A design for a connection from the east-west arterial to Route FF is received and approved by the Greene County Commission; and*
C. *There is a commitment from Christian County and the City of Nixa to develop an urban service boundary for the City of Nixa.*

Source: OTO Board of Directors February, 2004

However it is the recommendation of this study that, although construction is not allowed until the above amendment is fulfilled, planning for the extension of the Kansas Expressway south of the East-West Arterial can continue, even if the conditions stated in the amendment are delayed. The following are steps that could be followed prior to project construction to progress from this concept study. The process described typically takes a minimum of five years to complete, or possibly longer.

1a) Alignment Study/Environmental Study
An earmark was included in SAFETEA-LU for which an amount of $1.4 million is remaining and could be used for environmental and location study in the U.S. 160/Kansas Expressway Corridor. When federal funds are to be used on a project, an environmental impact study (EIS), with the goal of avoiding, minimizing or mitigating negative impacts associated with roadway construction, is required to assess impacts associated with specific alignment alternatives. Sections of independent utility could also be defined to guide the sections and phasing of the corridor to be studied. It is suggested that the entire West Bypass/Route FF extension be included in the study because if the regional traffic function is to be addressed, it will require construction of the entire route or possibly reduced to the area north of Missouri 14.

For the Kansas Expressway extension, sections of independent utility should be examined in order to determine the appropriate level of environmental study for each. For example, the section of the Kansas Expressway extension from Republic Road to the future East-West Connector could be one section; from south of the East-West Connector to Nicholas Road as a second section; and the third section would be

from Nicholas Road to the new connection to Route FF. Separate environmental studies could be conducted for each section or conducted in total with the West Bypass/Route FF.

Following the signing of the Record of Decision by the FHWA for the EIS, actions toward the implementation of the preferred alternative must take place within a period of seven years, or the EIS becomes invalid.

1b) Local Land Use Regulations that can be used to preserve Right-of-Way
The local communities of Battlefield, Nixa, Greene County, and Christian County should monitor building permit activity immediately adjacent to the existing Route FF and within the anticipated right-of-way corridor for new sections of the expressway in anticipation of future right-of-way requirements for an expressway facility. Following completion of the draft EIS, further refine the anticipated right-of-way corridor on the local major thoroughfare and zoning maps. If a development or a sale of a property becomes apparent, work with MoDOT on hardship right-of-way purchases in order to preserve the corridor prior to the completion of right-of-way plans and initiation of right-of-way acquisition. The right-of-way width identified in the OTO LRTP is a minimum 180 feet for an expressway and 110 feet for an arterial. Additional width should be obtained at intersection areas that could potentially be expanded in the future as an interchange. Context sensitive design related to roadway width should be considered to support compatibility with existing development in the City of Battlefield.

2) *Administrative Actions*
- Define the alignment on the OTO Major Thoroughfare Plan. The OTO Long Range Plan should be amended to show the Kansas Expressway Extension as a primary arterial.
- Obtain agreement with MoDOT to designate FF extension as state route (become the new U.S. 160) upon project completion
- Prioritize the project(s) in the OTO regional prioritization process as a high-priority corridor
- Include the project(s) in the OTO Transportation Improvement Program

3) Engineering
Engineering for the project will include preparing preliminary plans and a public hearing. Upon receiving final location and design approval from FHWA, right-of-way plans and detailed construction plans will be developed.

4) Fund Right-of-Way Purchase
Establish the West Bypass/Route FF and for the Kansas Expressway Extension as a high-priority project for construction within the MoDOT project development process. Allocate funding from local STP funds or from MoDOT major project funding, or obtain other funds for the purchase of right-of-way. Right-of-way in Christian County and any remaining portion needed in Greene County can be purchased using local STP funds or local funds. Given that the level of STP funding is not sufficient to fund regional project needs, other state, federal, and local funding will likely be needed for the project. The cities of Springfield and Nixa have local sales tax revenue that could be applied to this project, but Christian County does not have a dedicated transportation funding mechanism. Local funding from Christian County is currently limited to allocation from their general fund or from capital improvement budgets. It may also be possible to issue bonds that would be paid off by either the county or by adjacent land owners. Jurisdictions within the OTO area including Springfield, Nixa, Republic, Greene County and Christian County receive annual sub allocations of STP funds.

5) Construction
Based on available funding, it is estimated that approximately $5 to $7 million would be available for the identified capacity projects in the OTO area. If that level of funding is not increased, the projects identified in this study would need to be phased.

Following the purchase of right of way, the following project phases for the West Bypass/Route FF are suggested:

1. Extend expressway from Weaver Road to Farm Road 194 (County Line Road)

2. Improve capacity of interchange with JRF.

3. Depending on the EIS/location study extend as expressway or freeway from Farm Road 194 to Missouri 14, to possibly include sub-phases of the bridge over the James River, the roadway connection from Route 194 to the bridge, and the roadway connection from Missouri 14 to the bridge.

4. Construct expressway from Missouri 14 to U.S. 160.

The construction of the Kansas Expressway Extension would be restricted by the Long Range Plan Amendment described above. Following the purchase of right of way, the following project phases for the Kansas Expressway Extension are suggested:

1. The first phase on the north end of the project near Republic Road will be developer driven. The project should be timed with development. The first phase will construct a two-lane roadway from Republic Road to Weaver Road.

2. Extend the two-lane roadway from Weaver Road to the new East-West Arterial. (The East-West Arterial will be extended to Campbell).

3. Improve the Kansas Expressway interchange with the James River Freeway.

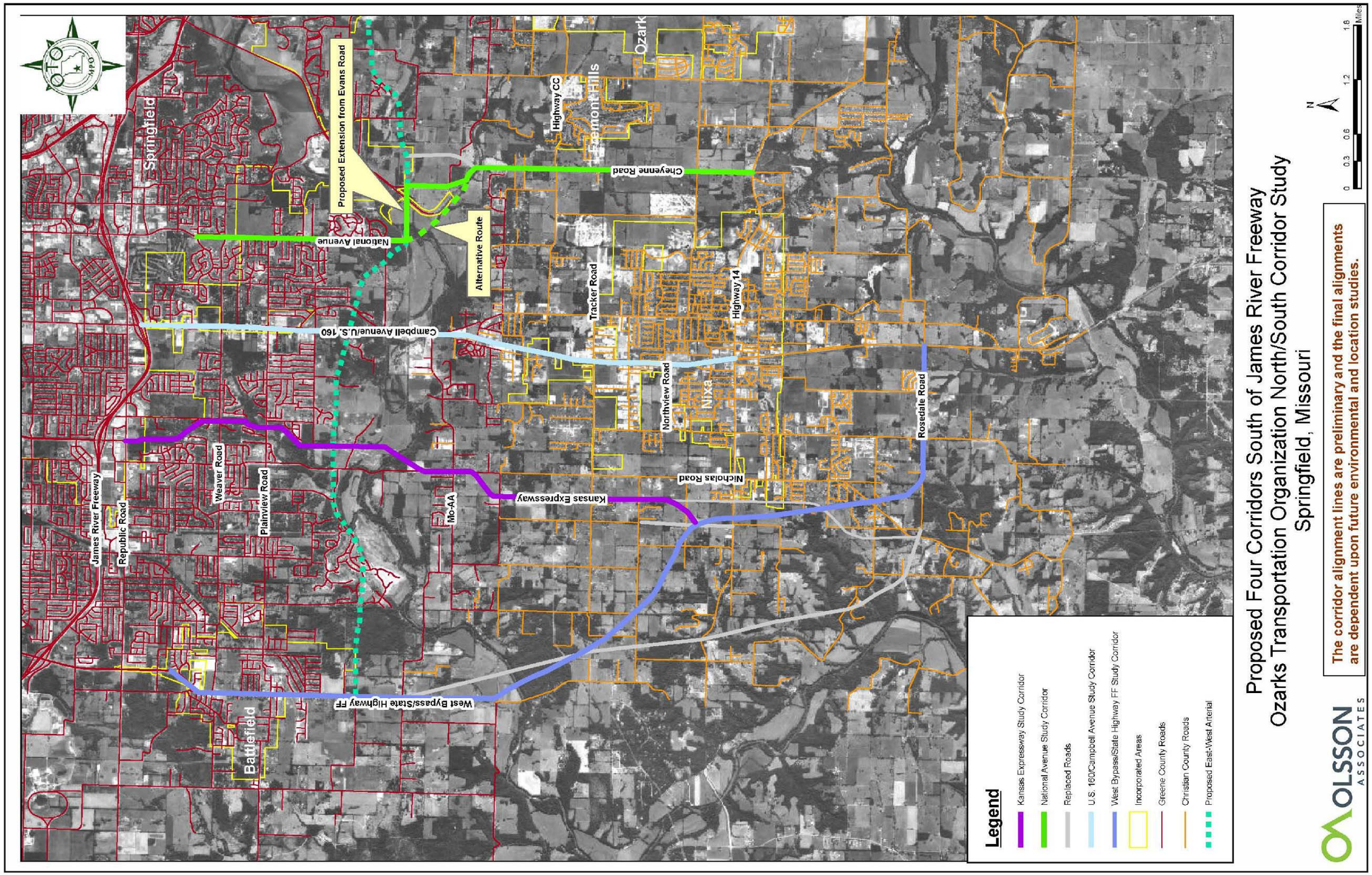
4. Extend the two-lane roadway from the East-West Arterial to Route AA.

5. Extend the two-lane roadway from Route AA to Tracker.

6. Extend the two-lane roadway to connect to the West Bypass.

7. Examine the potential for Bus Rapid Transit (BRT) within the corridor.

Figure 5.1 Proposed Corridors on the Major Thoroughfare Plan



U.S. 160/Campbell
With construction of other parallel corridors, U.S. 160/Campbell was not shown as a high priority for adding new lanes, but is a high priority for congestion management. A number of lower cost projects and programs are recommended to maintain or enhance mobility along this corridor.

1) *Complete a Traffic Management Plan for U.S. 160*
Given priorities, funding, and timing considerations, it was determined that short range roadway improvement strategies would be considered a high-priority. The priority would be to examine minor, capacity-enhancing roadway projects rather than constructing new travel lanes. The initial step of this strategy would be to complete a traffic management plan for U.S. 160 from north of the James River Freeway to Highway 14. The study would examine capacity needs between the U.S. 60 interchange and south to the East-West Arterial. South of that point, the study would focus on intersection access including the spacing and coordination of traffic signals. It should be noted that a separate study is currently underway to evaluate and recommend improvements to the JRF/U.S. 160 (Campbell Avenue) interchange.

2) *Identify, fund and construct Transportation Management Improvements*
The projects identified in an access management plan would be identified and listed in the OTO's Transportation Improvement Program.

3) *Review the Land Use Density along U.S. 160 and modify zoning if applicable*
The land use regulations should be reviewed to determine a mix of residential and commercial oriented land uses. The degree that land uses are connected by local streets and sidewalks should be examined in order to provide alternate routes of travel. This task would include review of zoning and subdivision regulations. An overlay zone should be considered for the U.S. 160 Corridor, if city-wide and county-wide changes are not desired.

4) *Require Traffic Impact Studies be completed for projects along U.S. 160*
When new developments are proposed, traffic studies should be required from the developer. The study should demonstrate how the traffic generated from the site will be accommodated. The reports should describe current and future intersection operations on U.S. 160, as well as roadway modifications required to maintain the desired traffic service level given site generated traffic.

5) Consider creating a Transportation Improvement District to fund access related projects.
The purpose of a Transportation Development District (TDD) is to fund, plan, design, construct, maintain, and operate transportation projects. A TDD is created by submitting a petition to the circuit court from either 50 registered voters in each county in the district, by all of the owners of real property in the district if the property contains no registered voters, or by the municipality or county. The petition identifies the district's boundaries, each proposed project, and a proposal for funding the projects. After receiving the petition and holding a hearing to determine that the petition complies with the law, the circuit court enters a judgment. If the judgment is favorable to the petition, an election will be held. If a simple majority of registered voters or property owners within the boundaries vote in favor, the TDD is created. If the issue fails, it cannot be resubmitted to the voters for two years. If approved, a second election is held within 120 days to elect a board of directors for the district.

A TDD may fund approved transportation projects (subject to the approval of the municipality or county or the Missouri Highway and Transportation Commission, depending on the project) utilizing one or more financing mechanisms (special assessments, property taxes, tolls, and sales taxes not to exceed 1%) authorized in the election. TDDs are also authorized to issue bonds, including revenue bonds, by resolution of the board of directors without a vote of the public. These bonds do not count against a city's debt limit.

6) Consider remaining strategies in the Congestion Management System that could be implemented on U.S. 160 and adjacent area
There are two additional strategies that should be considered for a short-term solution. The first is to extend the Intelligent Transportation System (ITS) network on the U.S. 160 corridor south of the James River Freeway. The second is to expand a surveillance system housed in the Transportation Management Center in Springfield. It is currently used to provide surveillance for incident management and for signal coordination to primary arterial routes north of the James River Freeway, but it could be expanded to include U.S. 160 south of Plainview. Other actions include study of High Occupancy Vehicle (HOV) lanes and future application of BRT.

U.S. 160 (North)
This project was shown as a capacity project priority. It is anticipated that this project could be constructed within existing right-of-way. As such, corridor preservation techniques should not be necessary.

1) List as high priority project.
This project is currently and would remain listed as regional high priority by the OTO in the MoDOT project development process and is included in the LRTP in order to move forward as a project.

2) Complete engineering
The project is within existing right-of-way. This may still require completing an initial location study and environmental documentation. Then preliminary and final engineering can be completed.

3) Administrative Actions
When funding is anticipated, the project should be added to the OTO Transportation Improvement Program.

4) Construction
Widen U.S. 160 from Willard to I-44 as funding becomes available.

National Avenue
National Avenue was listed as the next capacity priority. It is likely that local corridor preservation approaches will be important to preserve area that can be used for right-of-way. The land adjacent to this corridor is under heavy development pressure. Local corridor preservation will be needed for an unknown amount of time in the future as funding for this corridor is not certain and construction may not occur for at least 10 years or more.

1) Alignment Study
The OTO Long Range Transportation Plan and Major Thoroughfare Plan should be modified to reflect the National Avenue alignment. An alignment study for the final location is necessary to identify the desired right-of-way to be preserved.

2) Local Land Use Regulations that can be used to preserve Right-of-Way
Once an alignment is shown, it will be important to identify a right-of-way corridor on zoning maps. It will need to be included on zoning maps of the cities of Springfield and Nixa. Christian County has performance based zoning and does not have zoning maps. The county is considering a revision to the zoning codes in 2007, which will allow for a platted easement for transportation corridors which specifies a set back of 50 feet from the edge of pavement for state routes and 50 feet from the center line for local streets. With these tools, Christian County will ask for a voluntary preservation of corridor right-of-way.

Where possible, they may ask for donation of the right-of-way to better enable the project to proceed, thereby improving access for the property owner. Following the design guidelines defined in the OTO LRTP, the width of a corridor is 110 feet plus intersection triangles for arterial routes such as the National Avenue extension.

3) Local Funding Options
Similar to the Kansas Expressway extension, local funding will likely be needed for the project. The cities of Springfield and Nixa have local sales tax revenues that could be applied to this project. In Christian County there is not a dedicated transportation funding mechanism, therefore local funding from the county would be limited to allocation from their general fund or from capital improvement budgets. It may also be possible to issue bonds that would be paid off by either the county or by adjacent land owners. Jurisdictions within the OTO area including Springfield, Nixa, and Christian County receive annual sub allocations of STP funds, a portion of which could be allocated to the construction of National Avenue.

4) List in the OTO Transportation Improvement Program
After funds are identified, the project can be added to the OTO Transportation Improvement Program.

5) Construction
Construct this project in phases as funding is acquired. The following phases have been identified:

1. Construct new four lane arterial from Farm Road 192 to new East-West Arterial.
2. Widen to four lanes from Gaslight Road to Farm Road 192.
3. Construct new four lane arterial from East-West Arterial to Tracker Road.
4. Construct new four lane arterial from Tracker Road to Missouri 14.
5. Consideration of BRT for this corridor should be made consistent with recommendations from a future BRT study.

Highway 13 Connector
The Highway 13 connector has been studied as a grade separated freeway type facility that would be provided to maintain uninterrupted travel movement between Highway 13 and I-44. The existing Highway 13 is developing in a commercial pattern involving high retail activity, signal density and high turning movements. The function of Highway 13 is transitioning from a highway function to a commercial access function. In addition, the Highway 13 connector would shift travel away from the currently congested Kansas Expressway corridor to the less congested West Bypass corridor.

MoDOT is investigating approaches to modifying the current Highway 13/I-44 interchange. However, there are right of way restrictions that preclude a system-to-system interchange and limit the potential scope of the project to modifying the existing interchange or reconstructing a similar type of interchange with additional turning movement capacity. The modification of the current interchange will improve traffic operations, but may not fully address both local and system-to-system travel movement.

Further project refinement and discussion will need to be completed by MoDOT, the OTO, and local communities on the project needs, traffic operational benefits, potential environmental impacts and costs before this project can be prioritized. At this time, the project should be considered to be included as part of future LRTP updates.

Construction
Decisions related to the need and priority of the Highway 13 connector will be addressed following the completion of the statewide I-44 Corridor Study being led by MoDOT. As part of that study, the I-44 and Route 13 interchange will be analyzed. Additional information is anticipated from that study regarding the impact of potential improvements at I-44 and Route 13 and also the level and need for additional consideration of the Highway 13 connector.

5.5 Conclusion
The purpose of this study is to examine and prioritize transportation options that would improve regional and local north-south travel, with particular emphasis on the area south of the James River Freeway and north of I-44. The alternatives identified support the economic vitality of the OTO area by relieving current and future traffic congestion through safe, efficient, cost-effective, and environmentally sound roadway improvements.

Financial constraints impact the timing for constructing the study recommendations. The OTO LRTP includes a chapter which discusses the existing and potential financial resources available to the region through the year 2030. The OTO LRTP lists approximately $550 million dollars worth of projects rated high or medium that would be funded with approximately $550 million of federal, state, and local resources. The high-priority list includes $11.6 million for capacity expansion of U.S. 160 from I-44 to Route 123 and $3 million for U.S. 160 from Rosedale to the south OTO limit. The medium-priority list includes $12 million for the Kansas Expressway extension, from Republic Road to FR 182. It also includes $88 million to widen the Kansas Expressway from I-44 to the James River Freeway and to widen U.S. 160 from the James River Freeway to the south OTO limits.

The OTO Board will need to determine if the projects listed above will be kept as priorities, or they should be reconsidered given the findings of this study. If the priorities remain as currently expressed, new funding sources would need to be determined to fund the extension of the West Bypass/Route FF. If the study recommendations are to be followed and reflected in the OTO long range priority project ranking, the extension of the West Bypass/Route FF, with the connection to a future Kansas Expressway extension, should be inserted as a high-priority project. If the anticipated financial forecast has not increased sufficiently to accommodate this change, then a reallocation would need to occur. The regional priorities would need to be coordinated with MoDOT.

Local communities need to assist in the effort for future project construction by following land use regulations. Time will be required to fund and implement the project recommendations, corridor preservation techniques will be needed to coordinate the project intent with local developers and land use planners. Corridor preservation techniques should be implemented in order to provide an opportunity to make a cost-effective transportation investment in the OTO area while supporting the long-range economic development growth of the area. A focus on short-term economic opportunities by local government officials could jeopardize the ability of future local and state public officials to implement the study recommendations.

This study has identified a significant need to continue to plan for a balanced transportation system that includes not only new roadway capacity, but also access management, a walking environment, mixed land uses, and a reduction of single occupant drivers through carpool and transit. High levels of population and employment growth expected in the areas south of the James River Freeway and north of I-44, in combination with funding competition that impedes the progress of roadway improvements, emphasize the importance of coordinating a region-wide, balanced effort to develop an effective and efficient transportation network.

Appendix A

Environmental Review Correspondence

DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
REGULATORY BRANCH-TRUMAN SATELLITE OFFICE
ROUTE 2, BOX 29-C
WARSAW, MISSOURI 65355

August 8, 2006

REPLY TO
ATTENTION OF:

Truman Regulatory Satellite Office
(200602279)

Ms. Sara Edwards
Senior Planner
Ozarks Transportation Organization
P.O. Box 8368
840 Boonville Ave.
Springfield, Missouri 65801

Dear Ms. Edwards:

This is in reply to your July 7, 2006 letter regarding the corridor study in and near the City of Springfield, Greene County, Missouri. The portion of the corridor north of Kearney Street on your map is located approximately within the Kansas City District, Corps of Engineers. The portion of the corridor south of Kearney Street is located within the Little Rock District, Corps of Engineers, and they should be contacted for comment.

The Corps of Engineers has jurisdiction over all waters of the United States. Discharges of dredged or fill material in waters of the United States, including wetlands, require prior authorization from the Corps under Section 404 of the Clean Water Act (33 USC 1344). The implementing regulation for this Act is found at 33 CFR 320-330.

Should the proposed improvements require the discharge of dredged or fill material in any waters of the United States, including wetlands, a Department of the Army (DA) permit may be required. However, if the proposed improvements do not require the discharge of dredged or fill material in any waters of the United States, including wetlands, a DA permit will not be required.

Federal regulations require that a DA permit be issued by the Corps of Engineers prior to the initiation of any construction on the portion of a proposed activity which is within the Corps' regulatory jurisdiction.

If you have any questions concerning this matter, please feel free to contact Mr. Mel B. Stanford at 660-438-6697 (FAX 660-438-6909). Please reference Application No. 200602279 in all comments and/or inquiries relating to this project.

Matt Blunt, Governor • Doyle Childers, Director
DEPARTMENT OF NATURAL RESOURCES
www.dnr.mo.gov

August 3, 2006

Sara Edwards, Senior Planner
Ozarks Transportation Organization
P.O. Box 8368
Springfield, MO 65801

RE: Ozarks Transportation Organization North/South Corridor Study
Olsson Associates Project No. 2006-0706

Dear Ms. Edwards:

The Missouri Department of Natural Resources' Hazardous Waste Program (HWP) has reviewed your information request regarding the above-referenced study area. A search of our databases and provisional Geographic Information System (GIS) data was made and your request was forwarded to the Budget and Planning, Brownfields/Voluntary Cleanup, Federal Facilities, Compliance/Enforcement, Permits, Tanks, and Superfund Sections within the Hazardous Waste Program. We have the following information on hazardous waste sites along the project corridors and in the general project vicinity.

Superfund Section

There are five Superfund sites within the proposed boundary of the project. Three of these sites are closed investigations and we anticipate no environmental threat from these sites. However, two of the sites are the locations of active investigations by the Superfund Section. These two sites are known or suspected of containing contaminated surface and subsurface soils. If the project requires the use of, or interaction with, groundwater in northwest Springfield in the vicinity of 4900 West Kearney, there is a known Trichloroethylene (TCE) groundwater plume. The locations of the five sites are noted on the enclosed map labeled "Appendix A". For additional information on any of these sites, please contact the Superfund Section at (573) 751-4187.

