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.

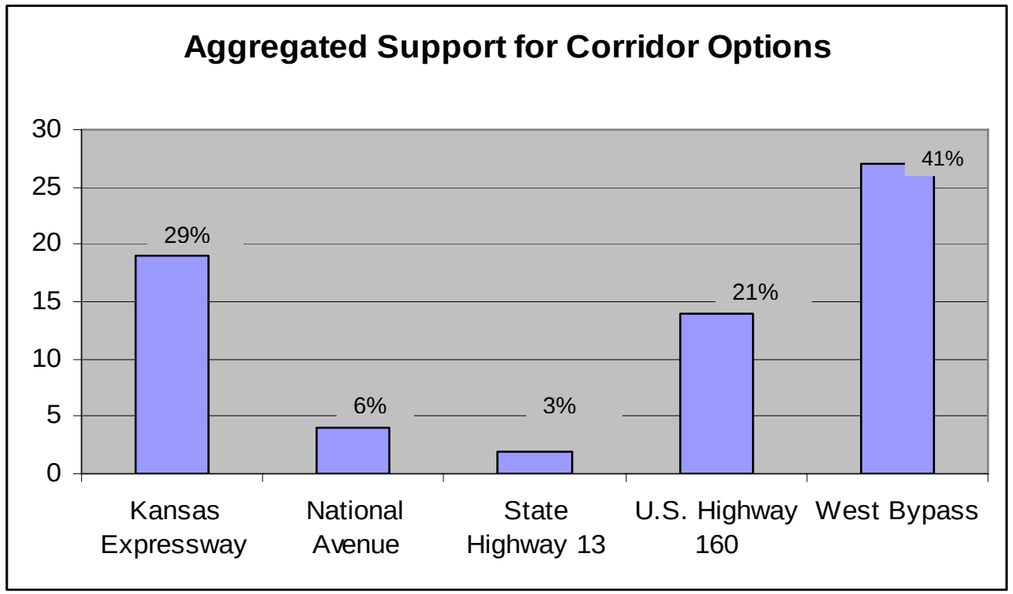
Table 2.2 Meeting Information

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**.