Permits Section

There are three permitted facilities located in the project study area, as follows:

1. Aaron's Automotive Inc., 325 W. Cardinal, Springfield
2. Kerr-McGee, 3247 W. Chestnut Expressway, Springfield
3. Safety-Kleen, 517 W. Katherine, Nixa

Because these facilities are involved in the treatment, storage, or disposal of hazardous waste, a low potential for contamination exists. For additional information on any of these sites, please contact the Permits Section at (573) 751-3553.

Recycled Paper

Further research may be pursued through the U.S. Environmental Protection Agency's tracking record, Comprehensive Environmental Response, Compensation Liability Information System (CERCLIS), or Resource Conservation Recovery Act (RCRA) records. To request information, please contact Ms. Karen Flournoy of the EPA, Region VII, at (913) 551-7003. The EPA's CERCLIS web address is www.epa.gov/superfund/sites/cursites, and the RCRAInfo web address is www.epa.gov/enviro/html/rcris/rcris_query_java.html.

To arrange for a review of Hazardous Waste Program files, contact our records manager, Ms. Rhonda Loveall, at (573) 751-3043. If you have further questions regarding this project, please contact Mr. Tim Eiken at (573) 522-8057. All correspondence should be addressed to the Missouri Department of Natural Resources, Hazardous Waste Program, P.O. Box 176, Jefferson City, Missouri 65102-0176. Thank you.

Sincerely,

HAZARDOUS WASTE PROGRAM

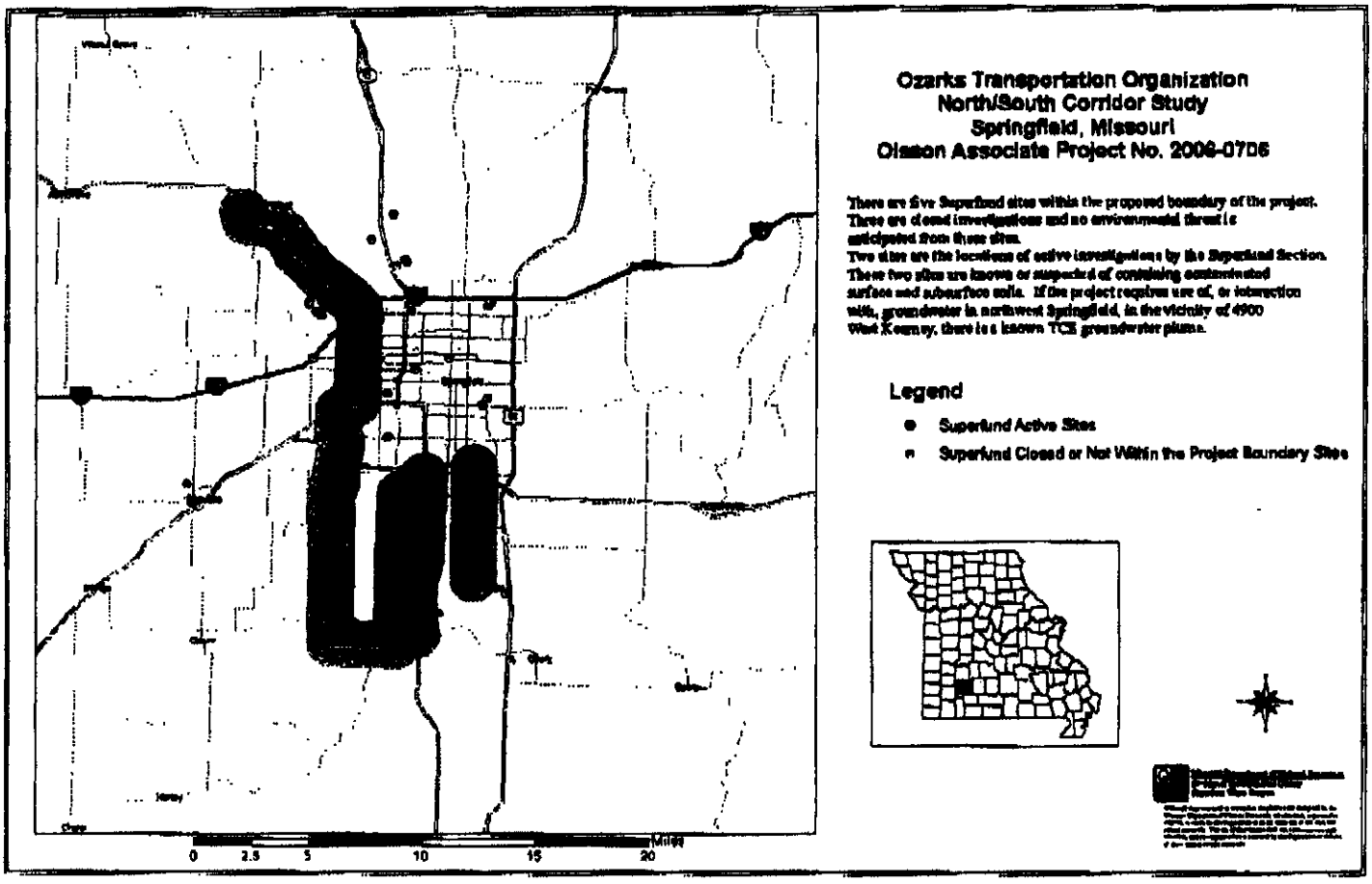
Robert Geller

Robert Geller
Director

RG:tej

Enclosures

Appendix A


Ozarks Transportation Organization
North/South Corridor Study
Springfield, Missouri
Olsson Associate Project No. 2006-0706
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Two sites are the locations of active investigations by the Superfund Section. These two sites are known or suspected of containing contaminated surface and subsurface soils. If the project requires use of, or interaction with, groundwater in northwest Springfield, in the vicinity of 4900 West Kearney, there is a known TCE groundwater plume.
Legend
Superfund Active Sites
Superfund Closed or Not Within the Project Boundary Sites
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Underground Storage Tank sites

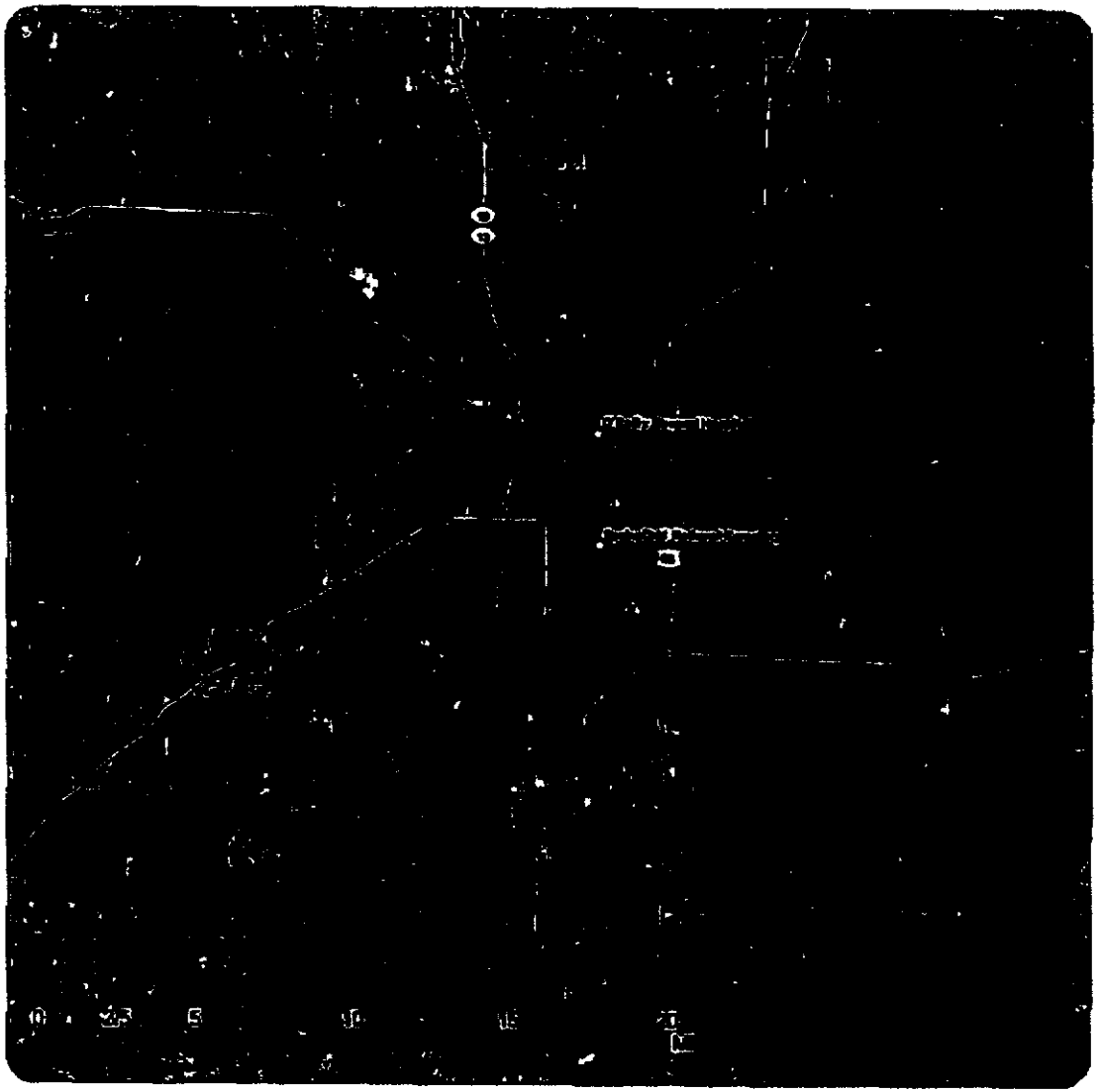
Appendix B

Facility Id	Facility Name	Address	City	Zip
ST0000372	RAPID ROBERT S #118	5011 S FF HWY	BATTLEFIELD	65619
ST0000542	SCENIC OIL COMPANY, INC	213 S SCENIC	SPRINGFIELD	65802
ST0002349	PONY EXPRESS #2	229 VILLAGE CENTER	NIXA	65714
ST0002411	GIT-N-GO #68	1750 E REPUBLIC RD	SPRINGFIELD	65802
ST0002649	SOUTHWESTERN BELL	WATER & ELM	NIXA	65714
ST0002685	MR MART CONOCO	411-A NORTHVIEW	NIXA	65714
ST0002778	WILLARD R-II SCHOOL DISTRICT	PO BOX 98 AB HWY	WILLARD	65781
ST0002991	TERRY STONE DBA NIXA CONVENIENCE CT	615 W MT VERNON	NIXA	65714
ST0003287	BOB'S E-Z STOP CONVENIENCE STORE	1202 N MAIN	NIXA	65714
ST0003483	DANNY'S SERVICE CENTER	3505 W DIVISION ST	SPRINGFIELD	65803
ST0003525	VILLAGE MART #9	2720 W KEARNEY	SPRINGFIELD	65803
ST0003737	RELIABLE CHEVROLET-SAAB, INC	3655 S CAMPBELL	SPRINGFIELD	65807
ST0003829	WILLARD CDO	MAIN ST	WILLARD	65781
ST0003841	EXPRESS LANE #3	3450 W DIVISION	SPRINGFIELD	65802
ST0003885	PONY #3	1901 N US HWY 160 RT 3 BX 14-L	NIXA	65714
ST0003942	HOCKER OIL CO - GAS+	2745 W CHESTNUT EXPRESSWAY	SPRINGFIELD	65802
ST0003995	BURLINGTON NORTHERN RAIL SIDING	3253 E CHESTNUT EXPRESSWAY	SPRINGFIELD	65802
ST0004679	EMERSON'S 66	106 N MAIN ST	NIXA	65714
ST0006496	SHULER SERVICE CENTER	3026 W CHESTNUT EXPRESSWAY	SPRINGFIELD	65802
ST0006500	WILLARD SINCLAIR	412 JACKSON ST	WILLARD	65781
ST0006520	TOTAL MART	4140 S FREMONT	SPRINGFIELD	65804
ST0006532	SCURLOCK INDUSTRIES OF SPRINGFIELD INC	3401 W COMMERCIAL ST	SPRINGFIELD	65803
ST0006550	FIRE STATION #10	2245 E GALLOWAY	SPRINGFIELD	65804
ST0006596	VICKERS RETAIL #6216	3434 W CHESTNUT	SPRINGFIELD	65803
ST0006606	DON WESSEL OLDS-HONDA-GMC-SUZUKI	3520 S CAMPBELL	SPRINGFIELD	65807
ST0006991	CONCO QUARRIES INC	US HWY 160 PO BOX 172	WILLARD	65781
ST0006992	JERRY'S GENERAL STORE	307 PROCTOR RD	WILLARD	65781
ST0007037	TIGER ONE STOP	520 EAST JACKSON	WILLARD	65781
ST0007448	KUM & GO #463	425 NW BYPASS	SPRINGFIELD	65802
ST0007858	AC&S DIVISION SPRINGFIELD	3211 E CHESTNUT EXPRESSWAY	SPRINGFIELD	65802
ST0007887	EXPRESS LANE #14	3905 W CHESTNUT EXPRESSWAY	SPRINGFIELD	65802

Underground Storage Tank sites

ST0007926	MICHAEL G. PAULIK	4900 W CHESTNUT EXPRESSWAY	SPRINGFIELD	65804
ST0008007	GRAY'S CONOCO	103 E MT VERNON	NIXA	65714
ST0008234	V, M & S PAULIK, L & C KOTARS	3655 W SUNSHINE	SPRINGFIELD	65807
ST0008885	PRICE CUTTER EXPRESS #155	402 N MASSEY BLVD	NIXA	65714
ST0009171	MR MART WEST	1306 W MT VERNON	NIXA	65714
ST0009196	MCCURRY MOTOR SALES	3801 W SUNSHINE	SPRINGFIELD	65807
ST0009352	KUM & GO #476	2161 E REPUBLIC COURT	SPRINGFIELD	65804
ST0009918	SOUTHWEST PLUMBING & HEATING CO	2856 W MADISON	SPRINGFIELD	65802
ST0010433	BILL'S CONOCO	302 MILLER RD	WILLARD	65781
ST0010767	CUMMINS MID-AMERICA INC	3637 E KEARNEY	SPRINGFIELD	65803
ST0010806	SUPER STOP # 15	3899 W CHESTNUT EXPRESSWAY	SPRINGFIELD	65802
ST0012818	SIGNAL FOOD STORE	402 W MT VERNON	NIXA	65714
ST0013110	JAMES RIVER POWER STATION	5701 S KISSICK RD	SPRINGFIELD	65807
ST0013531	FASTRIP #35	3109 W SUNSHINE	SPRINGFIELD	65807
ST0013576	SO LOW AUTO SALES	3247 W CHESTNUT	SPRINGFIELD	65802
ST0013577	RAPID ROBERT S #111	1402 E REPUBLIC RD	SPRINGFIELD	65804
ST0013583	MR. BILL'S 66	2406 E REPUBLIC RD	SPRINGFIELD	65804
ST0016613	FORMER CAMS TRUCKING	107 E JACKSON	WILLARD	65781
ST0018736	KUM & GO #479	510 W REPUBLIC RD	SPRINGFIELD	65807
ST0018862	BATTLEFIELD TIRE & GROCERY	4228 W THIRD	BATTLEFIELD	65619
ST0019788	BUD'S MUFFLER	3600 W SUNSHINE	SPRINGFIELD	65807
ST0019812	PONY EXPRESS	HWY Z	WILLARD	65781
ST0019924	CASEY'S GENERAL STORE	703 S SCENIC	SPRINGFIELD	65802
ST0020262	PRICE CUTTER #152	5505 FF HWY	BATTLEFIELD	65619
ST0020537	HARTMAN & CO INC	3612 W NICHOLS	SPRINGFIELD	65802
ST0020630	CASEY'S GENERAL STORE	4124 W CHESTNUT EXPRESSWAY	SPRINGFIELD	65802
ST0020826	EXPRESS LANE #15	1110 W MT VERNON	NIXA	65714
ST0020829	DEBBIES PET GROOMING	110 JACKSON STREET	WILLARD	65781
ST0020863	MURPHY USA #6681	3516 W SUNSHINE	SPRINGFIELD	65807
ST0020975	CURTIS PROPERTY	3830 SOUTH LONE PINE	SPRINGFIELD	65804
ST0021156	KELTNER PROPERTY	SW CORNER OF MAIN & SECOND ST	BATTLEFIELD	65619
ST0021338	CODY'S #3	3449 W KEARNEY	SPRINGFIELD	65803

Appendix C

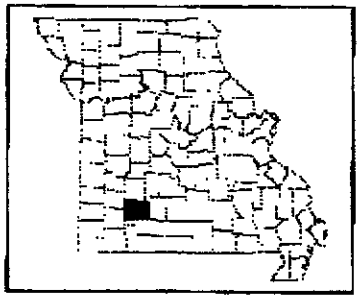


Federal Facilities Section

Ozarks Transportation Organization
North/South Corridor Study
Springfield, Missouri
Olsson Associate Project No. 2006-0706

The Federal Facilities Section reviewed the July 14, 2006 request from Ozarks Transportation Organization for the proposed highway improvements in Greene County. There are two Federal Facilities Section projects within five miles of the study corridor.

These sites are the O'Reilly General Hospital and the Springfield National Cemetery which are both located within Springfield.



Missouri Department of Natural Resources
Division of Environmental Quality
Hazardous Waste Program
Created by Shawn Mansker on July 14, 2006

Although data was used to create this map it has been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The use of the data does not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.

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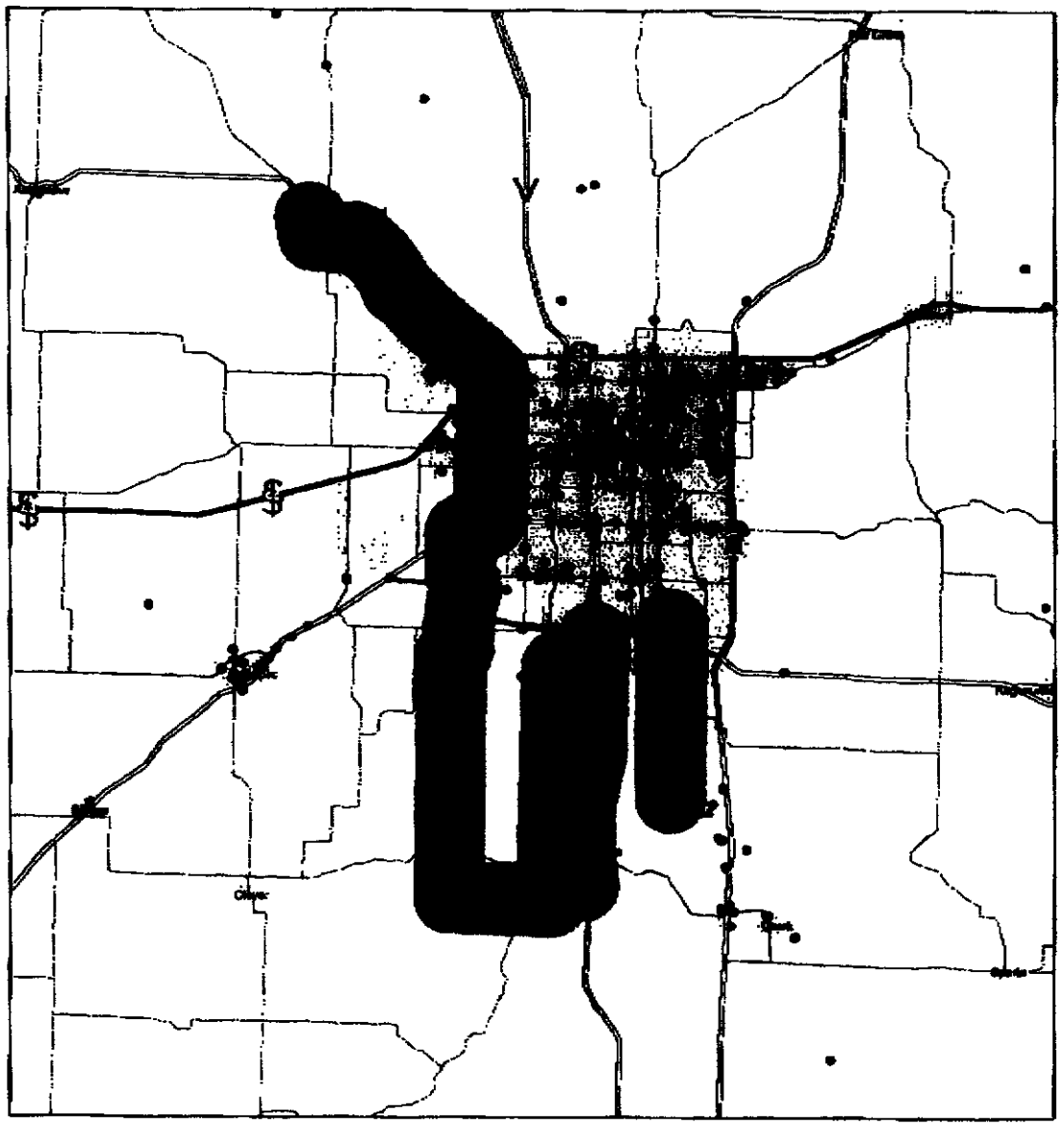
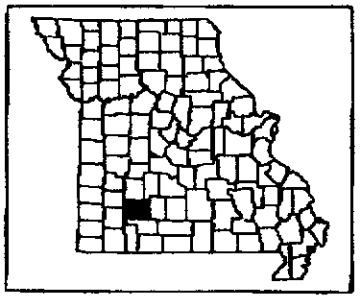


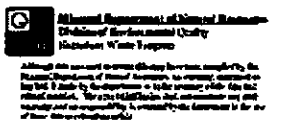
Ozarks Transportation Organization
North/South Corridor Study
Springfield, Missouri
Olsson Associate Project No. 2006-0706

See attached excel spreadsheets for more information.

Legend

- Data from Fees & Taxes Database
- GPS data from Fees & Taxes Database





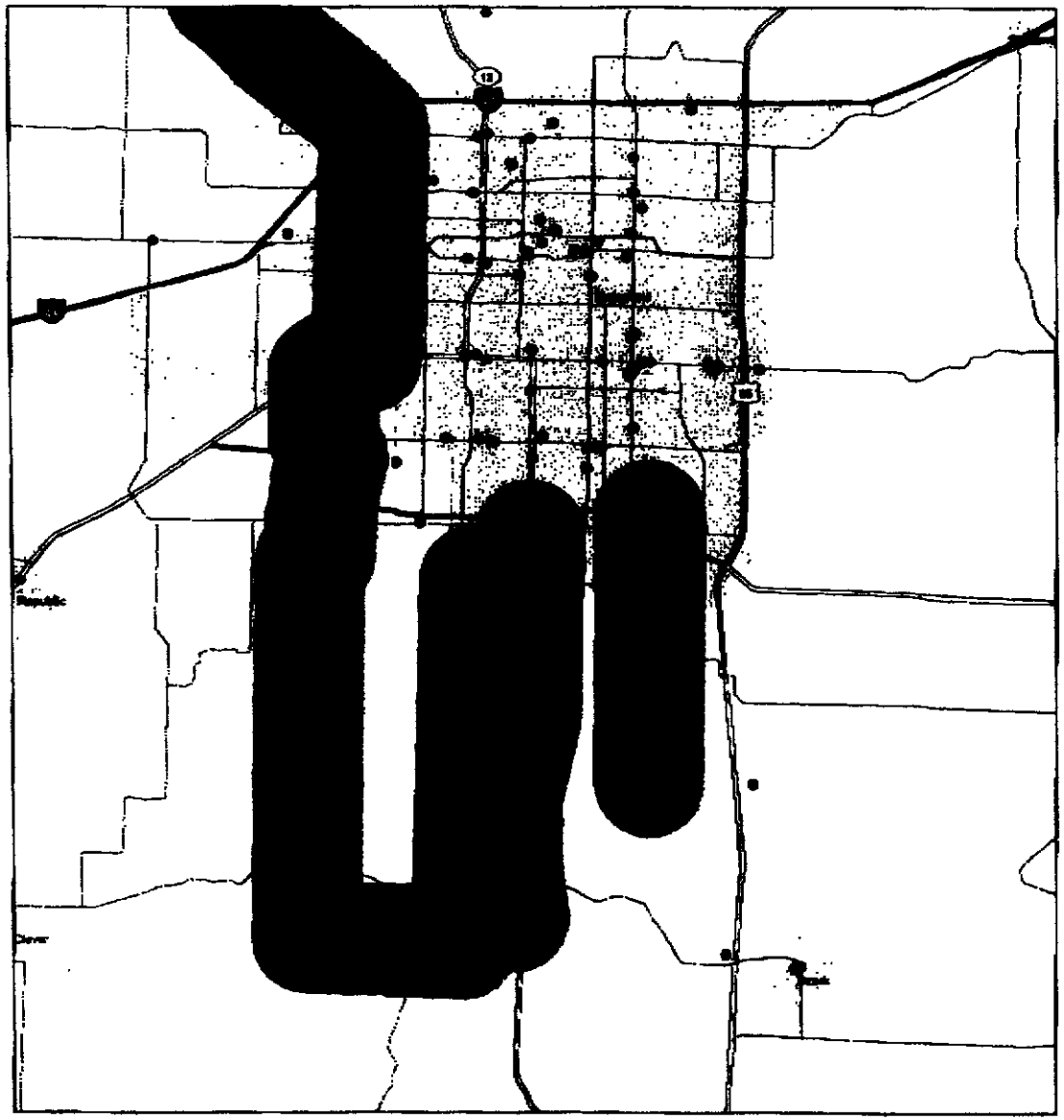
Appendix D-2

Compliance/Enforcement Section sites

Site Name	Address	City	State
ALL JANITORIAL SERVICES INC	684 W MAPLEWOOD	SPRINGFIELD	MO
QUIKTRIP #134	325 W CARDINAL	SPRINGFIELD	MO
OZARK DIESEL POWER	820 NW BYPASS 66	SPRINGFIELD	MO
AMPLE INDUSTRIES INC	1101 EAGLECREST	NIXA	MO
VOGUE CLEANERS	4328 S FREEMONT	SPRINGFIELD	MO
ROBERTSON FURNITURE MFG	1545 NW BYPASS	SPRINGFIELD	MO
SAFETY KLEEN INC	734 NW BYPASS 66	SPRINGFIELD	MO
MISSISSIPPI LIME CO	3825 S LONE PINE	SPRINGFIELD	MO
SRC AUTOMOTIVE	2029 N GOLDEN	SPRINGFIELD	MO
KERR MCGEE CHEMICAL	2800 W HIGH ST	SPRINGFIELD	MO
C & P TRUCK BODY & EQUIP CO	1948 NW BYPASS	SPRINGFIELD	MO
HARDY'S TRUCK & AUTO INC	3616 W CHESTNUT EXPY	SPRINGFIELD	MO
SPRINGFIELD CHRYSLER	3505 S CAMPBELL	SPRINGFIELD	MO
THRIFTY IMPORTS INC	3600 S GLENSTONE	SPRINGFIELD	MO
166 AUTO AUCTION INC	2944 W SUNSHINE	SPRINGFIELD	MO
THERMO KING OF SPRINGFIELD INC	1353 NORTHWEST BYPASS	SPRINGFIELD	MO
RELIABLE CHEVROLET INC	3655 S CAMPBELL	SPRINGFIELD	MO
WEHRCO	2821 W CHESTNUT EXPWY	SPRINGFIELD	MO
SPRINGFIELD NISSAN INC	3505-B S CAMPBELL	SPRINGFIELD	MO
CENTRAL BLOWER REPAIR	1223 N WESTGATE	SPRINGFIELD	MO
BATTLEFIELD WIRE PROD INC	4243 W 3RD ST	BATTLEFIELD	MO
HAMMER'S AUTO WORKS INC	2921 W CHESTNUT EXPY	SPRINGFIELD	MO
AMERICAN COACH	3700 S GLENSTONE	SPRINGFIELD	MO
KICKAPOO CLEANERS	3950 S CAMPBELL	SPRINGFIELD	MO
ENGINES PLUS INC	3440 G W DIVISION	SPRINGFIELD	MO
CLASSIC TRAILERS INC	1625 NW BYPASS	SPRINGFIELD	MO
BRADFORD BODY SHOP	1480 S BRADFORD LN	SPRINGFIELD	MO
ENGINES PLUS INC	1824 N WEST BYPASS	SPRINGFIELD	MO
SKIDMORE BODY SHOP	2850 W MADISON	SPRINGFIELD	MO
PETE THE PAINTER	1408 S ZIMMER RD	SPRINGFIELD	MO
HARTER EDWARD J JR	5237 S SCENIC	SPRINGFIELD	MO
SPRINGFIELD WORKSHOP INC	2835 W BENNETT	SPRINGFIELD	MO
CUSTOM METAL CRAFT	4227 W MAPLE	SPRINGFIELD	MO
ESTES USED CARS	3220 W CHESTNUT EXPY	SPRINGFIELD	MO
TRIPLE R PAINTING INC	3648 W CHESTNUT EXPY	SPRINGFIELD	MO
GLO CLEANERS PARKCREST	3851 S CAMPBELL	SPRINGFIELD	MO
HEATWAY	3131 W CHESTNUT EXPY	SPRINGFIELD	MO
RELIANT INDUSTRIES INC	3247 W CHESTNUT EXPY	SPRINGFIELD	MO
WEBSTER OIL INC PARKCREST 66	3553 S CAMPBELL	SPRINGFIELD	MO
CARVER MIDDLE SCH	3325 W BATTLEFIELD	SPRINGFIELD	MO
IRONWORKS BY CARNAHAN	5343 S CAMPBELL	SPRINGFIELD	MO
SPRINGFIELD CITY OF	1620 W HIGH ST	SPRINGFIELD	MO
CONCO QUARRIES INC	3900 S LONE PINE	SPRINGFIELD	MO
QUICK TRIP #139	2715 W CHESTNUT EXPY	SPRINGFIELD	MO
GIT N GO #79	425 NW BYPASS	SPRINGFIELD	MO
GIT N GO #104	510 W REPUBLIC RD	SPRINGFIELD	MO

AARON'S AUTOMOTIVE PRODUCTS INC	2600 N WESTGATE	SPRINGFIELD	MO
BAUMGARTNER GENERAL CONTRACTORS INC	3648 W NICHOLS	SPRINGFIELD	MO
WAL MART #2221	2021 E INDEPENDENCE	SPRINGFIELD	MO
STEERING RESTORATIONS	2821 W CHESTNUT EXPY STE B	SPRINGFIELD	MO
VINYL MOLDINGS INC	6302 W FARM RD 84	SPRINGFIELD	MO
RICH MIX PROD	3045 W ATLANTIC ST	SPRINGFIELD	MO
LOWES HOME CTRS INC #422	1850 E PRIMROSE	SPRINGFIELD	MO
TOTAL	3434 W CHESTNUT	SPRINGFIELD	MO
BUDS CUSTOM MUFFLER	3800 W SUNSHINE	SPRINGFIELD	MO
BASS PRO SHOPS FABRICATIONS	517 W KATHERINE	NIXA	MO
CASEY'S GENERAL STORE #2034	703 S SCENIC	SPRINGFIELD	MO
PROFORMANCE POWERTRAIN PROD	2720 N AIRPORT COMMERCE RD	SPRINGFIELD	MO
MISSOURI NEON	3160 W KEARNEY	SPRINGFIELD	MO
CASEYS GENERAL STORE #2247	4124 W CHESTNUT EXPY	SPRINGFIELD	MO
GIT N GO #104	510 W REPUBLIC RD	SPRINGFIELD	MO
EXPRESS LANE CONVENIENCE STORES	2744 E CHESTNUT EXPY	SPRINGFIELD	MO
HOME DEPOT #HD3012	2104 E INDEPENDENCE	SPRINGFIELD	MO
THOMPSON PONTIAC CADILLAC	1555 E INDEPENDENCE ST	SPRINGFIELD	MO
A TAT INC	3838 W DIVISION ST	SPRINGFIELD	MO
GIT-N-GO #108	2161 E REPUBLIC CT	SPRINGFIELD	MO
COLORGRAPHIC PRINTING INC	4150 W DIVISION ST	SPRINGFIELD	MO
REDNECK TRAILER SUPPLIES	2100 N WEST BY-PASS	SPRINGFIELD	MO
BERRY TRACTOR & EQUIP CO	2060 NW BYPASS	SPRINGFIELD	MO
COMET CLEANERS	4181 S NATIONAL	SPRINGFIELD	MO
MR DRY CLEANERS	550 B MT VERNON ST	NIXA	MO
NIXA CLEANERS	302 WEST ST	NIXA	MO
STAINLESS FABRICATION INC	4455 W KEARNEY ST	SPRINGFIELD	MO
GIT N GO #68	1750 E REPBULIC RD	SPRINGFIELD	MO
QUIKTRIP #134	325 W CARDINAL	SPRINGFIELD	
VOGUE CLEANERS	4328 S FREEMONT	SPRINGFIELD	
ROBERTSON FURNITURE MFG	1545 NW BYPASS	SPRINGFIELD	
MISSISSIPPI LIME CO	3825 S LONE PINE	SPRINGFIELD	
KERR MCGEE CHEMICAL	2800 W HIGH ST	SPRINGFIELD	
DON WESSEL OLDSMOBILE INC	3520 S CAMPBELL ST	SPRINGFIELD	
RELIABLE CHEVROLET INC	3655 S CAMPBELL	SPRINGFIELD	
3M CO	3211 E CHESTNUT EXPWY	SPRINGFIELD	
HAMMER'S AUTO WORKS INC	2921 W CHESTNUT EXPY	SPRINGFIELD	
FREMONT CTR CLEANERS	1342 E BATTLEFIELD	SPRINGFIELD	
JAMES RIVER POWER STATION	5701 S KISSICK	SPRINGFIELD	
BRADFORD BODY SHOP	1480 S BRADFORD LN	SPRINGFIELD	
ESTES USED CARS	3220 W CHESTNUT EXPY	SPRINGFIELD	
GLO CLEANERS PARKCREST	3851 S CAMPBELL	SPRINGFIELD	
SPRINGFIELD TERMINAL	3132 STATE HWY MM	BROOKLINE	
GIT N GO #104	510 W REPUBLIC RD	SPRINGFIELD	
AARON'S AUTOMOTIVE PRODUCTS INC	2600 N WESTGATE	SPRINGFIELD	
VINYL MOLDINGS INC	6302 W FARM RD 84	SPRINGFIELD	
LOWES HOME CENTER INC #422	1850 E PRIMROSE	SPRINGFIELD	
PROFORMANCE POWERTRAIN PROD	2720 N AIRPORT COMMERCE RD	SPRINGFIELD	
BENNETT ST LAUNDRY MAT	1829 E BENNETT	SPRINGFIELD	

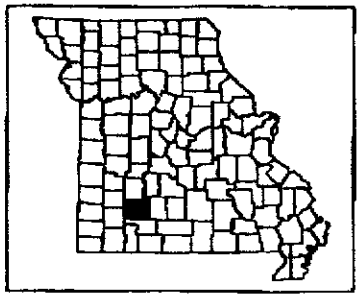
Appendix E-1



Ozarks Transportation Organization
North/South Corridor Study
Springfield, Missouri
Olsson Associate Project No. 2006-0706

Legend

- Dry Cleaner sites
- BVCP sites



Appendix E-2

Brownfields/Voluntary Cleanup Program Sites

Heer's Tower	138 Park Central Square	Springfield	65806-1315
Wagoner Property	124 W. Park Cenkral Squa	Springfield	65806
West Meadows	300 Block W. Main	Springfield	65806
Lofts at Jordan Creek	901 N. National Avenue	Springfield	65802
Modern Distributing - Former	440 East Tampa Street	Springfield	65806
Spring Brooke Estates	3703 Farm Road 139	Springfield	65803
E.A. Martin Facility	522 West Commercial Stre	Springfield	65803-2632
Ash Grove Quarry Tract 2	East Trafficway at Natio	Springfield	65802
Solid State Circuits Facility - Former - Restr	3300 South Farm Road 135	Springfield	65807-3908
Aaron's Automotive Products, Inc. (former)	2621 W. Chestnut Expressway	Springfield	65802
Nixa Cleaners	302 S West St.	Nixa	65714
Mr. Dry Cleaners	550 W Mt Vernon St	Nixa	65714
Vogue Cleaners	4328 S Fremont	Springfield	65807
Comet Cleaners	4131 S National Ave	Springfield	65807
Glo Dry Cleaning	3851 S Campbell	Springfield	65804
Kickapooo Cleaners	3650 S Campbell	Springfield	65807

USDA United States Department of Agriculture

Natural Resources Conservation Service

MSU, Dept. of Agriculture
901 South National
Springfield, MO 65804-0094
PHONE: 417-836-4263
FAX NUMBER: 417-836-6979

Email:tomdewitt@missouristate.edu

Subject: Environmental Studies
Greene and Christian Counties, Missouri
North South Corridor Study
Olsson Associates Project No. 2006-0706
Farmland Conversion Impact

Date: August 22, 2006

File Code: 310-11-12- 5

To: Ms. Sara Edwards
Senior Planner
Ozarks Transportation Organization
P.O. Box 8368, 840 Booneville Ave.
Springfield, MO 65801

Dear Ms Edwards:

Enclosed for the above referenced project are the prime farmland map, and a prime farmland lists. There are no hydric soils or wetlands on the project site except for the stream channel of the James River. A portion of the work area was within the City Limits of Springfield, Nixa, Battlefield and Willard and is not subject to FPPA regulations. The main areas of concern for conversion of prime farmland are along the James River Valley and the upland area between Battlefield and Springfield City limits. Construction of taller and longer bridges with limited fill material in the floodplain would help to protect prime farmland and allow unrestricted flow of water in the James River Valley.

There are many sinkholes and caves in the upland areas. Extensive geologic investigations may be required to protect cave systems and any endangered species within the caves. Storm water management practices may be a big part of protecting ground water quality in this karst bedrock topography. Protection of historical battlefield archeological sites should be considered especially near the City of Battlefield and adjoining the Wilson's Creek National Battlefield.

Soil descriptions of the soil series can be obtained at the following Internet address:
http://soils.missouri.edu/ or http://soils.usda.gov

Please call if I can be of any more assistance in providing soil information.

Sincerely,

Thomas A. DeWitt

Thomas A. DeWitt
Area Resource Soil Scientist

cc/watt, Aaron Hoefer, District Conservationist, NRCS Field Office, Ozark, MO
Mark Green, District Conservationist, NRCS Field Office, Springfield, MO
Montie Hawks, Area Conservationist, NRCS Area Office, Springfield, MO

AN EQUAL OPPORTUNITY EMPLOYER

Prime and other Important Farmlands

Greene County, Missouri

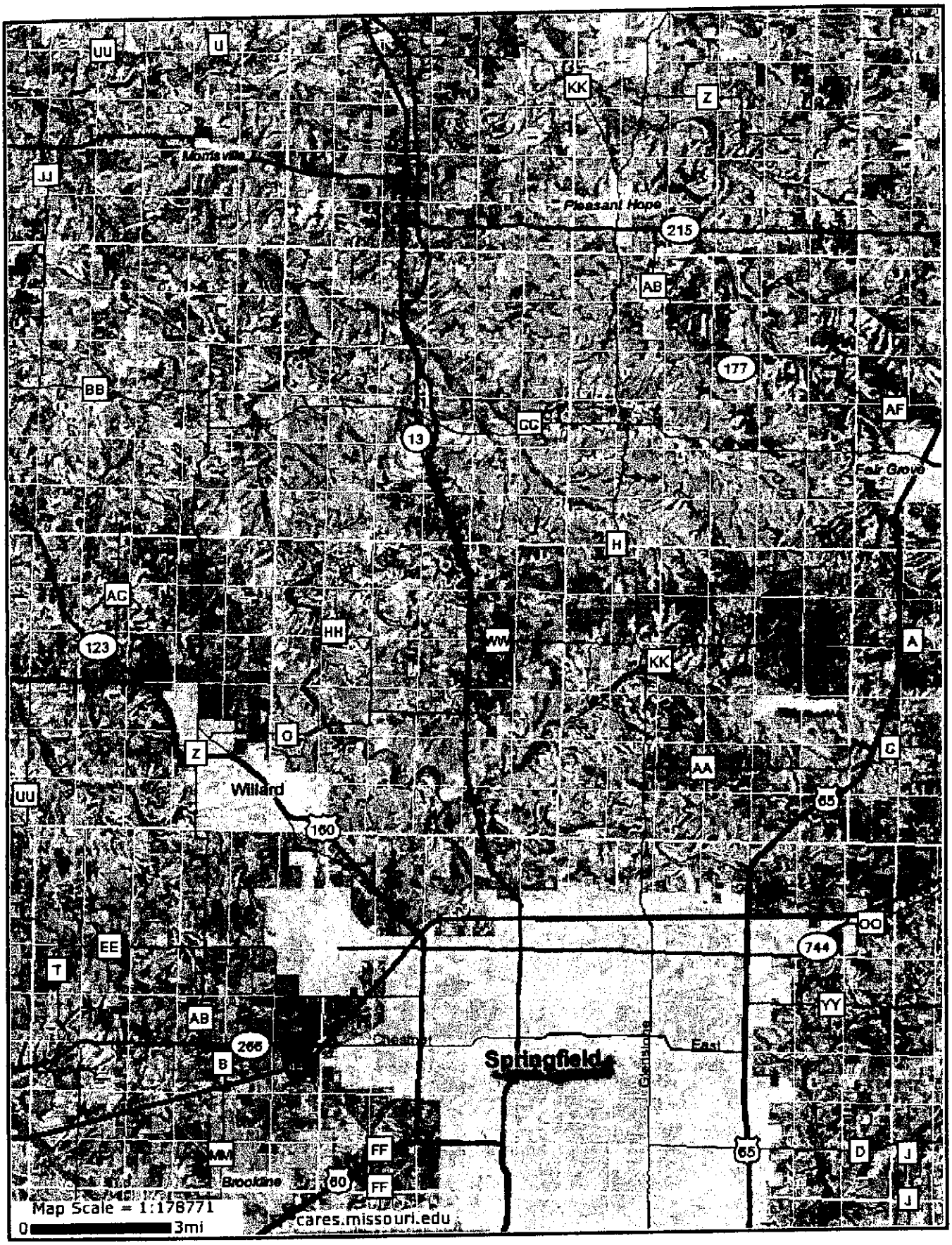
Map symbol	Map unit name	Farmland classification
40031	Barco fine sandy loam, 2 to 5 percent slopes	All areas are prime farmland
46002	Hepler silt loam, 0 to 1 percent slopes, occasionally flooded	All areas are prime farmland
70006	Creldon silt loam, 1 to 3 percent slopes	All areas are prime farmland
70047	Wanda silt loam, 2 to 5 percent slopes	All areas are prime farmland
70109	Captina-Needleye complex, 1 to 3 percent slopes	All areas are prime farmland
70127	Needleye silt loam, 1 to 3 percent slopes	All areas are prime farmland
70155	Newtonia silt loam, 1 to 3 percent slopes	All areas are prime farmland
73006	Peridge silt loam, 2 to 5 percent slopes	All areas are prime farmland
73008	Viraton silt loam, 2 to 5 percent slopes	All areas are prime farmland
73031	Gerald silt loam, 0 to 2 percent slopes	All areas are prime farmland
73098	Plato silt loam, 1 to 3 percent slopes	All areas are prime farmland
74627	Hartville silt loam, 1 to 3 percent slopes, rarely flooded	All areas are prime farmland
74641	Secesh silt loam, 0 to 2 percent slopes, occasionally flooded	All areas are prime farmland
75380	Dapue silt loam, 0 to 3 percent slopes, occasionally flooded	All areas are prime farmland
70000	Bona gravelly silt loam, 3 to 8 percent slopes	Farmland of statewide importance
70002	Alsup gravelly silt loam, 3 to 8 percent slopes	Farmland of statewide importance
70008	Goss gravelly silt loam, 3 to 8 percent slopes	Farmland of statewide importance
70009	Goss gravelly silt loam, 8 to 15 percent slopes	Farmland of statewide importance
70012	Hoberg silt loam, 2 to 5 percent slopes	Farmland of statewide importance
70022	Tonti silt loam, 3 to 8 percent slopes	Farmland of statewide importance
70045	Keeno gravelly silt loam, 3 to 8 percent slopes	Farmland of statewide importance
70093	Bado silt loam, 0 to 3 percent slopes	Farmland of statewide importance
70098	Bolivar fine sandy loam, 2 to 5 percent slopes	Farmland of statewide importance
70132	Noark very gravelly silt loam, 3 to 8 percent slopes	Farmland of statewide importance
70145	Keeno-Bona complex, 2 to 5 percent slopes	Farmland of statewide importance
71262	Higdon-Alsup complex, 3 to 8 percent slopes	Farmland of statewide importance
71754	Waben-Cedargap, occasionally flooded complex, 0 to 5 percent slopes	Farmland of statewide importance
71758	Secesh-Cedargap complex, 0 to 3 percent slopes, frequently flooded	Farmland of statewide importance
73000	Pomme silt loam, 3 to 8 percent slopes	Farmland of statewide importance
73010	Wilderness gravelly silt loam, 3 to 8 percent slopes	Farmland of statewide importance
73024	Mano-Ocie complex, 8 to 15 percent slopes, stony	Farmland of statewide importance
73225	Ocie-Gatewood complex, 3 to 8 percent slopes	Farmland of statewide importance
73328	Scholten-Noark complex, 3 to 8 percent slopes	Farmland of statewide importance
73450	Goss-Wilderness complex, 3 to 8 percent slopes	Farmland of statewide importance
73480	Nixa very gravelly silt loam, 3 to 8 percent slopes	Farmland of statewide importance
75376	Cedargap gravelly silt loam, 0 to 3 percent slopes, frequently flooded	Farmland of statewide importance
46004	Osage silty clay loam, 0 to 2 percent slopes, occasionally flooded	Prime farmland if drained
66000	Moniteau silt loam, 0 to 2 percent slopes, occasionally flooded	Prime farmland if drained
70039	Sacville silty clay loam, 1 to 3 percent slopes	Prime farmland if drained
70139	Parsons-Sacville complex, 1 to 3 percent slopes	Prime farmland if drained
46000	Humansville silt loam, 0 to 2 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
66001	Dameron silt loam, 0 to 3 percent slopes, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season
75377	Racket silt loam, 0 to 3 percent slopes, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season
75378	Sturkie silt loam, 0 to 2 percent slopes, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season
75383	Cedargap silt loam, 0 to 3 percent slopes, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season