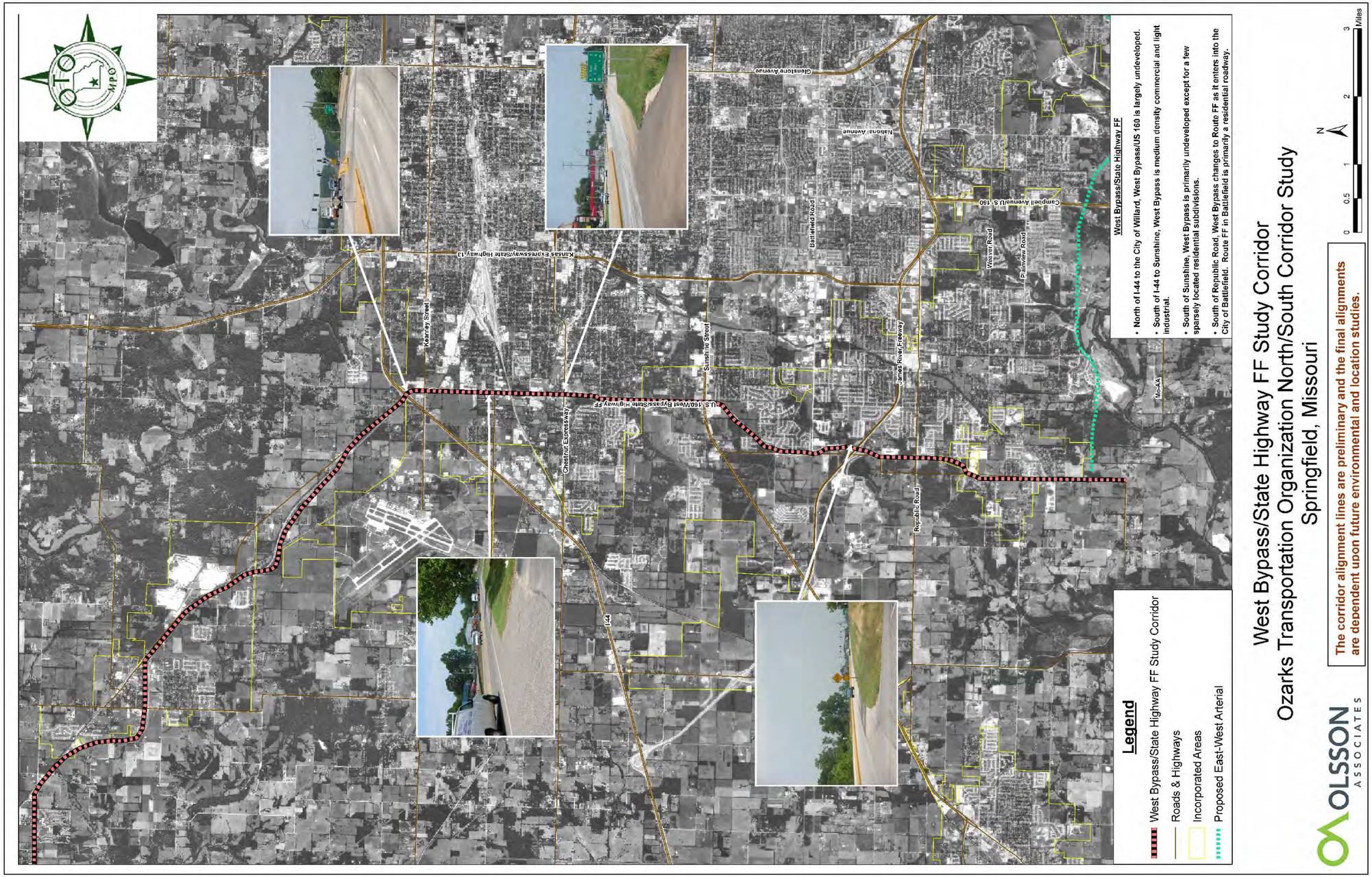
3.2.2 Land Use

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