Prime and other Important Farmlands

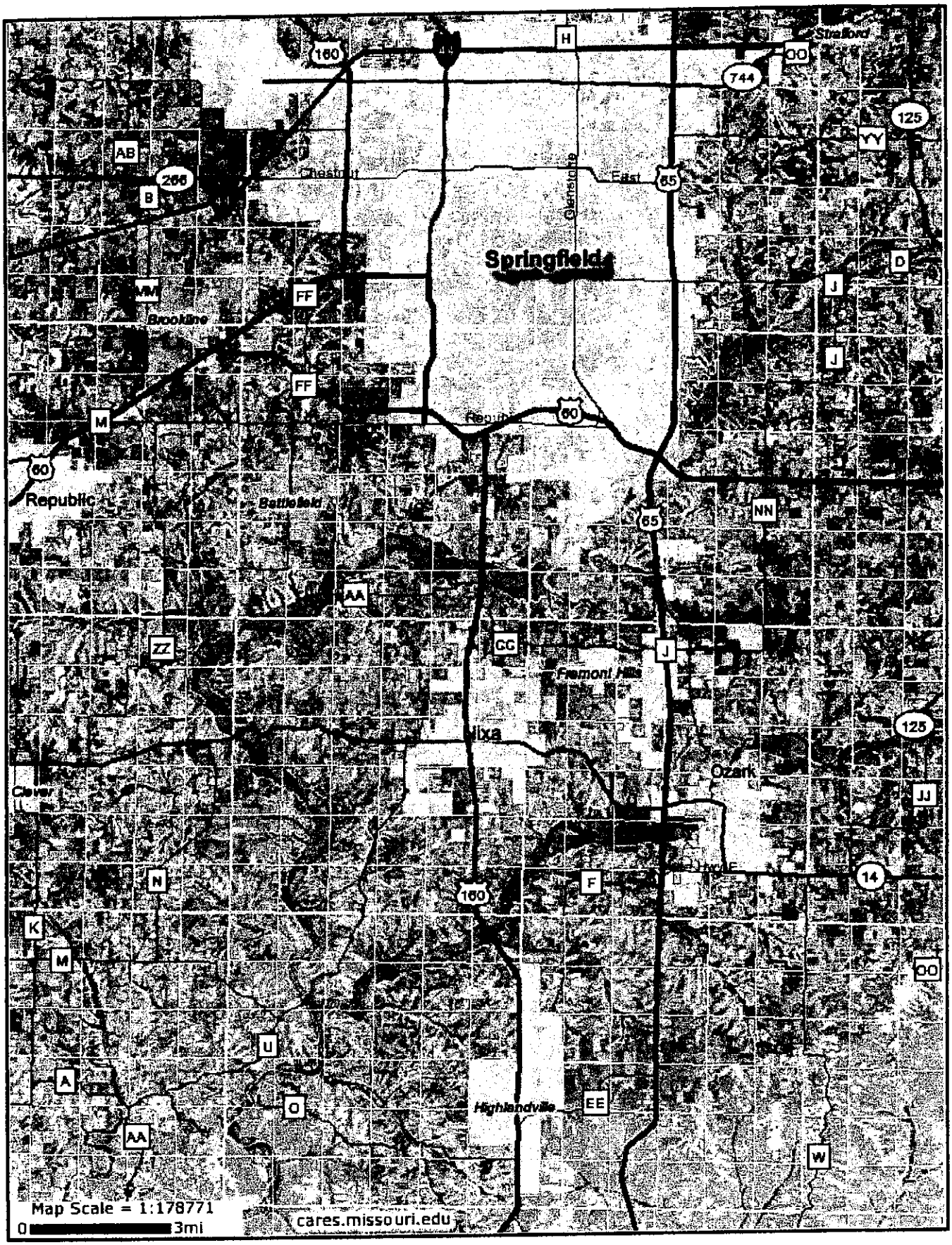
Christian County, Missouri

Map symbol	Map unit name	Farmland classification
70006	Creldon silt loam, 1 to 3 percent slopes	All areas are prime farmland
70026	Tonti silt loam, 1 to 3 percent slopes	All areas are prime farmland
70109	Captina-Needleye complex, 1 to 3 percent slopes	All areas are prime farmland
73006	Peridge silt loam, 2 to 5 percent slopes	All areas are prime farmland
73114	Captina silt loam, 1 to 3 percent slopes	All areas are prime farmland
75380	Dapue silt loam, 0 to 3 percent slopes, occasionally flooded	All areas are prime farmland
75401	Horsecreek-Jamesfin soils, 0 to 2 percent slopes, occasionally flooded	All areas are prime farmland
75402	Pinerun silt loam, 0 to 3 percent slopes, occasionally flooded	All areas are prime farmland
70008	Goss gravelly silt loam, 3 to 8 percent slopes	Farmland of statewide importance
70009	Goss gravelly silt loam, 8 to 15 percent slopes	Farmland of statewide importance
70022	Tonti silt loam, 3 to 8 percent slopes	Farmland of statewide importance
70030	Noark-Clarksville complex, 3 to 8 percent slopes	Farmland of statewide importance
70098	Bolivar fine sandy loam, 2 to 5 percent slopes	Farmland of statewide importance
70132	Noark very gravelly silt loam, 3 to 8 percent slopes	Farmland of statewide importance
71758	Secesh-Cedargap complex, 0 to 3 percent slopes, frequently flooded	Farmland of statewide importance
73000	Pomme silt loam, 3 to 8 percent slopes	Farmland of statewide importance
73010	Wilderness gravelly silt loam, 3 to 8 percent slopes	Farmland of statewide importance
73023	Mano-Ocie complex, 1 to 8 percent slopes	Farmland of statewide importance
73113	Scholten gravelly silt loam, 3 to 8 percent slopes	Farmland of statewide importance
73220	Poynor extremely gravelly silt loam, 8 to 15 percent slopes	Farmland of statewide importance
73225	Ocie-Gatewood complex, 3 to 8 percent slopes	Farmland of statewide importance
73226	Ocie-Gatewood complex, 3 to 15 percent slopes, stony	Farmland of statewide importance
73328	Scholten-Noark complex, 3 to 8 percent slopes	Farmland of statewide importance
75376	Cedargap gravelly silt loam, 0 to 3 percent slopes, frequently flooded	Farmland of statewide importance
75404	Pinerun gravelly silt loam, 0 to 3 percent slopes, occasionally flooded	Farmland of statewide importance
75405	Pinerun-Waben complex, 0 to 5 percent slopes	Farmland of statewide importance
74683	Cedargap-Razort complex, 0 to 3 percent slopes, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season
75382	Cedargap gravelly loam, 0 to 3 percent slopes, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season

Springfield North South Corridor Study



Springfield North South Corridor Study



Legend

ZOOM TO VIEW:

SSURGOII Soil Outlines 2006

Roads and Highways

- Interstate
- U.S. Highway
- State Numbered Highway
- State Lettered Highway
- Principal Road

Public Land Survey Lines

- Section Boundary
- Land Grant Boundary
- Township Boundary
- State Boundary
- Artificial Boundary

Public Land Survey Areas

Incorporated Areas

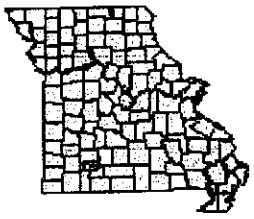
- City
- Town
- Village
- Census Designated Place
- Other

Prime Farmland

- Prime Farmland
- Prime Farmland if Drained
- Prime Farmland with Limitations
- Farmland of Statewide Importance
- Not Prime Farmland
- Not Rated

2004 Aerial Photos (DOQQs)

Locator



Map

Map prepared
by:http://cares.missouri.edu, 8/2/2006

Appendix B

Traffic and Crash Data

West Bypass Existing Traffic Volumes

West Bypass		2000 Traffic Volume			2001 Traffic Volume			2002 Traffic Volume			2003 Traffic Volume			2004 Traffic Volume			2005 Traffic Volume		
From	To	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour
Westbound I-44 Ramps	Eastbound I-44 Ramps							19,682						14,500			14,790		
Eastbound I-44 Ramps	Kearney Street	15,444			17,493			19,400						18,184			18,133	1,612	1,631
Kearney Street	Division Street	15,444	1,276	1,286				16,716						15,094	1,074	1,209	15,396		
Division Street	Chestnut Expressway	17,780	1,479	1,501				16,979						17,799	1,199	1,476	18,155		
Chestnut Expressway	Mt Vernon Street	19,979	1,519	1,733							22,004			24,793	2,005	2,333	25,289		
Mt Vernon Street	Sunshine St./ MO State 413	25,447	2,141	2,341										27,738	2,209	2,533	28,293		
Sunshine St./ MO State 413	Farm Road 156													18,701	1,606	1,896	19,075		
Farm Road 156	Battlefield Road													21,224			21,648		
Battlefield Road	Hwy 60 Westbound Ramps													19,689			20,083		
Hwy 60 Westbound Ramps	Hwy 60 Eastbound Ramps																25,517		
Hwy 60 Eastbound Ramps	State Hwy MM/ Republic Road													17,744			18,099		
State Hwy MM/ Republic Road	Weaver Road																7,105		

West Bypass Crash History

West Bypass		2002 Traffic Crashes	2003 Traffic Crashes	2004 Traffic Crashes	3 year Average	Segment Length (Miles)	2002 Crash Rate	2003 Crash Rate	2004 Crash Rate
From	To								
Westbound I-44 Ramps	Eastbound I-44 Ramps				-	0.10	0.0	-	0.0
Eastbound I-44 Ramps	Kearney Street	1	1	0	1	0.25	0.6	-	0.0
Kearney Street	Division Street	20	10	16	15	1.00	3.3	-	2.9
Division Street	Chestnut Expressway	29	21	17	22	1.00	4.7	-	2.6
Chestnut Expressway	Mt Vernon Street	6	2	7	5	0.50	-	0.5	1.5
Mt Vernon Street	Sunshine Street/ MO State 413	14	7	10	10	1.50	-	-	0.7
Sunshine Street/ MO State 413	Farm Road 156	0	1	4	2	1.25	-	-	0.5
Farm Road 156	Battlefield Road				-	0.58	-	-	0.0
Battlefield Road	Highway 60 Westbound Ramps				-	0.57	-	-	0.0
Highway 60 Westbound Ramps	Highway 60 Eastbound Ramps				-	0.10	-	-	-
Highway 60 Eastbound Ramps	State Highway MM/ Republic Road				-	0.82	-	-	0.0
State Highway MM/ Republic Road	Weaver Road				-	1.05	-	-	-

Kansas Expressway Crash History

Kansas Expressway		2002 Traffic Crashes	2003 Traffic Crashes	2004 Traffic Crashes	3 year Average	Segment Length (Miles)	2002 Crash Rate	2003 Crash Rate	2004 Crash Rate
From	To								
Norton Road	Westbound I-44 Ramps	4	9	1	5	0.14	-	-	0.7
Westbound I-44 Ramps	Eastbound I-44 Ramps	4	0	2	2	0.10	-	-	1.9
Eastbound I-44 Ramps	Evergreen	6	7	7	7	0.06	-	-	11.0
Evergreen	Kearney Street	41	43	50	45	0.54	7.3	-	9.0
Kearney Street	High Street	6	11	6	8	0.25	-	4.1	2.2
High Street	Atlantic	4	2	5	4	0.25	-	0.7	1.7
Atlantic	Division Street	17	13	20	17	0.50	-	2.0	3.3
Division Street	Nichols	0	3	4	2	0.50	-	0.5	0.7
Nichols	Chestnut Expressway	4	3	5	4	0.33	-	-	1.2
Chestnut Expressway	College Street	3	3	4	3	0.40	-	0.6	0.8
College Street	Walnut Street	4	4	5	4	0.08	-	-	4.7
Walnut Street	Mt Vernon Street	4	1	3	3	0.21	-	-	1.1
Mt Vernon Street	Grand Street	5	10	6	7	0.56	-	-	0.9
Grand Street	Bennett	23	7	12	14	0.50	-	-	1.7
Bennett	Sunshine	4	13	16	11	0.50	-	1.9	2.4
Sunshine	Sunset	13	16	9	13	1.10	-	1.3	0.7
Sunset	Battlefield Road	0	4	3	2	0.47	-	0.8	0.6
Battlefield Road	Walnut Lawn	3	2	1	2	0.53	-	0.4	0.1
Walnut Lawn	Chesterfield Boulevard	2	4	5	4	0.48	-	0.9	1.0
Chesterfield Boulevard	Westbound Hwy 60 Ramps	3	1	5	3	0.19	-	0.5	2.4
Westbound Hwy 60 Ramps	Eastbound Hwy 60 Ramps	0	0	0	0	0.11	-	-	0.0
Eastbound Hwy 60 Ramps	Republic Road	0	0	2	1	0.23	-	-	1.3

Kansas Expressway Existing Traffic Volumes

Kansas Expressway		2000 Traffic Volume			2001 Traffic Volume			2002 Traffic Volume			2003 Traffic Volume			2004 Traffic Volume			2005 Traffic Volume		
From	To	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour
Norton Road	Westbound I-44 Ramps	27,980	1,955	2,385										29,477	2,273	2,419	30,067		
Westbound I-44 Ramps	Eastbound I-44 Ramps	19,880												29,555	2,195	2,133	30,146		
Eastbound I-44 Ramps	Evergreen	27,980			30,161	1,811	2,549							29,008	2,070	2,206	29,588		
Evergreen	Kearney Street	28,821	1,848	2,295	27,731	1,754	2,391	28,572						28,248	1,764	2,126	30,111	1,734	2,569
Kearney Street	High Street	33,005									29,645	1,990	2,275	30,209			29,946	2,090	2,385
High Street	Atlantic										30,948	1,866	2,372	31,648	2,191	2,465	32,281		
Atlantic	Division Street	32,790	2,292	2,719	30,528						34,935	2,011	2,709	33,169	2,061	2,708	33,832		
Division Street	Nichols	31,822	2,298	2,714							33,589			32,569	2,305	2,664	32,601		
Nichols	Chestnut Expressway	24,855												33,677			34,351		
Chestnut Expressway	College Street	32,790	2,388	2,644							33,711			33,080	2,397	2,677	33,742		
College Street	Walnut Street	34,801	2,383	2,861										36,091	2,810	2,968	36,813		
Walnut Street	Mt Vernon Street	34,688	2,483	2,888										36,020	2,865	2,968	35,760		
Mt Vernon Street	Grand Street	33,082	2,590	2,718	36,232									33,385	2,468	2,775	34,053		
Grand Street	Bennett	35,417	2,820	2,858										38,097	2,943	3,134	36,844	3,023	3,111
Bennett	Sunshine	31,695			33,485	2,623	2,971				38,001	2,988	2,888	37,126	2,983	2,973	36,959	3,018	3,156
Sunshine	Sunset	32,189	2,346	2,641							29,817	2,540	2,430	30,803	2,138	2,568	31,419		
Sunset	Battlefield Road										29,425	2,488	2,417	31,479	2,170	2,646	30,713	2,494	2,779
Battlefield Road	Walnut Lawn	32,927			25,586	2,263	2,332				25,971	2,106	2,527	36,091	2,865	2,968	27,097	2,225	2,684
Walnut Lawn	Chesterfield Blvd	24,855	2,053	2,302							25,601	2,244	2,382	27,750	1,876	2,491	27,750		
Chesterfield Blvd	Westbound Hwy 60 Ramps	25,616	2,272	2,451							28,521	2,344	2,382	29,647	2,052	2,731	30,086		
Westbound Hwy 60 Ramps	Eastbound Hwy 60 Ramps	19,302			30,161									24,985	1,643	2,588	25,485		
Eastbound Hwy 60 Ramps	Republic Road	13,883	1,211	1,276	33,716									18,851	1,260	1,942	19,228		

Campbell Avenue/U.S. 160 Existing Traffic Volumes

Campbell Avenue/ Highway 160		2000 Traffic Volume			2001 Traffic Volume			2002 Traffic Volume			2003 Traffic Volume			2004 Traffic Volume			2005 Traffic Volume		
From	To	24 Hour Total	AM Peak	PM Peak	24 Hour Total	AM Peak	PM Peak	24 Hour Total	AM Peak	PM Peak	24 Hour Total	AM Peak	PM Peak	24 Hour Total	AM Peak	PM Peak	24 Hour Total	AM Peak	PM Peak
Battlefield	Walnut Lawn				38,011	2,659	3,067							41,576	2,006	3,276	37,900		
Walnut Lawn	Primrose				40,522	2,949	3,260							33,838	2,159	2,574	41,323		
Primrose	Republic Road	36,394			37,455	2,657	3,034	43,824			42,192			37,585	2,454	3,089	42,959		
Republic Road	Westbound Hwy 60 Ramps				35,743	2,634	3,066							37,336	2,553	3,006	38,083		
Westbound Hwy 60 Ramps	Eastbound Hwy 60 Ramps				39,381	2,627	3,346							40,183	2,639	3,346	40,987		
Eastbound Hwy 60 Ramps	El Camino Alto				38,313	2,319	3,239							38,448	2,974	3,035	39,217		
El Camino Alto	Lakewood				38,313	2,319	3,239							40,284			44,438	2,849	3,474
Lakewood	Weaver				37,862	2,714	3,161							36,994	2,800	3,068	39,663		
Weaver	Plainview				35,291	2,422	2,855							36,336			38,198	2,997	3,043
Plainview	Missouri State Highway AA				32,759	2,175	2,765							33,932			34,878	2,414	2,989
Missouri State Highway AA	Missouri State Highway CC										33,734			27,164			33,721		
Missouri State Highway CC	Tracker													23,337			23,804		
Tracker	Aldersgate													25,276			25,782		
Aldersgate	Northview													24,682			25,176		
Northview	Wasson													24,543			25,034		
Wasson	State Highway 14													24,782			25,278		

Campbell Avenue/U.S.160 Crash History

Campbell Avenue/ Highway 160		2002 Traffic Crashes	2003 Traffic Crashes	2004 Traffic Crashes	3 year Average	Segment Length (Miles)	2002 Crash Rate	2003 Crash Rate	2004 Crash Rate
From	To								
Battlefield	Walnut Lawn	41	60	53	51	0.50	-	-	7.0
Walnut Lawn	Primrose	47	36	58	47	0.55	-	-	8.5
Primrose	Republic Road	29	38	39	35	0.46	3.9	5.4	6.2
Republic Road	Westbound Hwy 60 Ramps	9	8	9	9	0.07	-	-	9.4
Westbound Hwy 60 Ramps	Eastbound Hwy 60 Ramps	2	5	0	2	0.10	-	-	0.0
Eastbound Hwy 60 Ramps	El Camino Alto	4	3	2	3	0.13	-	-	1.1
El Camino Alto	Lakewood	11	9	13	11	0.37	-	-	2.4
Lakewood	Weaver	7	4	7	6	0.32	-	-	1.6
Weaver	Plainview	3	7	3	4	0.50	-	-	0.5
Plainview	Missouri State Highway AA					1.76	-	-	0.0
Missouri State Highway AA	Missouri State Highway CC					0.50	-	0.0	0.0
Missouri State Highway CC	Tracker			7		1.27	-	-	0.6
Tracker	Aldersgate			7		0.38	-	-	2.0
Aldersgate	Northview			8		0.39	-	-	2.3
Northview	Wasson			6		0.50	-	-	1.3
Wasson	State Highway 14			15		0.25	-	-	6.6

National Avenue Existing Traffic Volumes

National Avenue		2000 Traffic Volume			2001 Traffic Volume			2002 Traffic Volume			2003 Traffic Volume			2004 Traffic Volume			2005 Traffic Volume		
From	To	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour	24 Hour Total	AM Peak Hour	PM Peak Hour
Norton	Kearney	9,636			9,385	708	882							10,950			9,877	718	910
Kearney	Dale							16,131	1,264	1,525	16,234	1,060	1,499	16,568			16,899		
Dale	Commercial				19,518	1,499	1,763										19,829	1,574	1,901
Commercial	Division				18,170	1,291	1,647							19,456	1,512	1,623	19,845		
Division	Central				20,234	1,405	1,737										21,902		
Central	Chestnut Expressway	21,985			20,915	1,483	1,918							23,541	1,745	2,166	23,541		
Chestnut Expressway	Trafficway	27,337			25,451	1,901	2,271										26,497		
Trafficway	St Louis				28,923	2,029	2,469										31,307		
St Louis	Walnut	32,759			27,041	1,824	2,210				27,041						30,595	2,148	2,715
Walnut	Elm				32,281	2,251	2,728										31,576	2,162	2,764
Elm	Cherry				31,856						32,868	2,156	2,761	33,683			30,528	2,054	2,598
Cherry	Grand	34,838			34,505	2,350	2,844				34,810	2,243	2,909	34,669			34,933	2,382	3,017
Grand	Bennett				34,945	2,297	2,905				34,845	2,237	2,740	35,700			35,515	2,375	3,064
Bennett	Sunshine	30,313			35,236	2,374	2,964				37,912	2,611	3,008				36,601	2,666	3,074
Sunshine	Cherokee				35,725	2,329	2,901				38,714	2,492	3,282				37,297	2,600	3,139
Cherokee	Seminole				30,961	2,218	2,747				32,376	2,117	2,765				33,684		
Seminole	Sunset										32,855	2,222	2,816				35,379	2,340	3,108
Sunset	Woodland										33,224	2,174	2,828				34,566		
Woodland	Battlefield	29,331									31,931	2,590	2,590				35,040	2,381	2,897
Battlefield	Montclair	30,193									34,364	2,199	2,721				35,589	2,449	2,921
Montclair	Walnut Lawn										35,784	2,415	2,987				35,002	2,333	2,917
Walnut Lawn	Primrose										33,715	2,352	2,688				36,309	2,538	3,056
Primrose	Westbound Hwy 60 Ramps	36,164			39,108	3,350	3,171	38,831	1,721	2,284	40,024						38,557		
Westbound Hwy 60 Ramps	Eastbound Hwy 60 Ramps				28,578	2,469	2,332										30,934		
Eastbound Hwy 60 Ramps	Republic Road				24,426	1,721	2,284				19,431	1,495	1,718				26,439		
Republic Road	Weaver Road										14,892	1,264	1,441				15,494		

National Avenue Crash History

National Avenue		2002 Traffic Crashes	2003 Traffic Crashes	2004 Traffic Crashes	3 year Average	Segment Length (Miles)	2002 Crash Rate	2003 Crash Rate	2004 Crash Rate
From	To								
Norton	Kearney	9	3	10	7	0.75	-	-	3.3
Kearney	Dale	6	2	7	5	0.38	2.7	0.9	3.0
Dale	Commercial	0	4	2	2	0.32	-	-	-
Commercial	Division	2	1	6	3	0.31	-	-	2.7
Division	Central	3	9	4	5	0.60	-	-	-
Central	Chestnut Expressway	4	5	4	4	0.16	-	-	2.9
Chestnut Expressway	Trafficway	17	22	13	17	0.29	-	-	-
Trafficway	St Louis	0	2	0	1	0.07	-	-	-
St Louis	Walnut	13	16	8	12	0.20	-	8.1	-
Walnut	Elm	7	3	2	4	0.10	-	-	-
Elm	Cherry	10	2	5	6	0.10	-	1.7	4.1
Cherry	Grand	11	14	17	14	0.50	-	2.2	2.7
Grand	Bennett	10	6	9	8	0.51	-	0.9	1.4
Bennett	Sunshine	12	14	7	11	0.50	-	2.0	-
Sunshine	Cherokee	24	17	15	19	0.25	-	4.8	-
Cherokee	Seminole	8	5	4	6	0.25	-	1.7	-
Seminole	Sunset	13	12	21	15	0.50	-	2.0	-
Sunset	Woodland	2	3	2	2	0.25	-	1.0	-
Woodland	Battlefield	10	9	11	10	0.30	-	2.6	-
Battlefield	Montclair	1	12	11	8	0.13	-	7.4	-
Montclair	Walnut Lawn	18	12	11	14	0.34	-	2.7	-
Walnut Lawn	Primrose	8	13	14	12	0.40	-	2.6	-
Primrose	Westbound Highway 60 Ramps	9	9	12	10	0.28	2.3	2.2	-
Westbound Highway 60 Ramps	Eastbound Highway 60 Ramps	0	1	2	1	0.10	-	-	-
Eastbound Highway 60 Ramps	Republic Road	1	1	3	2	0.22	-	0.6	-
Republic Road	Weaver Road	2	4	5	4	1.07	-	0.7	-

GENERALIZED **ANNUAL AVERAGE DAILY** VOLUMES FOR **URBANIZED AREAS**

Source: Research based on Highway Capacity Manual completed by the Florida DOT
For planning purposes, Class II roadway capacities were used. Volumes over LOS E were considered to be “congested”. Volumes over LOS D were considered to be “nearly congested ”. When considered future year model volume results, volumes 10,000 above LOS E were considered to be “highly congested”. These classifications represent theoretical conditions. Actual arterial LOS is determined by operational assessment of intersection capacity using the Highway Capacity Manual methodology.