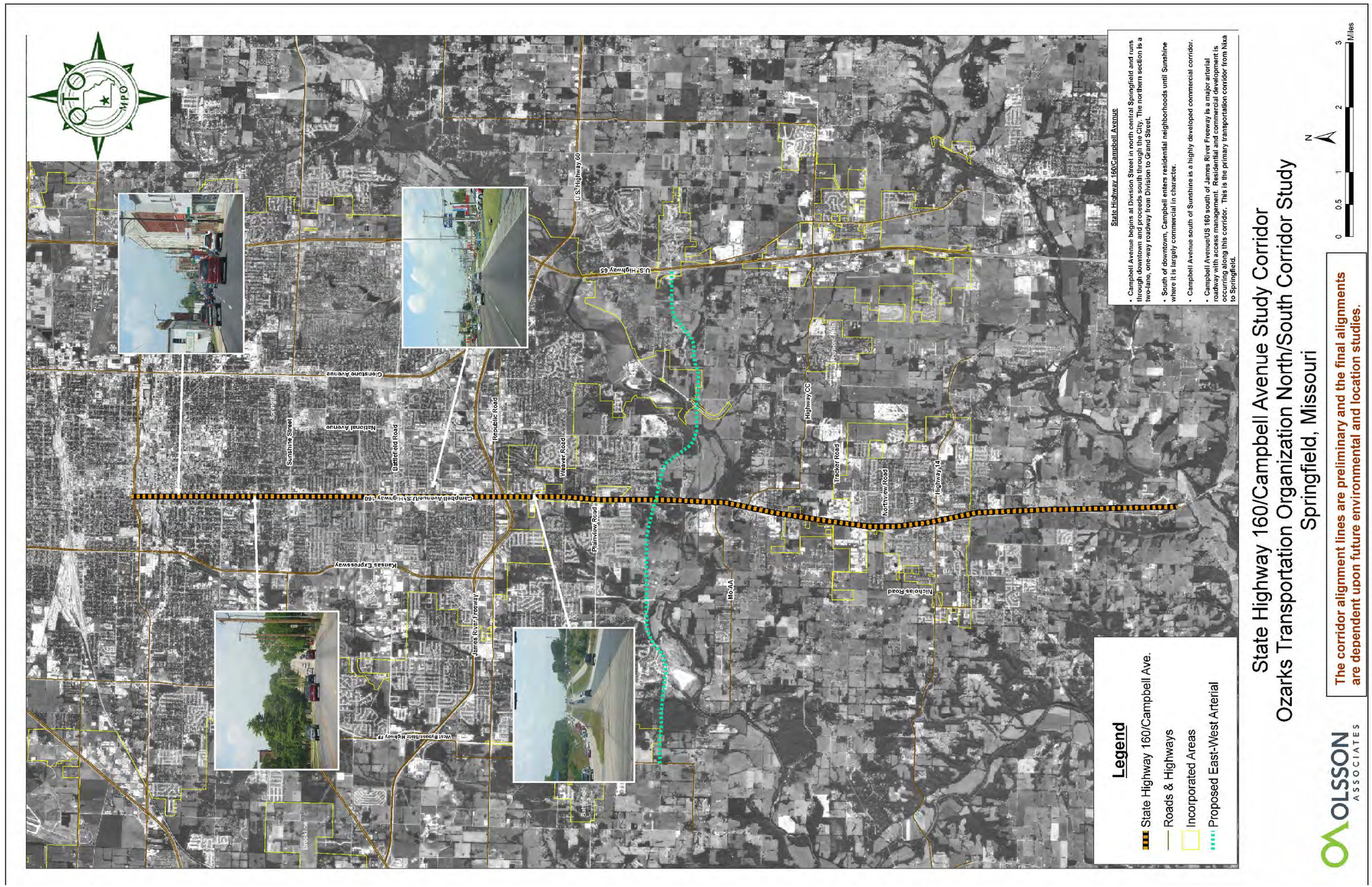


Table 3.5 Campbell Avenue/U.S. 160 Existing Traffic Volumes