Class II (2.00 to 4.50 signalized intersections per mile)

		Level of Service				
Lanes	Divided	A	B	C	D	E
2	Undivided	**	1,900	11,200	15,400	16,300
4	Divided	**	4,100	26,000	32,700	34,500
6	Divided	**	6,500	40,300	49,200	51,800
8	Divided	**	8,500	53,300	63,800	67,000

Adjustment factor for non-divided roadway is -5%

Year 2030 Volume Forecast

Model Scenario		
No-Build	Campbell	75,500
Alternative 1	Campbell	59,500
	West By Pass/FF	56,000
Alternative 2	Campbell	59,700
	Kansas Extension	60,100
Alternative 3	Campbell	91,700
Alternative 4	Campbell	63800
	National	50800
New Connection	No-Build	0
	Build	6900
160 North	No-Build	15900
	Build	36700

Appendix C

Forecast Volumes and Travel Times

Year 2030 Volume Forecast

Model Scenario		
No-Build	Campbell	75,500
Alternative 1	Campbell	59,500
	West By Pass/FF	56,000
Alternative 2	Campbell	59,700
	Kansas Extension	60,100
Alternative 3	Campbell	91,700
Alternative 4	Campbell	63800
	National	50800
New Connection	No-Build	0
	Build	6900
160 North	No-Build	15900
	Build	36700

Travel Time/Speed Comparison

		Year 2030					
From Republic Road to Route 14	Existing	No-Build	Alternative 1 (West Bypass)	Alternative 2 (Kansas Epwy.)	Alternative 3 (Campbell)	Alternative 4 (National)	Combination Alternative
Average Speed on Campbell **mph**	24.2	7.0	11.4	12.7	9.6	11.9	12.6
Travel Time on Campbell **min**	16.3	56.4	34.5	31.0	40.9	33.0	31.1
Distance **mile**	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Average Speed on Alternative Route		n/a	16.9	14.6	n/a	12.8	22.0
Travel Time on Alternate Route		n/a	24.3	27.1	n/a	30.6	19.0
Distance		n/a	6.9	6.6	n/a	6.5	7.0
n/a = non applicable							

Appendix D

Cost Estimates

Hybrid Alternative

Item	From	To	Number of Units	Unit	Unit Cost	Estimated Cost
West Bypass/State Highway FF						
Construction of 4 Lane Typical Section from a 2 Lane Typical Section AC	Weaver Road	Farm Road 194	2.25	Miles	$ 4,000,000.00	$ 9,000,000.00
Nelson Mill Bridge			1	LS	$ 5,000,000.00	$ 5,000,000.00
Construction of 4 Lane Typical Section	Farm Road 194	State Highway 14	4.36	Miles	$ 7,000,000.00	$ 30,520,000.00
Construction of a 4 Land Typical Section	State Highway 14	US 160	3.14	MIles	$ 7,000,000.00	$ 21,980,000.00
Subtotal						$ 66,500,000.00
Right - Of - Way Cost (110 foot wide x 11880 foot long)	Weaver Road	Farm Road 194	1306800.00	sq. ft.	$ 6.00	$ 7,840,800.00
Right - Of - Way Cost (150 foot wide x 23020.8 foot long)	Farm Road 194	State Highway 14	3453120.00	sq. ft.	$ 4.00	$ 13,812,480.00
Right - Of - Way Cost (150 foot wide x 16579.2 foot long)	State Highway 14	US 160	2486880.00	sq. ft.	$ 4.00	$ 9,947,520.00
Subtotal						$ 31,600,800.00
Kansas Expressway						
Construction of 4 Lane Typical Section **	Republic Road	Steinert Road	2.47	Miles		$ 14,649,196.45
Construction of 4 Lane Typical Section	Steinert Road	West Bypass/Highway F	3.65	Miles	$ 7,000,000.00	$ 25,550,000.00
James River Bridge			2	EA	$ 4,000,000.00	$ 8,000,000.00
Subtotal						$ 48,199,196.45
Right - Of - Way Cost (150 foot wide x 19272 foot long)	Steinert Road	West Bypass/Highway F	2890800.00	sq. ft.	$ 4.00	$ 11,563,200.00
Subtotal						$ 11,563,200.00
Est. Drainage Structures					5%	$ 5,734,959.82
Env. Documentation					3%	$ 3,440,975.89
Design Fees					8%	$ 9,175,935.72
Construction Eng.					10%	$ 11,469,919.65
Subtotal						$ 29,821,791.08
James River Freeway Interchange Work			2	EA	$ 15,000,000.00	$ 30,000,000.00
Estimated Total						$ 217,684,987.53

** Data received from the Kansas Expressway Extension Plan

Kansas Expressway

Item	From	To	Number of Units	Unit	Unit Cost	Estimated Cost
Construction of 4 Lane Typical Section **	Republic Road	Steinert Road	2.47	Miles		$ 14,649,196.45
Construction of 4 Lane Typical Section	Steinert Road	State Highway 14	4.49	Miles	$ 7,000,000.00	$ 31,430,000.00
James River Bridge (2 Structures Total)			1	EA	$ 12,000,000.00	$ 12,000,000.00
Subtotal						$ 58,079,196.45
Est. Drainage Structures					5%	$ 2,903,959.82
Env. Documentation					3%	$ 1,742,375.89
Design Fees					8%	$ 4,646,335.72
Construction Eng.					10%	$ 5,807,919.65
Subtotal						$ 15,100,591.08
Right - Of - Way Cost (150 foot wide x 23707.2 foot long)	Steinert Road	State Highway 14	3556080.0	sq. ft.	$ 4.00	$ 14,224,320.00
James River Freeway Interchange Work			1	LS	$ 15,000,000.00	$ 15,000,000.00
Estimated Total						$ 102,404,107.53

** Data received from the Kansas Expressway Extension Plan

West Bypass/State Highway FF

Item	From	To	Number of Units	Unit	Unit Cost	Estimated Cost
Construction of 4 Lane Typical Section from a 2 Lane Typical Section AC	Weaver Road	Farm Road 194	2.25	Miles	$ 4,000,000.00	$ 9,000,000.00
Nelson Mill Bridge			1	LS	$ 6,000,000.00	$ 6,000,000.00
Construction of 4 Lane Typical Section	Farm Road 194	State Highway 14	4.36	Miles	$ 7,000,000.00	$ 30,520,000.00
Subtotal						$ 45,520,000.00
Est. Drainage Structures					5%	$ 2,276,000.00
Env. Documentation					3%	$ 1,365,600.00
Design Fees					8%	$ 3,641,600.00
Construction Eng.					10%	$ 4,552,000.00
Subtotal						$ 11,835,200.00
Right - Of - Way Cost (110 foot wide x 11880 foot long)	Weaver Road	Farm Road 194	1306800.0	sq. ft.	$ 6.00	$ 7,840,800.00
Right - Of - Way Cost (150 foot wide x 23020.8 foot long)	Farm Road 194	State Highway 14	3453120.0	sq. ft.	$ 4.00	$ 13,812,480.00
James River Freeway Interchange Work			1	LS	$ 15,000,000.00	$ 15,000,000.00
Estimated Total						$ 94,008,480.00

National Avenue

Item	From	To	Number of Units	Unit	Unit Cost	Estimated Cost
Construction of 4 Lane Typical Section from a 2 Lane Typical Section	Lakewood Street	Farm Road 192	2.10	Miles	$ 4,000,000.00	$ 8,400,000.00
Construction of 4 Lane Typical Section	Farm Road 192	State Highway CC	2.46	Miles	$ 7,000,000.00	$ 17,220,000.00
James River Bridge			1	LS	$ 8,500,000.00	$ 8,500,000.00
Construction of 4 Lane Typical Section from a 2 Lane Typical Section (Cheyenne)	State Highway CC	State Highway 14	2.12	MIles	$ 7,000,000.00	$ 14,840,000.00
Subtotal						$ 48,960,000.00
Est. Drainage Structures					5%	$ 2,448,000.00
Env. Documentation					3%	$ 1,468,800.00
Design Fees					8%	$ 3,916,800.00
Construction Eng.					10%	$ 4,896,000.00
Subtotal						$ 12,729,600.00
Right - Of - Way Cost (150 foot wide x 11088 foot long)	Lakewood Street	Farm Road 192	1663200.0	sq. ft.	$ 7.00	$ 11,642,400.00
Right - Of - Way Cost (150 foot wide x 12988.8 foot long)	Farm Road 192	State Highway CC	1948320.0	sq. ft.	$ 6.00	$ 11,689,920.00
Right - Of - Way Cost (150 foot wide x 11193.6 foot long)	State Highway CC	State Highway 14	1679040.0	sq. ft.	$ 8.00	$ 13,432,320.00
James River Freeway Interchange Work			1	LS	$ 15,000,000.00	$ 15,000,000.00
Estimated Total						$ 113,454,240.00

Campbell Avenue/U.S. 160

Item	From	To	Number of Units	Unit	Unit Cost	Estimated Cost
James River Freeway Interchange Alterations			1	EA	$ 10,000,000.00	$ 10,000,000.00
Construction for Widening of 4 Lane Typical Section to 6 Lane Typical Section	James River Freeway	Weaver Road	1.80	Lane Miles	$ 2,000,000.00	$ 3,600,000.00
Construction for Widening of 4 Lane Typical Section to 6 Lane Typical Section	Weaver Road	State Highway 14	11.02	Lane Miles	$ 2,000,000.00	$ 22,040,000.00
James River Bridge (Widen 4 Existing Structures)			1	LS	$ 6,000,000.00	$ 6,000,000.00
Subtotal						$ 41,640,000.00
Est. Drainage Structures					5%	$ 2,082,000.00
Env. Documentation					3%	$ 1,249,200.00
Design Fees					8%	$ 3,331,200.00
Construction Eng.					10%	$ 4,164,000.00
Subtotal						$ 10,826,400.00
Right - Of - Way Cost (30 foot wide/side; 60 foot wide total x 4752 foot long)	James River Freeway	Weaver Road	285120.0	sq. ft.	$ 10.00	$ 2,851,200.00
Right - Of - Way Cost (30 foot wide/side; 60 foot wide total x 29092.8 foot long)	Weaver Road	State Highway 14	1745568.0	sq. ft.	$ 8.00	$ 13,964,544.00
James River Freeway Interchange Work			1	LS	$ 15,000,000.00	$ 15,000,000.00
Estimated Total						$ 84,282,144.00

U.S. 160 to Willard (Widening)

Item	From	To	Number of Units	Unit	Unit Cost	Estimated Cost
Construction of 4 Lane Typical Section from a 2 Lane Typical Section	Interstate 44	Missouri Highway 123	8.37	Miles	$ 4,000,000.00	$ 33,480,000.00
Subtotal						$ 33,480,000.00
Est. Drainage Structures					5%	$ 1,674,000.00
Env. Documentation					3%	$ 1,004,400.00
Design Fees					8%	$ 2,678,400.00
Construction Eng.					10%	$ 3,348,000.00
Subtotal						$ 8,704,800.00
Right - Of - Way Cost						
Estimated Total						$ 42,184,800.00

Missouri Highway 13 to I-44

Item	From	To	Number of Units	Unit	Unit Cost	Estimated Cost
Construction of 4 Lane Typical Section	Farm Road 80	Interstate 44	3.93	Miles	$ 7,000,000.00	$ 27,510,000.00
Subtotal						$ 27,510,000.00
Est. Drainage Structures					5%	$ 1,375,500.00
Env. Documentation					3%	$ 825,300.00
Design Fees					8%	$ 2,200,800.00
Construction Eng.					10%	$ 2,751,000.00
Subtotal						$ 7,152,600.00
Right - Of - Way Cost (150 foot wide x 20750.4 foot long)	Farm Road 80	Interstate 44	3112560.0	sq.ft.	$ 4.00	$ 12,450,240.00
Estimated Total						$ 47,112,840.00

Appendix E

Missouri Financing Options

Missouri Financing Options

Financing and economic development programs and incentives available in Missouri generally fall within six categories: bonds, taxing options, regulatory options, tax credits, development and redevelopment programs, and financing programs. The following provides an overview of all or most such programs/incentives in each of those categories:

I. Bonds

1. General Obligation Bonds

Missouri municipalities have the ability to raise funds for public improvements through the issuance of General Obligation Bonds (GOB), long-term obligations of a municipality, backed by its full faith and credit. GOBs may be used to pay for all or a part of public infrastructure costs and must be authorized by a vote of the public. The vote requirement for their issuance is four-sevenths at the general municipal election day (April), primary election day (August), or general election day (November), and two-thirds at all other elections. GOBs are subject to certain constitutional statutory limitations, primarily limiting the amount of debt a city can incur based upon a set percentage of its assessed value.

2. Revenue Bonds

Revenue bonds are typically issued in Missouri to finance facilities that have a definable user or revenue base. They are secured by the pledge of a specific source of funds from the facility or project that is financed. Revenue bonds are most often used to finance water, sewer, and utility improvements. Revenue bonds must be authorized by a vote of users of the financed services. Citizens using the services pay for the financing costs through the rates or fees that are charged. Usually included in the issuance of such bonds are requirements that adequate fees be charged in order to amortize the debt, maintain the financed facility, and fund certain reserve mandates. The interest and principal of these bonds do not constitute an indebtedness or obligation of the city issuing the bonds.

II. Taxing Options

1. Excise Taxes

An Excise Tax is a method of raising revenue by levying a tax on a particular activity. An excise tax can be defined as a tax that is measured by the amount of business done, income received, or by the extent to which a privilege may have been enjoyed or exercised by the taxpayer, irrespective of the nature or value of the taxpayer's assets or investments in business. It is different than a property tax, which is based on the assessed value of property and is different than an impact fee, because it is not subject to the benefit requirements.

The purpose of the excise tax is to raise revenue, not to pay for costs created by the activity upon which the tax is imposed. There is no legal limit on the excise tax rate, nor is there a prescribed methodology that a community must follow to establish the rate of the tax. In establishing the tax rate, a community is constrained only by its responsibility

to exercise its legislative power reasonably. The Hancock Amendment to the Missouri Constitution prevents an excise tax from being imposed unless first approved by a simple majority of voters.

Unlike an impact fee, the funds collected from an excise tax do not have to be "earmarked" for a particular purpose, such as street improvements. The funds collected from an excise tax may be simply placed in the community's general fund to be used for any valid public purpose. While "earmarking" of funds is not legally necessary, from a practical standpoint, a city can state that the purpose of the excise tax is to provide, for example, street improvements. In addition to the aforementioned excise taxes, Missouri statutes allow third class and special charter cities to impose an excise tax in the form of a license tax on "building contractors."

2. Capital Improvements Sales Tax

Missouri statutes authorize cities to impose a sales tax of up to one-half of one percent on all retail sales in the municipality for the purpose of funding capital improvements, including operation and maintenance. The sales tax must be authorized by the city council and approved by a simple majority of the voters in an election. If the measure fails to obtain a simple majority, it cannot be resubmitted to the voters for at least 12 months. A city may issue bonds to be retired from revenues derived from the capital improvements sales tax, such bonds must be approved by either four-sevenths or two-thirds of voters.

3. Transportation Sales Tax

Missouri statutes authorize cities to impose a sales tax of up to one-half of one percent on all retail sales in the municipality to generate revenues for transportation purposes. The sales tax must be authorized by the city council and approved by a simple majority of voters in an election. The proceeds of the tax must be used for transportation purposes, which is defined to include the construction, reconstruction, repair and maintenance of; acquisition of lands and rights-of-way for; and planning and feasibility studies for roadways and bridges; and the financial support of public mass transportation systems. This statute also authorizes a city to issue bonds for transportation purposes to be retired by the revenues from the sales tax imposed. These bonds do not count against the city's debt limit.

4. Stormwater Control and Local Parks Sales Tax

Missouri statutes authorize cities to impose a sales tax of up to one-half of one percent on all retail sales in the municipality for the purpose of providing funding for stormwater control, for local parks, or for both. The sales tax must be authorized by the city council and approved by a simple majority of the voters in an election. If the measure fails to obtain a simple majority, it cannot be resubmitted to the voters for at least 12 months.

III. Regulatory Options

1. Development Exactions

Communities have historically relied on Development Exactions (DE) as a means to obtain developer participation in the construction of infrastructure improvements needed

to serve new development. DEs may be defined as any requirement to; 1) construct a public improvement or dedicate land for public improvement or 2) make a monetary contribution for a public improvement imposed as a condition of development approval. Examples include:

- Requirements to construct and dedicate to the public streets, sewers, water lines etc., within a subdivision.
- Requirements to dedicate right-of-way for streets abutting, but not within, the subdivision.
- Requirements to construct off-site improvements, e.g. a traffic signal.
- Requirements to make a monetary contribution to pay a portion of the cost of some public improvement, e.g. fees for park and recreation facilities.

DEs are usually imposed by communities at the time of zoning or subdivision approval and occur at no cost to the community.

2. Impact Fees

An Impact Fee (IF) is a type of development exaction whereby the developer is required by the approving community to pay a fee as a condition of development approval. Collected fees must be spent within a reasonable period of time from the date paid on the type of infrastructure improvement for which they are paid, and in a location that provides benefit to the developer. The amount of the fee collected, with respect to each development, cannot exceed an amount that reasonably reflects the cost of constructing those improvements, required as a result of the demand for new infrastructure capacity created by the development.

There is no specific statutory authority for communities in Missouri to impose impact fees but such authority may be inferred from several sources.

IV. Tax Credits

1. Tax Credits for New and Expanding Businesses

State income tax credits are available to private businesses that meet minimum investment and job creation requirements based on the type of use and whether the activity involves a new or existing expanded business. Unlike deductions that reduce the amount of taxable income; tax credits reduce actual taxes due. Thus, each dollar of tax credit represents one dollar's value to a private business having a tax liability.

Eligible new or expanding businesses include manufacturing, warehousing, wholesale distribution, mining, insurance, research and development, rural electric cooperatives, television and radio stations, cable television, recycling operations, computer-related services, and certain office activities.

Tax credits for new or expanding business facilities are generally available for a maximum period of ten years. New business facilities may be entitled to an additional ten years of tax credits for further expansions. Each benefited expansion must represent an investment of over $1 Million and create 25 jobs. Eligible expansions may occur in the eighth, ninth, or tenth year of the initial term, or at any time subsequent to the expiration of the initial term. The formula to earn the tax credits is based on:

- $75 for a new Missouri company for each new job and for each $100,000 of new capital investment created by the project; or
- $100 for an existing Missouri company for each new job and for each $100,000 of the new capital investment created by the project.

2. Enterprise Zones

Businesses locating or expanding in enterprise zones (designated "distressed" areas targeted for intensive economic development efforts) may receive various incentives. These include real property tax abatement; awards of tax credits; job training credits; favorable state tax treatment for investments; income as well as waivers of business license fees; and local zoning restrictions and other "burdensome" local development requirements.

Eligible new or expanding businesses include industrial, manufacturing, retail, hotels, motels, and recreational facilities excluding excursion gambling boats. This enables statutes, establishing a maximum of fifty enterprise zones throughout the state and allows for designation of additional zones by special legislation.

Businesses investing in a location or expansion within an enterprise zone may enjoy substantial tax advantages, such as local property tax abatement for up to 25 years for any improvements made to real property after the zone was designated. By employing certain kinds of individuals and by offering training, it is possible for businesses to receive up to $1,600 in tax credits per employee per year for a maximum of 10 years. Tax credits of $400 can be earned for each new job created and additional credits of $400 can be earned for every year the new employee is a resident of the zone. Another $400 of credit is possible for hiring certain disadvantaged workers or those who have been unemployed for the last three months. A maximum of $400 credit for each employee trained can be earned for expenses incurred by a new business in an enterprise zone, as long as it is not covered by an existing federal, state or local program.

Fifty percent of Missouri taxable income attributed to a new business facility in an enterprise zone will be exempt from state income taxation. This exemption is available for 10 years and must satisfy the following 30% requirement: 30% of new employees are 1) residents that have lived in the enterprise zone for a period of at least one full calendar year or 2) employees that are "difficult to employ", which means they have not been hired in the last three months or are eligible for aid to families with dependent children. Certain businesses may be exempt from the 30% requirement depending upon the business classification and total number of persons employed.

3. Enhanced Enterprise Zones

Enhanced Enterprise Zones are specified geographic areas designated by local governments and certified by the Department of Economic Development. Individual business eligibility will be determined by the zone based on creation of sustainable jobs in a targeted industry or demonstrated impact on local industry cluster development. Gambling establishments, retail trade, and food and drink establishments do not qualify. This discretionary program provides income tax credits each year for a maximum of ten years after the program takes effect. To receive credits in any of the ten years, the business must create at least two new jobs and $100,000 in new investment in that year, as compared to the year prior to the commencement of operations at the business.

Tax credits are authorized by the Department of Economic Development based on state economic benefit, supported by the number of new jobs, and new capital investment that the project is anticipated to create. Tax credits can only be applied to tax liability for the year in which they were earned and are refundable, they may also be transferred, sold or assigned. Total tax credits issued under this program are limited to $4M annually until 12-31-06 and $7 million annually thereafter.

4. Neighborhood Assistance Act

Business may receive state tax credits for contributing cash, labor, or services to eligible neighborhood assistance projects in any Missouri city or county. The Department of Economic Development must approve projects before businesses can receive credit for contributing to them. Eligible projects include community services, education, job training, crime prevention, physical revitalization, and economic development efforts.

Tax credits may equal up to 50% of the contribution and may be used to offset income, franchise, or financial institution taxes. The credit is claimed in the tax year the contribution was made, and may be carried forward the next succeeding five years. There is an annual state-wide cap of $32 million in tax credits for the Neighborhood Assistance Act.

5. Historic Preservation Tax Credits

The state provides an incentive to businesses and individuals to redevelop historic commercial and residential structures through income tax credits in an amount equal to 25% of the total amounts expended. Rehabilitation and preservation costs must exceed 50% of the taxpayer's total basis in the property. Preservation activities must also meet rehabilitation standards of the Secretary of the Interior.

Historic preservation tax credits unused in any year may be carried back for a period of three years or carried forward for a period of ten years and are transferable.

6. Research and Development Tax Credit

A tax credit amounting to 6.5% of the taxpayer's qualified research expenses may be claimed against state income tax liability. In order to receive this credit, certification by the Director of the Department of Economic Development is required as proof that the taxpayer made qualified research expenses. The credit may be carried forward up to five years.

7. Business Use Incentives for Large Scale Development (BUILD)

Eligible businesses are those involved in manufacturing, processing, research and development, or providing services in interstate commerce that invest a minimum of $15 Million in an economic development project creating at least 100 new full-time jobs. Also eligible are office industries that have investments of at least $10 million and create at least 500 new jobs. Businesses involved in retail, health or professional services and any which close or significantly reduce operations in one area of the state and relocate the same operation to another part of the state are not eligible.

The Missouri Development Finance Board may borrow money or issue revenue bonds to finance the costs of eligible projects. The eligible business pays an assessment to the Board up to 5% of the employees' wages. The board will deposit the assessment into a special fund for the eligible project, for the purpose of reimbursing project costs, retiring revenue bonds, or other debt incurred to finance the project.

The eligible business can claim the amount of employee assessments paid to the Board as a state tax credit if all of the following conditions are met: 1) the project will create new jobs; 2) the project will strengthen the economy of the state; 3) the political subdivisions affected by the project have committed local incentives to the project; 4) receiving the credit is a major factor in the project's development and not receiving the credit will likely cause the project to be discontinued; 5) awarding the credit will produce an overall positive fiscal impact to the state; and 6) there is at least one other state that the applicant verifies is being considered for the project.

8. Quality Jobs Act

Four programs, each with separate qualification requirements and overseen by the Department of Economic Development, are contained within the act: The Small Business and Expanding Business Program; the Technology Business Program; the High Impacts Program; and the Job Retention Program. To qualify for any of the programs, employers must pay workers the average county wage, or above, and offer basic health insurance including 50% of premiums. Employers retain a portion of withholding taxes paid to employees, but employees continue to receive full credit for taxes withheld from their pay.

The first three aforementioned programs allow the state to use a portion of withholding taxes on wages paid to employees in newly created jobs as an incentive for the creation of jobs. The total amount of tax credit issued for all three programs combined is limited to $12 million annually. Under the Job Retention program, companies must have employed at least 1,000 full-time, year-round employees during the two years prior to their application to the program. The job retention tax credit will be a maximum of 50% of the withholding tax generated by the employees at a company for five years, with tax credits capped at $750,000 annually.

V. Development and Redevelopment Programs

1. Tax Increment Financing

The purpose of Tax Increment Financing (TIF) is to encourage redevelopment of 1) blighted areas, 2) conservation areas and/or 3) economic development areas that would not be developed without public assistance. Redevelopment of these legislatively designated areas will increase the equalized assessed valuation of the property, thereby generating new revenues to a city or county that can be used to pay for specified costs of a redevelopment project. These costs may include installation, repair, construction/ reconstruction of streets, and acquisition and construction of other public facilities within the designated area.

Property taxes and other revenues generated by the existing businesses in the designated area are frozen when the redevelopment plan is approved by the city or county. New tax revenues from property and economic activity taxes, attributable to the

redevelopment, are paid into a “special allocation fund” and are used to retire loans, bonds, debentures, and other indebtedness issued by a municipality or county to pay for the improvements. These new tax revenues are the source of the term “increment,” and they are also referred to as payments in lieu of taxes (“PILOTS”) and economic activity taxes (“EATS”). The former is derived from the increase in property values due to private redevelopment in the project area, and the latter refers to capture of up to 50% of certain locally imposed taxes such as local sales, franchise, utility taxes, and local earnings taxes generated by the redevelopment.

Certain new state revenues (one-half of general state sales tax or one-half of state individual income tax withheld from new employees in the redevelopment area) generated by a redevelopment project may be captured under limited circumstances where the area is blighted and is located in either an enterprise zone, federal empowerment zone, or a central business district or urban core area, with at least one 50-year-old building that suffers from a 20-year pattern of declining population or property tax revenue. State statutes also authorize bonds to be issued that are paid from the PILOTS and EATS generated in the redevelopment area. The bonds do not count against the city or county’s debt limit.

In a TIF plan, the PILOTS, EATS, and certain new state revenues in the designated redevelopment area may be captured for up to 23 years. A “redevelopment area” covered by a TIF plan may be broken down into several redevelopment project areas, each being the geographic boundary of individual “redevelopment projects” which, when all completed, result in full implementation of the TIF plan. Separating the entire redevelopment into individual projects allows for maximizing the benefits of tax increment financing, delaying the commencement of the 23 year maximum term for each project for up to 10 years until construction of the project is ready to commence.

TIF is premised on the philosophy that redeveloping an area spurs economic development, which in turn generates new tax revenue to pay for the cost of redevelopment and more; all of which results in a net gain to the community. Although the city or county issues notes or bonds to pay for part of the cost of redevelopment, it does not pledge its general fund to the repayment of the TIF obligations; rather, the TIF obligations are repayable solely from the new tax revenues deposited in the special allocation fund. In effect, the city or county, along with the other affected taxing jurisdictions, “pays” for a portion of the redevelopment by foregoing a portion of the increased tax revenue until the notes or bonds are paid off.

2. Missouri Downtown and Rural Economic Stimulus Act

The Missouri Downtown and Rural Economic Stimulus Act (MODESA) is an alternative financing mechanism to state and local tax increment financing. It provides for the possible capture of the incremental increase in certain specified local and state tax revenues for use in defraying certain costs of redevelopment projects. MODESA is patterned after TIF but is quicker and more flexible at obtaining necessary approvals for the capturing of state (as opposed to local) tax revenue.

3. Special Business Districts

According to state statutes, cities have the authority to establish special business districts upon petition, by one or more owners of real property, in the proposed district. The

purpose of the law is to grant special districts the power to levy special fees and taxes in each district for the maintenance and improvement of the special business district. Property owners in the district may be taxed on an ad valorem basis at the rate of $.85 per $100 of assessed valuation. Businesses may be assessed a license tax. Fees and taxes may be used for the purpose of maintaining and improving public facilities in the district, including construction of new or reconstruction of existing streets. Discretion as to the types and amounts of expenditures lies solely with the City Council, which appoints a commission or advisory board to make recommendations as to expenditures and uses. The district may issue general obligation bonds for up to 20 years if authorized by the City Council and approved by either four-sevenths or two-thirds of the voters in the district. These general obligation bonds count against the city's debt limit.

4. Urban Redevelopment Corporations (Chapter 353)

Any Missouri city may establish an Urban Redevelopment Corporation to redevelop areas that have been designated as blighted, due to age, obsolescence, or physical deterioration. The designated redevelopment area can be as small as a single lot or building. The corporation may acquire land through eminent domain. The governing body retains discretion to approve or deny such grants. A maximum of 100% of improvements to real property may be exempt from state and local property taxes for the first 10 years. For the next 15 years, 50% of the real property taxes on both the land and improvements are abated.

The grant of tax abatement provided in Chapter 353 involves a cap or limitation on future assessed valuations of affected real property in the redevelopment area. Thus the effect of the tax abatement extends to the real property levies of the state and of all political subdivisions. A city may require that payments, in lieu of taxes (PILOTS), be made to taxing jurisdictions to reduce the amount of tax abatement.

5. Neighborhood Improvement Districts

Municipalities may issue temporary notes or long-term general obligation bonds (up to 20 years) for the purpose of making public improvements within an area, known as a Neighborhood Improvement District ("NID"). Property within the boundaries of the NID must be benefited by public improvements, including streets and parks, and is assessed to reimburse the municipality for its costs. There are two independent methods authorized for the creation of these districts. Landowners within the designated area must authorize formation of the NID, either by a favorable vote of approval, or by submission of a petition to the City Council, which must be signed by at least two-thirds of the owners of record of all real property located within the proposed district.

Once formation of the NID is authorized, the City Council may, by resolution or ordinance, determine the advisability of the specified improvements and order that the district be established. To secure general obligation bonds to finance improvements, a portion of the total cost is assessed against each landowner within the NID and the special assessment becomes a tax lien against the property. The bonds may be issued without a vote of the public if the city agrees to rely on existing revenues and surpluses as a source of repayment in the event that the special assessments made against the property in the NID prove to be insufficient to fund repayment. Bonds issued pursuant to this option do not count against the city's regular debt limit, cannot exceed the estimated cost of improvements by more than 25%, and cannot exceed 10% of the assessed value of all tangible property in the city.

6. Community Improvement Districts

A Community Improvement District (CID) is a special purpose, self-taxing district which has broad authority to levy and collect special assessments and taxes, to fix and collect fees for use of CID properties, to construct and maintain a variety of public improvements, to support business activity and economic development within the district boundaries, and to issue tax exempt revenue and general obligation bonds. A CID may be established upon receipt of a petition signed by 1) owners of real property representing more than 50% of the assessed valuation within the proposed CID boundary and 2) over 50% per capita of all owners of real property within the boundary.

A CID may be organized as either a political subdivision or as a not for profit corporation; in both instances it is governed by a board of directors. Construction, reconstruction, repair, and maintenance of public improvements in a CID may be funded by the imposition of special assessments. The latter may be imposed only by the board of directors, following receipt of a special assessment petition signed by groups #1 and #2 noted above. The petition must also specify the projects to be funded by the special assessments, the method of allocation, the amount of the proposed assessments, and the expiration date of the assessments. If the CID is a political subdivision, the improvements may also be funded by a real-property tax levied within the district after approval by a majority of the qualified voters within the district.

7. Transportation Development District

The purpose of a Transportation Development District (TDD) is to fund, promote, plan, design, construct, improve, maintain, and operate one or more transportation projects, or to assist in such an activity. A TDD is created when a petition is submitted to the circuit court from either 50 registered voters in each county in the district, or by all of the owners of real property in the district if it contains no registered voters, or by the municipality or county. The petition must identify the district's boundaries, each proposed project, and a proposal for funding the projects. After receiving the petition and holding a hearing to determine that the petition complies with the law, the circuit court enters a judgment. If the judgment is favorable to the petition, an election will be held. If a simple majority of registered voters or property owners within the boundaries vote in favor, the TDD is created. If the issue fails, it cannot be resubmitted to the voters again for two years. If approved, an election is held within 120 days to elect a board of directors for the district.

A TDD may fund approved transportation projects (subject to the approval of the municipality or county or the Missouri Highway and Transportation Commission, depending on the project) utilizing one or more financing mechanisms (special assessments, property taxes, and sales taxes not to exceed 1% and tolls) authorized in the election. TDDs are also authorized to issue bonds, including revenue bonds, by resolution of the board of directors without a vote of the public. These bonds do not count against a city's debt limit.

8. Special Road Districts

A county may form a Special Road District (SRD) comprised of any portion of territory within its boundary. An SRD is administered by commissioners who maintain sole, exclusive, and entire control and jurisdiction over all public highways, bridges, and culverts, other than roads and highways controlled by the State Highways and Transportation Commission. Such control covers improvements, repairs, and construction

of aforementioned infrastructure. The road district may issue bonds, levy a special tax for road improvements, or repairs, and issue special assessments.

9. Transportation Corporations

Transportation Corporations (TC) are private entities formed to fund, promote, plan, design, construct, improve, maintain, and operate one or more transportation projects or to assist in such activity. TCs are created by submission of an application signed by at least three registered voters to the Missouri Highway and Transportation Commission (MHTC) requesting that a TC be created to act within a designated area. The application must include preliminary plans and specifications, including the proposed plan for financing the project. Projects are limited to those that will be a part of the state highway system.

The TC is governed by a board of directors appointed by the MHTC and is granted the power to contract, lease, or purchase real or personal property, and to sue and be sued. All TC projects must be approved by the MHTC. TCs may charge fees for services, collect tolls and issue bonds, including revenue bonds, without a vote of the public. Fees, tolls, and bonds are not subject to any set maximums.

VI. Financing Programs

1. Industrial Development Bonds

Industrial Development Bonds (IDB) may be issued by municipalities and industrial development authorities established by municipalities, or by the Missouri Development Finance Board. IDBs finance acquisition of real and/or personal property (equipment) for a development project for a private company. The primary incentive for a company to use bond financing is that funds may be obtained at lower interest rates than with conventional financing. Because the interest paid to bondholders is exempt from federal and state income taxes, IDBs offer a lower rate of interest to the company. The entity which issued the IDBs retains ownership of the property and leases it back to the company under a lease purchase arrangement whereby at the end of the term of the bonds, the company acquires ownership of the property.

IDBs can only be used to finance manufacturing projects. Proceeds from IDBs may only be used for fixed assets. A company's total capital expenditures must be less than $10 million in the same location for three years before and three years after the bond issue. A company cannot have more than $40 million of total outstanding tax-exempt bonds for all its locations and/or related companies.

2. Missouri First Linked Deposit – Job Creation

The State Treasurer provides low-interest, linked-time deposits of state funds to a participating Missouri Lending institution up to two percent below the one-year Treasury Bill rate, with the lender passing on this interest savings to the business borrower.

To be eligible for a linked deposit loan, the borrower must be a new, existing, or expanding for-profit company that is able to create or retain at least one new job for each $25,000 borrowed, and employs 10 or more persons. The funds may be used for any

purpose approved by the lender, such as relocation expenses, working capital, interim construction, inventory, site development, and machinery and equipment.

Any Missouri bank may participate in the program. The State Treasurer will offer deposits of state funds dollar-for-dollar, for the amount of approved loans. The minimum deposit is $90,000 and there is no maximum. Deposits (and therefore loans) are made for a one-year period and are generally not renewable. In certain cases, if additional job creation is anticipated, deposits may be renewed, subject to available funds.

3. Community Development Block Grants

The federally funded Community Development Block Grant (CDBG) program provides funds which the Missouri Department of Economic Development can distribute to cities under populations of 50,000 and counties under populations of 200,000. The purpose of CDBGs is to improve local communities by providing suitable living conditions and expanding economic opportunities for low and moderate income persons.

Four areas of the CDBG program are designed to enhance economic opportunity. By assisting in job retention and creation, communities that meet the population guidelines can benefit from these enhancement opportunities. 1) The Missouri Development Action Grant (MoDAG) program provides CBDG funds for low-interest loans to businesses that create or retain jobs primarily for low- and moderate-income persons. MoDAG loans are targeted to manufacturers and may be used for land, buildings, construction or renovation of facilities, machinery and equipment, and working capital. 2) Industrial Infrastructure Grants of up to $500,000 are available to assist in providing public infrastructure such as utilities and roads to support new business locations and expansions. To receive such a grant, a community must have a firm commitment from a company that it will locate or retain jobs in the recipient community. 3) CDBG Loan Guarantees of up to 90% on funds obtained from a private lender, up to a maximum of $400,000, can be provided to new or expanding businesses that are retaining or creating jobs for low- and moderate-income workers. 4) Through Missouri's Speculative Building Loan Program, short-term (30-month maximum) loans of up to $1 million can be made to block grant eligible communities for construction/renovation of speculative industrial shell buildings.

Appendix F

Public Comments

OLSSON ASSOCIATES

PUBLIC MEETING SUMMARIES
OZARKS TRANSPORTATION ORGANIZATION

NORTH/SOUTH CORRIDOR STUDY

JULY 17, 2006 – JULY 18, 2006

North/South Corridor – Public Meetings **Number of Attendees: 110**

SUMMARY

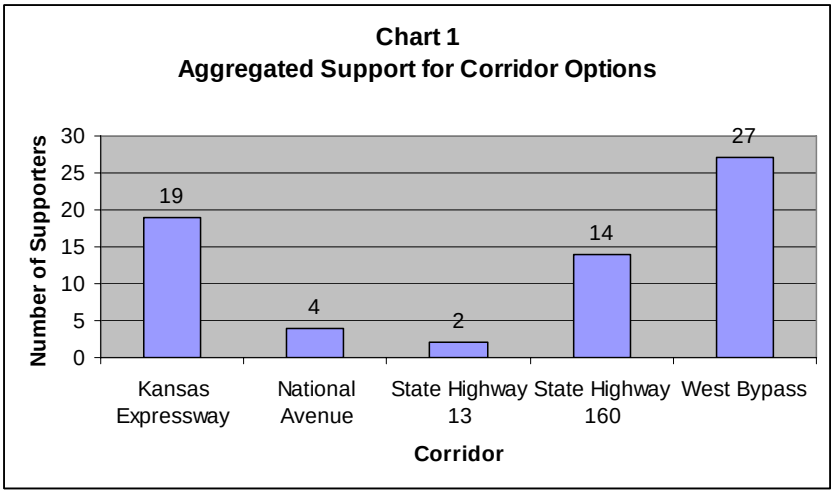
Four public meetings were held in the Ozarks Transportation Organization area on the evenings of July 17 and 18, 2006 to solicit stakeholder input regarding the five proposed routes for the North/South Corridor. A total of 110 residents participated in these forums, which were held in the communities of Battlefield, Nixa, Springfield, and Willard.

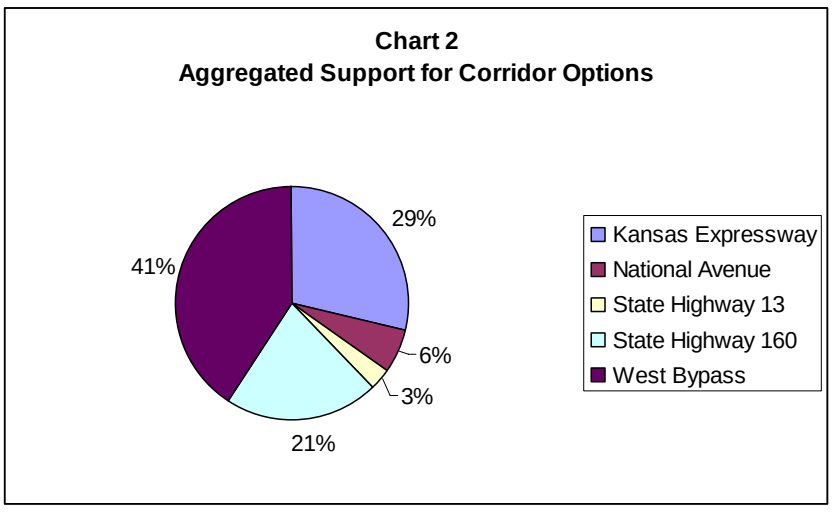
Three corridors received most of the support from the public who attended these meetings: the West Bypass, the Kansas Expressway, and State Highway 160. Together, those proposed corridors account for 91% of all the support expressed throughout the initial public meeting process. Charts 1 and 2 summarize these results.

The West Bypass received more support than other proposed routes in the Springfield public meeting, while the State Highway 160 plan received high support at the forum in Willard; these two plans were also the only ones to receive support at the meeting in Nixa.

At the meeting held in Battlefield, the Kansas Expressway route received the most support.

Comments from these meetings are included below and in the individual meeting summaries.





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Nixa, Missouri — Number of Attendees: 17

SUMMARY

The corridor options were presented to 17 attendees at the open house in the City of Nixa's Community Center on July 17. Two participants completed comment sheets; each sheet includes notes on the current conditions of the roadways as well as ideas for possible improvements. Also included are opinions on which corridor option represents the best improvement plan for the area. The table and charts below specify the number of comment sheets that identify support for each of the five options.

While there was little support or opposition expressed for any of the options, the State Highway 160 and West Bypass options were both cited once as supportable plans for the North/South Corridor.

COMMENTS ON CORRIDOR OPTIONS

KANSAS EXPRESSWAY

- Has potential to function as a freeway south of the James River Expressway
    - Questionable prospects of whether such a roadway would attract traffic
    - Presently stimulates economic development at intersecting streets; lack of current demand postpones such development effects

NATIONAL AVENUE

- Consider linking National Avenue and Cheyenne Road
- National Avenue is obvious route to assist with the growth of Ozark and Nixa

STATE HIGHWAY 160

- Could be six lanes

WEST BYPASS

- Lends itself to realignment

CURRENT CONDITIONS

- Springfield Urban Service Boundary
    - East on Highway 60 towards Rogersville
    - Runs to Highway 213

NEEDS & CONCERNS

- Nicholas Road/FR 141/Cox Road is a two-lane connection route from Republic Road to Highway 14 that may already have enough traffic for a four-lane roadway.
- Campbell Avenue/Highway 160 experiences notable congestion
- Route needs to be north of Highway 14

IDEAS

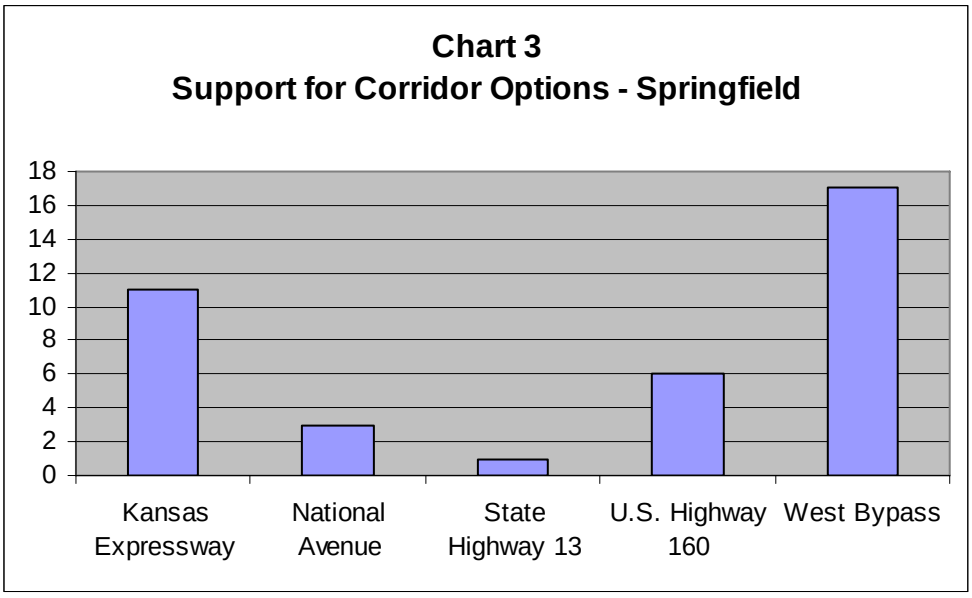
- Interchange potential at Highway 160 and NN
- Look at options to relieve traffic on Highway 160
    - Loop roadway east of Nixa to link Highways 14 and 160

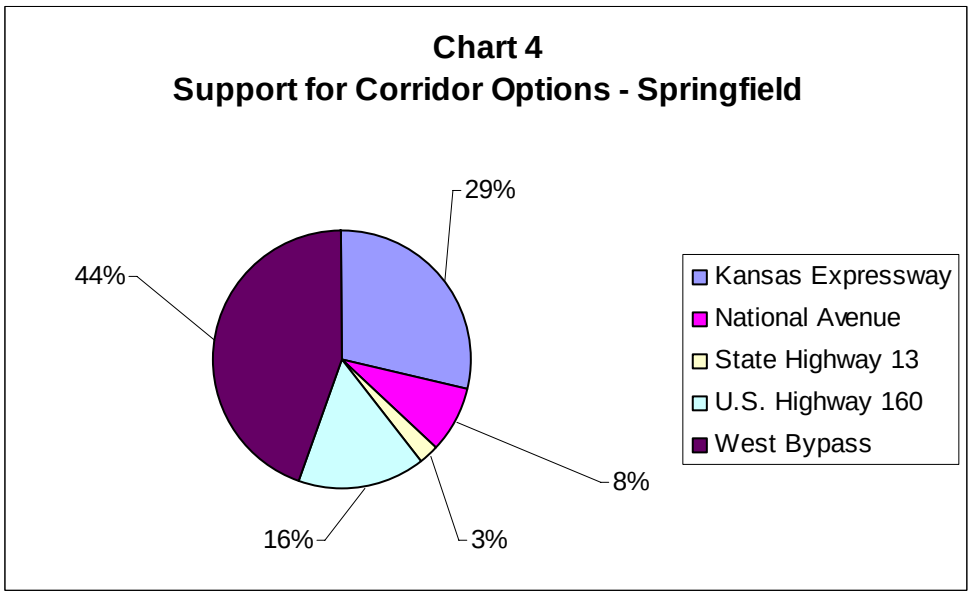
Springfield, Missouri — Number of Attendees: 56

SUMMARY

The public meeting in Springfield on July 17 at the Library Center had 56 people sign in. Of the meeting's 56 participants, 38 submitted comment sheets; included on those sheets are comments in support of certain corridor options.

The West Bypass route received the most support by those in attendance, as 44% of those commenting back this plan. Another 29% of respondents support the Kansas Expressway expansion.





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COMMENTS ON CORRIDOR OPTIONS

KANSAS EXPRESSWAY

- Kansas Expressway should get started as soon as possible
  - Bottleneck at Cox Road & Republic Road near Kansas Expressway snarls traffic
  - Construction should go at least to the county line

- Extension of Kansas Expressway does not make sense
  - Future development will require expressway around west end of area connecting to I-44
  - Proposed Kansas Expressway corridor passes through residential neighborhoods that are not suitable for expressway traffic

- Kansas Expressway extension should be last resort
  - Would be too much traffic traveling through a heavily residential area
  - May also be an environmental impact of crossing the James River

- Kansas Expressway a good option but could have too severe of an impact on residential areas

- Kansas Expressway is second priority and West Bypass will eventually need to be built

- Kansas Expressway a good option as some right-of-way is already held for southern extension
  - Cox Road/Republic Road/Kansas Expressway is heavily congested during rush hours
  - New development west of Cox Road will increase congestion at Republic Road

- Kansas Expressway extension is the poorest option
  - Would destroy neighborhoods
  - Presence of Ward Creek and tributaries also make this a poor choice

- Kansas Expressway is the obvious choice
  - Was proposed 20 years ago and should have been completed then

- Kansas Expressway option – should leave existing road and cut through the empty land to the east of Nichols Street

- Kansas Expressway is best option
  - Neighbors and customers say it would serve a very fast growing area and would relieve congestion on Campbell Avenue

- Kansas Expressway extension – extend it as far south as possible; at south side of James River Expressway, it could tie into Highway AA and other farm roads

- Kansas Expressway was supposed to be done in 2008

NATIONAL AVENUE

- Extend National Avenue because of its current congestion

- Continue National Avenue south to Nixa
    - Will relieve congestion on Highway 160

- National extension seems far-fetched due to the floodplain

STATE HIGHWAY 13

- Highway 13 at I-44 is gridlocked during afternoon rush hours due to the inefficient placement of stoplights
    - Flyovers and bridge widening improvements should be implemented to address this congestion

STATE HIGHWAY 160

- Expand Campbell Avenue to 6 lanes

- Campbell Avenue (particularly Campbell Avenue & James River Expressway intersection) needs to be improved

- Expand Campbell Avenue to 6 lanes
    - Primarily only commercial establishments would be affected
    - Improve traffic times to and from southern communities

- Increase Campbell Avenue to 6 lanes and remove some stoplights between Republic & Hwy 14

- Campbell Avenue improvements – will bottleneck and James River Expressway if lanes are added south of the expressway

- 6-Lane Campbell Avenue – good idea, but not viable

WEST BYPASS

- Extending West Bypass will not remove Kansas Expressway issues

- West Bypass is best to address future needs
    - Lake/vacation/commuting traffic will continue to increase

- West Bypass/FF corridor is best option
    - Future growth will occur out west (other areas are already established)
    - Access to the airport would improve

- Westernmost expansion (West Bypass) is easily the best option
    - Three major thoroughfares already exist in eastern portion of area
    - Potentially cheaper land to expand on

- West Bypass is best corridor
    - Allows for a long-range plan to loop West Bypass to other major routes

- Best option is an extension of the West Bypass
    - Kansas Expressway & Campbell already have existing avenues to Highway 14

- West Bypass will eventually need to be built

- West Bypass is best way to relieve congestion

- West Bypass is best option because of future growth
    - Land acquisition costs would be more economically feasible
    - Involves less displacement of commercial and residential properties
    - Better access to airport

- West Bypass is best way to relieve congestion
    - Would provide direct access from Christian County to the airport
    - Could eventually create a loop around Springfield

- Best option is to extend West Bypass south of James River Expressway to turn east and intersect with Highway 160
    - Would accommodate future growth in western Greene & Republic Counties

- Favors extension of West Bypass
    - Pulls traffic away from Campbell Avenue and Highway160 area and moves it to the west

- West Bypass
    - Would follow trend of western development
    - Would allow better access to the airport – one of the plan's biggest advantages
    - Possibly have higher speeds

- West Bypass best fits future growth

NEEDS & CONCERNS

- Shopping, medical, etc. are driving traffic east-west too

- Unfortunate that residential areas are targeted for highway expansion

- Previous expansion on National Avenue has created terrible drainage issues that need to be addressed

- Plainview Road (between National and Campbell Avenues) is heavily congested
    - Construct double lanes for the #11 bus

- Surprised by the numbers of cars traveling along all of the proposed routes

- Intersection of Farm Road 190 and Cox Road is difficult due to speed on Cox Road
    - Difficult to turn right off Cox Road onto Farm Road 190 – no right-turn lane

- Heavy traffic and frequent stoplights spur avoidance of South Campbell Avenue

- James River Expressway needs to be 6-lanes
    - Need an exit-entrance lane between Campbell and National Avenues

- Widening Cox Road would not sufficiently improve traffic flow

- Key to traffic improvement is a limited access roadway that connects with James River Expressway and I-44
    - Campbell Avenue, National Avenue, and Kansas Expressway options don't readily move a high volume of traffic

- Thinks the plans are "too little, too late" – inadequate for one of the fastest-growing areas of the state
    - Area needs a limited access freeway around Springfield to drive development out from the city core

- Reroute traffic around the Highway 13/I-44/Norton Road Intersections
    - Most congested intersection in the area
        - Lights at Wal-Mart, Lowe's, and I-44 so traffic can't move
        - Semis making left turns also block traffic – this shouldn't be permitted

- Interchange at I-44 at Norton Road is blocked at least once a day
    - Has bumper-to-bumper traffic when fairground events are held

- Kansas Expressway, Highway 160, and National Avenue options need public improvement works and devaluation of "one car, one passenger" attitude

IDEAS

- All of the options will be needed in the future

- In the short-term, OTO should consider making two left turn lanes from West Republic Road onto Kansas Expressway at the traffic light

- "Stop planning and start building some roads"

- Do not install a signal light at Cox Road and Campbell Avenue

- Prefer converting proposed Kansas Expressway extension property to park/greenspace conservation area

- Would like to see alternative paths of travel, including greenway trails, bike paths, and bike lanes

- No new roadways are needed
    - Should use resources to upgrade Campbell Avenue

- Traffic light at Evans Street and National Avenue
    - Nearly impossible to cross Evans Street in the morning with northbound traffic

- Consider extending or upgrading Cox Road
    - Heavily traveled between Christian County and Springfield
    - Would like to see improved Cox Road looped into Kansas Expressway or West Bypass extensions

- Consider improving Cox Road and tying into Kansas Expressway
    - Minimal land purchases would make it more financially feasible

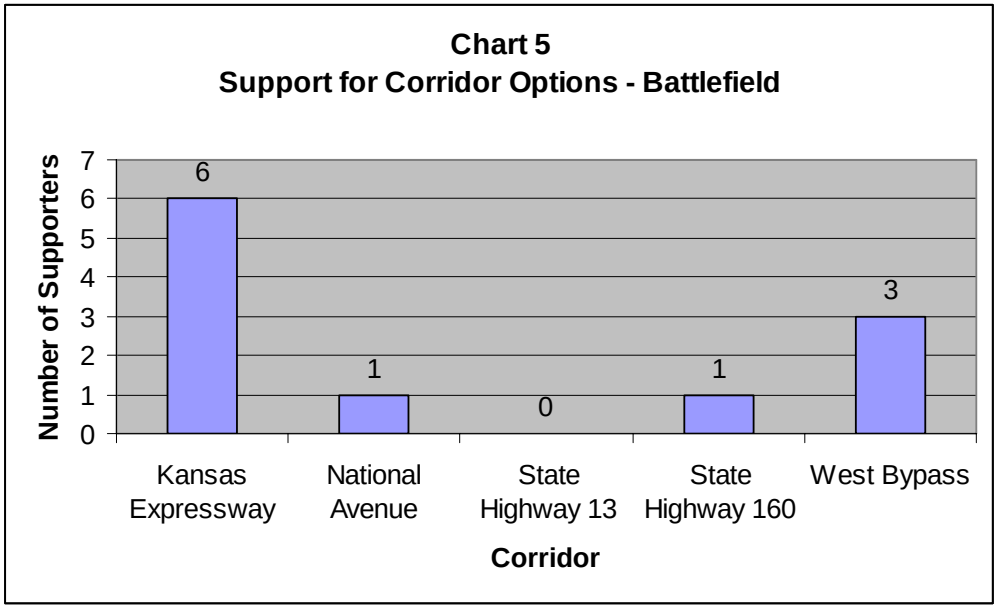
- Interchange at Glenstone Avenue and Independence Drive has a poor sign for Republic Road
    - A stranger would have no idea how to get on Republic Road
        - Would like better signage (maybe a block beforehand) to notify drivers

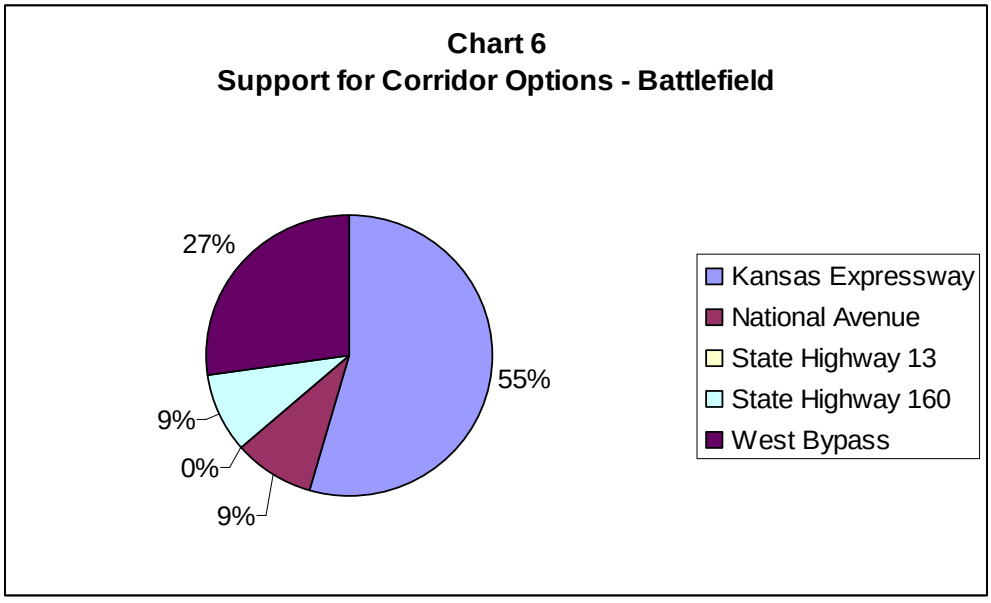
Battlefield, Missouri — Number of Attendees: 24

SUMMARY

The public meeting in Battlefield held at the City's Community Room on July 18 had 24 people sign in. Of those 24 attendees, 13 completed comment sheets that include their observations of current roadway conditions, possible improvements, and comments in support of certain corridor options.

Two of the routes – the Kansas Expressway and the West Bypass – received the majority of support, with slightly more than half of respondents expressing support for the Kansas Expressway extension. Several attendees opposed the development of any six-lane roads in the area.





COMMENTS ON CORRIDOR OPTIONS

KANSAS EXPRESSWAY

- Favor improvements to National Avenue and Kansas Expressway to relieve the traffic counts on Highways. 65 and 160

- Finish Kansas Expressway Project to Highway 14
    - Best possible route to relieve congestion on Campbell Avenue

- Kansas Expressway should be done first
    - Likely already have the right-of-way for that project

- Kansas Expressway would be best option
    - West Bypass would take too much of a respondent's land

NATIONAL AVENUE

- Favor improvements to National Avenue and Kansas Expressway to relieve the traffic counts on U.S. 65 and 160

- Don't extend National Avenue into Nixa

WEST BYPASS

- West Bypass is good option for the long-term viability of the community

- West Bypass is the logical solution
    - Right-of-way costs would likely be much less at that location

- West Bypass makes most sense
    - Fewer land owners to deal with
    - Potentially less expensive
    - Would benefit Battlefield and the west side of Springfield

NEEDS & CONCERNS

- One participant does not favor establishing a corridor
    - Only increases access to Springfield by "parasites" who move away to buy cheaper property but still "pollute [the] air and public landscapes"

- The further west the corridor is built the better
    - Highways 65 and 160 are already at capacity
    - Goal should be to pull traffic off of those roads

- Need to begin work as soon as possible – "time to stop talking and to start doing something"
    - Congestion at Campbell Avenue & James River Expressway intersection cause some vehicles to divert to other roadways

- No 6-lane roads

- Need an east-west corridor in northern Christian County – other roads are secondary

- If corridor is not state-owned, the entire project may have to be funded by OTO – if it's a state route, MoDOT may also contribute some funding

- Farm Road 194 is getting dangerous because of drivers using it to avoid congestion at the Campbell Avenue/James River Expressway intersection
    - Cars are traveling 55 MPH on a road not wide enough for two cars

IDEAS

- Consider east-west access to West Bypass that does not involve National or Campbell Avenues

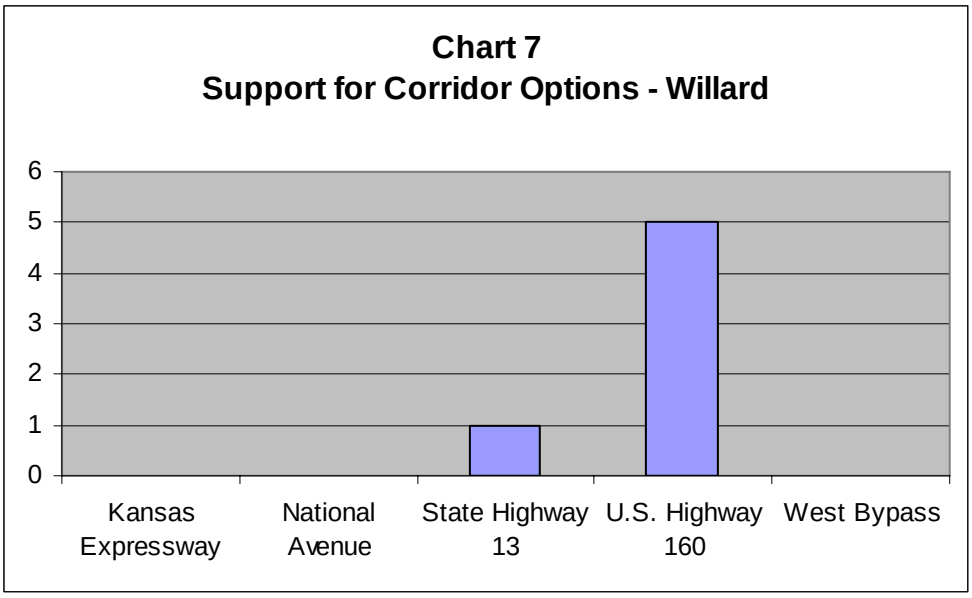
- A route west of Highway FF should be built in 20 – 30 years

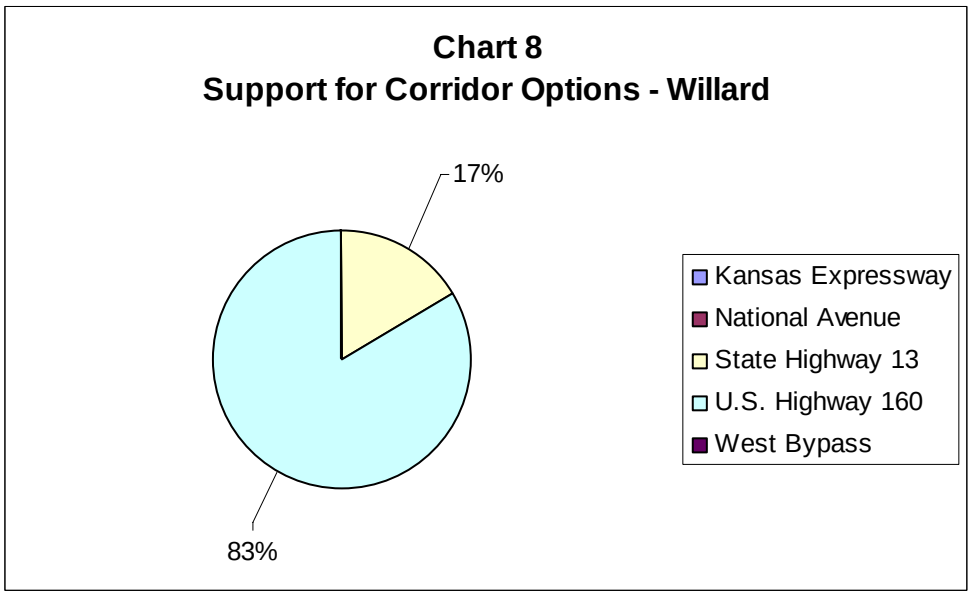
Willard, Missouri — Number of Attendees: 13

SUMMARY

The public meeting in Willard was held at the Community Center on July 18 and attracted 13 participants. Seven attendees submitted comment sheets that include observations of current roadway conditions as well as ideas for possible improvements and comments in support of certain corridor options.

The plan to expand State Highway 160 received the majority of support of those at the Willard meeting, as 83% of those commenting on the proposals supported its improvement.





COMMENTS ON CORRIDOR OPTIONS

STATE HIGHWAY 13

- Highway 13 corridor offers best and most quickly achievable north/south route
    - I-44 interchange can be reconstructed
- Connection from Highway 13 to West Bypass is a second alternative
- Link to Willard from Highway 13 is not a priority

STATE HIGHWAY 160

- Construct four lanes on Highway 160 to Willard
- 4-Lane Highway 160 - acquire right-of-way along AB Road from Highway 160 to I-44 and James River Freeway
- From Emergency Management Director – strong need to widen Highway 160 from Springfield to Willard (at Highway 123)
    - Extremely difficult to access U.S. 160
        - Current situation leads to a high number of accidents
- Highway 160 needs to be widened to four lanes to Highway 123
    - Will allow for an increase and safety and for better development along U.S. 160
    - While some turn lanes have been added, the rapid population increase in the Willard area is overwhelming the current condition of the roadway
- Accessing Highway 160 in the Willard area is nearly impossible from 7 AM to 9 AM and from 4 PM to 6 PM
- 4-lane Highway 160 is priority for Willard

WEST BYPASS

- West Bypass is a preferred corridor

CURRENT CONDITIONS

- Market in Springfield is steady
    - Housing market is still strong
    - Commercial market still strong

NEEDS & CONCERNS

- West loop road running from the south from Willard on AB to MM linking I-44 and Highway 160 is critical
- Intersection at Farm Road 94 and Highway 160 needs to be improved
    - Serves a route for trucks from the Conoco quarry to Highway 160
- Interchange at I-44 and Highway 13 is a major issue
    - Negative impact on people shopping in the area and on those who pass through the area

- Existing map needs to show 266, which runs to the new airport terminal

IDEAS

- Right-of-way should be acquired for northwest area to prevent situations that occurred in south Springfield/Christian County region. This area is experiencing high job growth through the PIC West and T-Mobile enterprises

Additional Comments

CORRIDOR OPTIONS

KANSAS EXPRESSWAY

- Kansas Expressway would help alleviate congestion and has been in the long term planning for 15 years
- Sink holes are very prevalent around Kansas Expressway and Walnut Lawn Street on the east side.

NATIONAL AVENUE

- National Avenue has too much traffic to consider it for additional improvements that will bring even more traffic.

STATE HIGHWAY 160

- Campbell Avenue has too much traffic to consider it for additional improvements that will bring even more traffic.
- Improve Campbell Avenue to a six lane road, there are more commercial sites here and the residential impact would be less.

WEST BYPASS

- FF and West Bypass corridor needs to extend at least to Highway 14.
- Construction of the FF and West Bypass means people will have to travel farther east and west just to go north and south. This means additional needs for roadway improvements to carry traffic east and west.
- Westside needs the north/south corridor more than the east. Prefer the West Bypass option so as to mimic movement on I-65.
- West Bypass is a good option to move traffic away from the center of town.
- FF is currently a fairly open road towards Battlefield, should continue this route while land is available.
- The West Bypass is a good idea because it helps tie in the I-44 and Highway 13 roadways with a westerly route as well as to provide access to the airport

NEEDS AND CONCERNS

- I-44 and Norton Road is a heavily congested area and needs to be considered in the improvements to alleviate congestion.
- Ward Creek crossing along Campbell and Kansas Avenues needs to be addressed in design.
- Rivercut has seen numerous problems along Kansas Avenue because of caves and sink holes.

- Ward Creek is a well maintained wildlife and riparian corridor.

- Would like to see one of the corridors complete a southern loop to Evans Road.

- Using a new or improved north/south corridor to carry traffic to I-44 is a bad idea; congestion on I-44 is already heavy enough.

- Wanda Grey Elementary is missing from the map. School is located at the corner of Cox Road and Plainview Avenue.

- The cave at Rivercut could play a major role in construction and additional roadway work could cause the cave to collapse more.

- There is a bluff located between Rivercut and Cox Road which would limit the amount of Right of Way available for construction.

- Flood concerns from roadway construction currently exist at Jewel Park; don't want additional improvements to increase this.

IDEAS

- Construction of an outer loop on the south side would divert traffic around the City from the south

- This project needed to be completed 15 years ago.

North/South Corridor – Public Meetings Number of Attendees: 252

SUMMARY

The second round of public meetings were conducted as an "open house" that consisted of stations containing information about the proposed corridors and project priorities. This allowed the public more one-on-one contact with representatives from the team. Stakeholders were able to ask questions to get a better understanding of the study as well as provide input through either conversation and/or through comment sheets provided by the team.

Four public meetings were held in the OTO area on the evenings of January 8 and 9, 2007, to solicit the public's input regarding the priorities of the proposed routes for the North/South Corridor Study. A total of approximately 252 residents participated in these forums, which were held in the communities of Battlefield, Nixa, Springfield, and Willard. Two two-hour concurrent meetings were held each date to allow ample time and opportunity for comment and review for those who wanted to attend.

Comments from the January 8th and 9th Public Meetings

Battlefield Public Meeting

- FR 194 is very dangerous due to the increase in traffic volume.
- Big trucks are cutting off Campbell at AA and going west on Blue Springs Road to FF, which takes them to James River Expressway to avoid the Campbell/James River Expressway Intersection.
- Blue Springs/FR 194 in not wide enough for a car and truck/trailer.
- The extension of FF would be beneficial.
- Want to see the West Bypass/FF extension begin as soon as possible.
- Before bringing the N/S Corridor down and bottle-necking in Nixa, we need E/W repairs.
- Suggest priority for West Bypass/FF and extension of Kansas Expressway and acquisition of ROW or additional property needs to take place as soon as possible.
- The expansion of the airport and its proximity to West Bypass is another factor to favor the West Bypass corridor.
- Wondering if there will be access roads to major intersections off FF for the residents.
- Great project, very much needed.
- Most logical approach would be to consider West Bypass/FF to be tackled first because it is most rural, less infrastructure, etc.
- A second commitment needs to be Highway 14 from an E/W perspective.
- Third: extend National or widen Campbell to 6 lanes to Highway 14.
- The least desirable option would be bringing Kansas south past developed areas. Only extend Kansas to Weaver then widen Weaver Road.
- Kansas should "y" with FF further west and then FF and Kansas should continue south and connect with 160 at or about Reeds Spring Junction.
- The current "y" location will overload 160 this close to Springfield.

- Traffic will continue to increase going south and another route needs to be considered south to the Arkansas state line.
- Victoria Lane/Burrows Lane are private roads and not county roads.

Willard Public Meeting

- Would like to see a 4 lane from West Bypass through Willard.
- 160 north of I-44 should have a higher priority because residents using this route do not have easy access to any 4 lane roads while the other projects have much closer access to 4 lanes.
- It would be cheaper and more feasible to fix the I-44/Highway 13 problem by working on the lights and widening the lanes on the overpass compared to building a brand new road.
- Will not support the new Highway 13 corridor because there is too much potential for environmental damage.
- Widen Highway 13 bridge over I-44 to 6 lanes (both ways)
- Highway 160 to Willard should be 4 lanes now or yesterday.
- Remove the traffic light in front of Wal-mart on Kansas Expressway to improve traffic flow (move it between QT and McDonald's).
- Connector for 160/I-44 junction is a good idea, but do it now and not in 10 years.
- What are the chances of a right turn lane southbound off Highway 13 going west to I-44?
- Traffic backs up on Highway 13 at rush hours for ¾ mile southbound every day.
- Would be cheaper to widen Highway 160 north of I-44 now while there is very little development.
- Desperately need to make 160 4 lanes in order to compete with the rest of the Springfield area.
- Willard is the last town around Springfield to have 2 lane access.
- Highway 160 would be safer and better serve the area as 4 lanes.
- Highway 160 is a bottleneck for traffic from Willard, Ash Grove, Walnut Grove and areas to the west headed to Springfield.
- A light at 160 and Jackson and a turn lane at 160 and Hughes would improve safety.
- Making 160 a 4 lane would allow commercial development to the Willard area.
- Highway 160 is located near the airport and the combination of a good air and ground transportation system will be favorable to new business in the area.
- Right of way issues with highway 160 are already resolved, so construction can start earlier and at a lower cost than other options.

Springfield Public Meeting

- Build Kansas Expressway first because most Springfield people will not use West Bypass.
- Do not like the idea of widening Campbell because that pushes too much traffic to one place.
- First priority should be given to the FF/West Bypass option because the long term benefits outweigh the short term need to provide a quick access to Springfield for Nixa residents.
- Concerned with the equity (Cities vs. Counties).
- Concerned with sprawl.
- Think that economic engines will grow more north and west as land prices go up.
- Support improving the National Avenue corridor, but need traffic enforcement south of Plainview Road because with the recent widening National Avenue has become a speedway for Nixa commuters to and from Springfield.
- This study does not address widening Campbell Avenue and the traffic on Campbell Avenue becomes California gridlock every morning and evening.
- Look into widening Campbell Avenue to 6 lanes and rerouting the outer roads.
- The intersection at Campbell and Plainview is poorly managed.
- The West Bypass extension would be the best improvement.
- Get rid of frontage roads because they back up traffic.
- Farm Road 141 is heavily traveled and traffic backs up going south for 5 blocks at rush hour, so a Kansas Expressway extension around Cox would help many homeowners.
- The realignment of MO 13 to the West Bypass will improve traffic flow to the airport from the north.
- Continue to work on a south extension of FF/West Bypass south of the James River Freeway to connect south of Nixa because this would improve the traffic flow to the airport with a more direct route.

Nixa Public Meeting

- Why hasn't Nicholas Road been considered as one of the options?
- Any extension of National south of James River should be angled southeast to cross CC at or near Fremont then south to 14.
- Look ahead and plan for all four corridors.
- Kansas Expressway/Nicholas Road is the best choice long-term while adding lanes to MO 13 and 160 would help short-term.
- Widen Nicholas Road.
- Don't want Kansas Expressway running through their backyard.
- Concerned with the amount of homes affected.
- Concerned about the environmental impacts.
- Thinks the further west of Nixa the corridor can go, the better.
- Doesn't want a major road running right by schools and churches.
- CC needs improvement and should be a priority.

- Campbell should be widened because it goes through the center of town.
- National should go through to CC and angle over to Fremont Road.
- Concerned about sink holes in the proposed areas.
- The West Bypass extension with limited access should be first, second extend National with limited access and third, extend Kansas with limited access.
- Not happy about the lack of people to talk with at the public meetings.
- Concerned about proposed routes going directly through homes.
- Opposed to the proposed location of West Bypass because drivers will bypass the Highway 14 connection and cut through Pebble Creek Estates.
- Highway 14 improvement should be higher on the priority list due to increased traffic to and from the new OTC campus.
- Can't unload two 4 lane highways on to Highway 14 and not expect major problems.
- Campbell should be 5 or 6 lanes before taking someone's home and land.
- The Kansas Expressway extension should be the first priority.
- Need a western corridor, that being either Kansas Expressway or West Bypass.
- Kansas Expressway would benefit the most people now.
- Stay with Nelson Mill Road at least to its "L" with Union Chapel Road, then curve over to meet with Kansas Expressway.
- Stay with Nicholas Road one-half mile further before curving west.
- Approve of the proposed extension of West Bypass/Highway FF south to join with Highway 14.

Appendix G

City of Springfield Comments

1. Page ES-1 – Need to review wording on the bullet that starts with **Transportation planning study**- did not include US 65, MO13 north to Bolivar, but did include consideration of the realignment of MO13 north of I-44 to align with West Bypass. Did not find

2. Page ES-2 - **West Bypass/State Highway FF** functionally this segment should be a freeway – but could be constructed initially with at grade intersections. Discussed as expressway throughout – to be considered as possible freeway as explained in the study.

3. Page ES-2 – **Campbell Avenue/US160** correct typo change US65 to US60 Done

4. ES-2 move heading **US 160 widening north of I-44** to ES-3 Done

5. ES-3 **Evaluating the Alternatives** Comment noted, is already discussed in report.

   - **State/federal funding eligibility** –
     - The degree in which the project serves **statewide travel interests** and/or would be attractive to MoDOT to participate in project funding

   From Page 2 - **Kansas Expressway Extension Study –** states: The Greene County Commission has approached the State and Federal Legislature many times in the past for funding assistance to make the future corridor a reality, but with no success. The future roadway has an estimated cost of more than $20M, and with only local funding for the project the roadway has never made the County priority list for construction.

   What is the likelihood that regional or statewide funding will be available for **new** arterial alignments in metro areas (i.e. East/West Arterial, Kansas Expressway, and/or National Avenue)?

6. **Table ES-3 Recommendations** (review study findings) No change requested.

   NEW CONSTRUCTION
   - West Bypass/FF –
   - Kansas Expressway Extension –
   - US160 (north of I-44) –
   - National Avenue Extension –

   SYSTEM MANAGEMENT
   - Campbell Avenue/US160 –

   FURTHER STUDY
   - Highway 13 Connector –

7. ES-4 - Is the refined alternate cost ($226M) based on 2-lane construction? 4-lane

8. ES-4 – **Next Steps and Timeline –** What was the basis for the study recommendation to complete an environmental impact study (EIS) for the West Bypass/FF Extension/Kansas Expressway Extension? Not a recommendation, just a statement on what a next step would be.

9. ES-5 - Show proposed alignment of the East/West Arterial and identify major east/west roadways. Noted

10. ES-6 – Need to look at alignment for MO13 Connector Noted – this alignment is very preliminary.

11. Page 1 – **INTRODUCTION –** Appropriately notes that the metro area has only one (1) North/South Freeway, this is a deficiency that should be fully considered in the study recommendations.

12. **Springfield-Branson Corridor Transportation Study Summary Report May 2000** should be included as an attachment to study. The study is referenced. The reader will need to obtain this study separately.

Page 1 - Study Objectives

- Improve coordination of land use and transportation decisions in the Corridor
- Develop consensus and support for the Study's recommendations

Page 4 - Transportation Problems

- Traffic congestion, characterized by significant delays during peak travel periods, on the north/south highways in the Corridor, **particularly Routes 65 & 160**
- Inadequate ground transportation for air travelers arriving at Springfield-Branson Airport with destinations in Branson
- Inadequate transportation for employees of the Branson-Lakes Area, and increasing commuter-oriented traffic congestion on major arterial roadways serving Springfield

Page 6 - Most transportation agencies select a level of service as a target for traffic operations at the end of the 20-year planning horizon. Level of Service C is usually adopted as the desired target for roadways like the ones in the Corridor. In recent years and particularly in urban areas, Level of Service D has been deemed acceptable, as travel demands have progressively increased.

Page 7 - Transportation Needs in the Corridor

Page 8 - General Transportation Needs – Figure 4

3. The Corridor's transportation system has developed along the north/south axis and east/west connections are inadequate. These east/west connections are important to effectively distribute traffic throughout the Corridor

Page 8 – (Springfield/Branson Regional Airport to Branson/Lakes Area)

- A new access roadway to the airport with connection to the regional freeway system will be required

Page 8 – (East/West Travel Corridors)

- A need has been identified in southern Greene County for an east/west arterial roadway to augment the James River Freeway (US60) and to provide better connectivity with the north/south arterial roadways in the Corridor

Page 9 – Figure 5 Priority Transportation Solutions

Immediate Priorities (1 to 5 years)

- Address the capacity and safety deficiencies along US65 between I-44 & US60, including the major interchanges at I-44 &US60. This may involve interchange improvements, or improvements along the entire segment of US65, for example widening to six lanes.
- Address the capacity deficiency on US160 (South Campbell) between the JRF and Nixa. This may involve the widening of existing US160, a new roadway to the west, or a new transportation corridor.
- Address the deficiency in east-west connections in southern Greene County

Page 10 – Figure 6 – Priority Solutions Highway Improvements

Page 11 – Priority Transportation Solutions

13. Page 3 – **Study Purpose** – states - After completion of this study, the next steps would include an environmental clearance document and preliminary and final designs of the highest priority alternatives/corridors. The primary goal of the study was to identify the highest priority corridor, which would be evaluated with the other **regional** priorities for funding. Comment addressed.

14. Page 3 – **PUBLIC PARTICIPATION PROCESS –** The City of Springfield communicated its concerns about impacts to Kansas Expressway, Campbell Avenue and National Avenue as a result of extending these routes southward, without consideration for interchange improvements along the JRF and capacity improvements along these routes north of the JRF, and for the need to construct the East/West Arterial to distribute traffic. These legitimate concerns were not addressed in the study. Comment addressed.

15. MoDOT policy has required local jurisdiction(s) to assume maintenance responsibilities for like mileage for new roadway. This policy should be

explained in more detail. The discussion of MoDOT and local system is included in Chapter 5 as appropriate at this point in the process.

16. Page 6 – correct typo's change Sunshine Avenue to Street Comment addressed.

17. Page 7 – Identify major east/west routes (i.e. I-44, Sunshine Street, JRF and proposed E/W Arterial) - noted
18. Page 8 - % traffic growth (review with consultant)

19. Page 10 – Identify major east/west routes - noted

20. **General Comment:** Page 11 - Kansas Expressway extension impacts four (4) times as many residential properties and two (2) times as many schools as the West Bypass/FF extension.

21. Page 11 – correct typo's change Sunshine Avenue to Street Comment addressed.

22. Page 12 – Out of sequence should be after page 10 Information is described on p 11, so graphic must be on p. 12

23. Page 13 – Identify major east/west routes - noted

24. Page 14 – It should be noted that current traffic volumes north of the JRF on Campbell Avenue are as high or higher than south of the freeway and do not account for the higher east/west traffic volumes. If the congestion north of the JRF is not addressed, what travel time benefits will the public receive? Travel time benefits are described in Chapter 4.

25. Page 16 – Identify major east/west routes - noted

26. Page 17 – **EXISTING TRAFFIC VOLUMES** – correct maximum volume to approximately **40,000** (per Table 3.7). Comment addressed.

27. Page 19 – Note the Springfield-Branson National Airport is a Top 100 Air Cargo Airport. Need to expand the regional and statewide significances of the airport. Comment addressed.

28. Page 20 – Identify east/west routes and need to show US160 to Willard - noted

29. Page 23 – **SUMMARY OF EXISTING CONDITIONS** – is consistent with Springfield's concerns about impacts to Kansas Expressway, National Avenue, and Campbell Avenue north of the JRF

30. Page 26 & 27 – % Growth (discuss with consultant)

31. Page 26 – Is Cox Road a three (3) lane collector? – used capacity as indicated in the travel model

32. Page 28 – identify east/west routes; also question designation of National Avenue north of JRF as congested vs. very congested. – comment addressed.

33. Page 29 – It should be noted that TSM & ITS strategies typically have the highest B/C ratios. – report uses the words "cost effective" instead.

34. Page 30 – "The widening of US65 from four to six lanes is assumed in the study." Was this considered in the traffic model? Model refinement is needed to better represent vehicle capacity, we refined the network to a small degree as provided to us. The study acknowledges the need to enhance or refine the traffic model.

35. Page 30 – **4.3 Analysis of Strategies** last paragraph states: Given the high level of traffic demands forecasted, with only build strategies the arterial system will not function efficiently unless there is a balance of land use strategies and roadway capacity. Given the importance of land use should an exhibit of existing and projected land uses along the corridors be provided? OA met with the various local governments and planners to approximate this information. It was decided by OA and the local planners that given the uncertainty of specific locations, that it would be approximated and that such a graphic would not be included.

36. Page 30 - There is an unnecessary bullet at top of right side of page. Also, in that paragraph, there is reference to construction of an **expressway** south of JRF to Highway 14, which appears to inconsistent. Fixed bullet, expressway discussion clarified.

37. Page 30 - **Analysis of Strategies**, US160 south of the JRF is "moderately congested today". The count shown on page 14 in Table 3.5 shows 44,438 vpd on Campbell Avenue between El Camino Alto and Lakewood in 2005. This is the highest volume on any of the studied corridors. To refer to 44,438 vpd on a four (4) lane roadway as moderately congested is inaccurate and misleading. – Dropped the word "moderately".

38. Study did not include ITS/TSM solutions as recommended in SAFETEA-LU. ITS/TSM is discussed in Chapter 4 and included in Chapter 5.

39. Page 31 – West Bypass/FF functional classification freeway vs. expressway

40. Page 31 – MO13/Kansas Expressway – is described as a four (4) lane expressway (Study recommends downgrading from expressway to arterial). In the initial alternatives, it was tested as an expressway. It was recommended to be downgraded following that analysis.

41. Page 31 – Campbell/US160 – expand paragraph to include ITS/TMS alternatives. –Comment addressed by adding more explanation to the introduction paragraph under section 4.4.

42. Page 31 – National Avenue – change Briar Street to Gaslight –Comment addressed

43. Page 31 - Top of left side, there is a conclusion that "additional roadway capacity will be needed in order to maintain an acceptable level of travel mobility" even with the full implementation of the operational and land use strategies. It should not be presumed that TDM solutions will be sufficient for existing Rte 160 if parallel roadways are extended? –Comment addressed

44. Page 31 - Under West Bypass/State Highway FF, there is reference to construction a new four-lane expressway section from JRF to Highway 14. (Should this be freeway?) – leave as freeway/expressway, to be determined as part of Environmental/location study

45. Page 31 - Top right side, under MO13/Kansas Expressway, it states that Kansas Expressway would be extended farther south as a "new four-lane expressway." (Study recommends downgrading from expressway to arterial) – see comment 40

46. Page 31 - Under Highway 13 North of I-44, the paragraph would read better as follows: a new freeway connection for Highway 13 with a shift *westward to align* with the West Bypass. Also, in the last sentence: . . . north of I-44 would *intersect* with the new Highway 13 connection. –Comment addressed

47. Page 32- identify east/west routes (larger fonts would improve readability)
48. Page 33 – Review MO13 Connector alignment –see comment 10.

49. Page 34 – **Evaluation Criteria** – Concur that the potential for state/federal funding is dependent on whether or not the project serves statewide travel interest.

50. Page 34 – Exhibit is needed to show Commercial Frontages along each route. – see comment 35

51. Page 35 – **Magnitude of Costs** – Is the cost for Kansas Expressway based on expressway or major arterial? 4-lane arterial

52. Page 36 – states "The results do support concerns expressed by the members of the public and the Steering Committee that the extension of Kansas Expressway would increase traffic volumes significantly on Kansas Expressway north of the JRF. Study does not address this significant concern in terms of potential impacts to property owners, viable alternatives, or estimated public costs. –Comment addressed

53. Page 38 - Under project Refinement, West Bypass/Highway FF extension is referred to as a four-lane "expressway". Is the reference to Evans Road correct? A new Figure 4.4 is needed to show the potential access points as referred to in the text. –Change made.

54. Page 38 - Top right side, change "prevent" to "attract". – was not sure attract was more clear.

55. Page 38 – **PROJECT REFINEMENT** - Given the potential for state/federal funding question rankings especially for new arterials. –comment noted.

56. Page 38 – **PROJECT REFINEMENT** - It is typical for residential properties to back up to freeways & expressways in metro areas as they do not require direct access. comment noted

57. Page 40 – Identify east/west routes including proposed E/W Arterial. Need to make change

58. Page 44 – WEST BYPASS/FF/KANSAS EXPRESSWAY EXTENSION – What is the logic for the statement that the need for corridor preservation is greater along the Kansas Expressway corridor than the West Bypass/FF corridor? – changed to more immediate.
59. Page 44 - Again, West Bypass Extension/Kansas Expressway Extension is shown as a joint priority. Given funding limitation should the OTO expect MoDOT to fund more than one (1) north/south corridor? These are two separate projects. – Since future funding is uncertain, it would be premature at this point in the project development process to segment the projects, although it is a possibility given the funding situation.

60. Page 44 – states: However it is the recommendation of this study that planning for the extension of Kansas Expressway south of the East/West Arterial can continue, even if the conditions stated in the amendment are delayed. Should there be a commitment on the urban service area? – modified to differentiate planning from construction.

61. Page 44 – Greene County and the City of Republic should be added to OTO jurisdictions that receive sub-allocations of STP funds. – change made

62. Page 45 – Need additional clarification on Phased construction on Kansas Expressway. Also, need to modify Adopted Major Thoroughfare Plan if Kansas Expressway is being downgraded from expressway to arterial. Need to modify MTP is noted in the report. No additional information is available at this point in the project development process to provide additional clarification on project phasing.

63. Page 45 – Interchange improvements @ JRF should be moved up in priority. While the Study recognizes the impacts to existing Kansas Expressway (north of JRF) it does not make recommendation as to funding priority. The report reflects the priorities as agreed to by the Technical Subcommittee and the Technical Committee.

64. Page 45 - Top left side, the references to right of way needed on West Bypass Extension for an expressway. Should we be considering ROW for a freeway? See comment 44.

65. Page 46 - identify east/west routes. Should recognize that final alignments will be contingent on EIS findings, engineering, and public input process. Need to modify graphic. Final alignment comment is addressed in report.

66. Page 47 – Study findings that six (6) laning Campbell Avenue is not a priority is in conflict with Springfield-Branson Corridor Transportation Study. yes

67. Page 47 - Top left side, the first paragraph, statement that Campbell Avenue is not a priority to add new lanes is contradictory to the statement at the top of Page 31. However, TDM's should be fully considered implemented where viable prior to widening, at least until some parallel improvements are made to see if traffic volume stabilizes. Additional text added to clarify.

68. Page 47 - Top right side, should refer to the capacity project priority for US160 as a locally driven need. –Comment not understood.

69. Page 48 – Conclusions do not fully consider several factors including funding limitations specifically as related to the Kansas Expressway Extension. – Comment noted, no change made.

70. What are the estimate costs for an EIS for West Bypass Corridor and the Kansas Expressway Corridor? – That information is independent of this study.

71. Would like explanation of Year 2030 Volume Forecast (Appendix vs. Study) – perhaps this can be done as a separate activity in order to fully understand the information needed.

72. Recommend that the current estimated costs for the OTO high & medium priority projects be included in the study (Appendix). – The intent of the project is to take the study information and costs to the OTO project prioritization process, rather than take the OTO project prioritization process into this study.

73. May want to consider changing "Springfield area" to "Springfield Metro Area (Metro Area) throughout study document – comment noted.