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

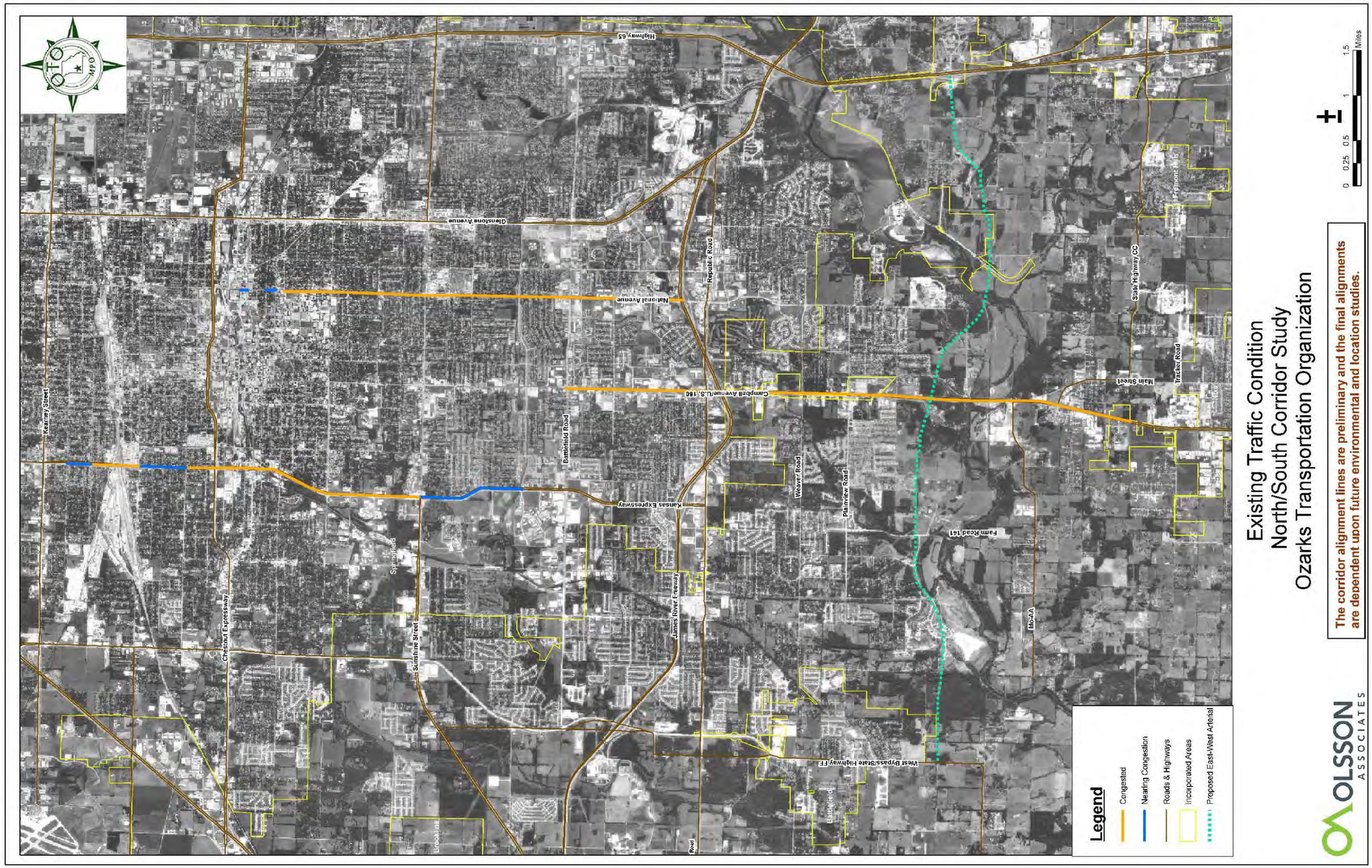
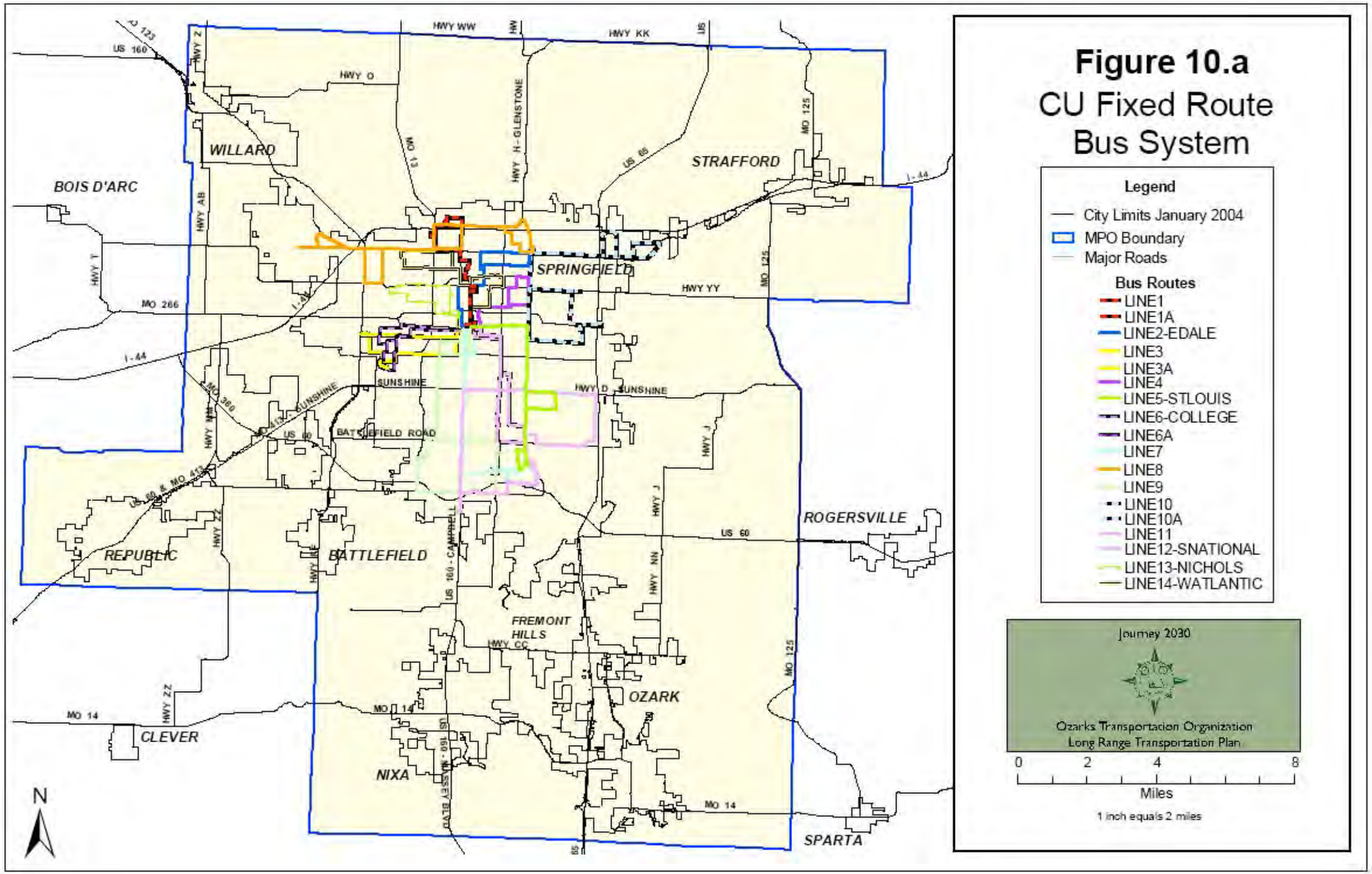
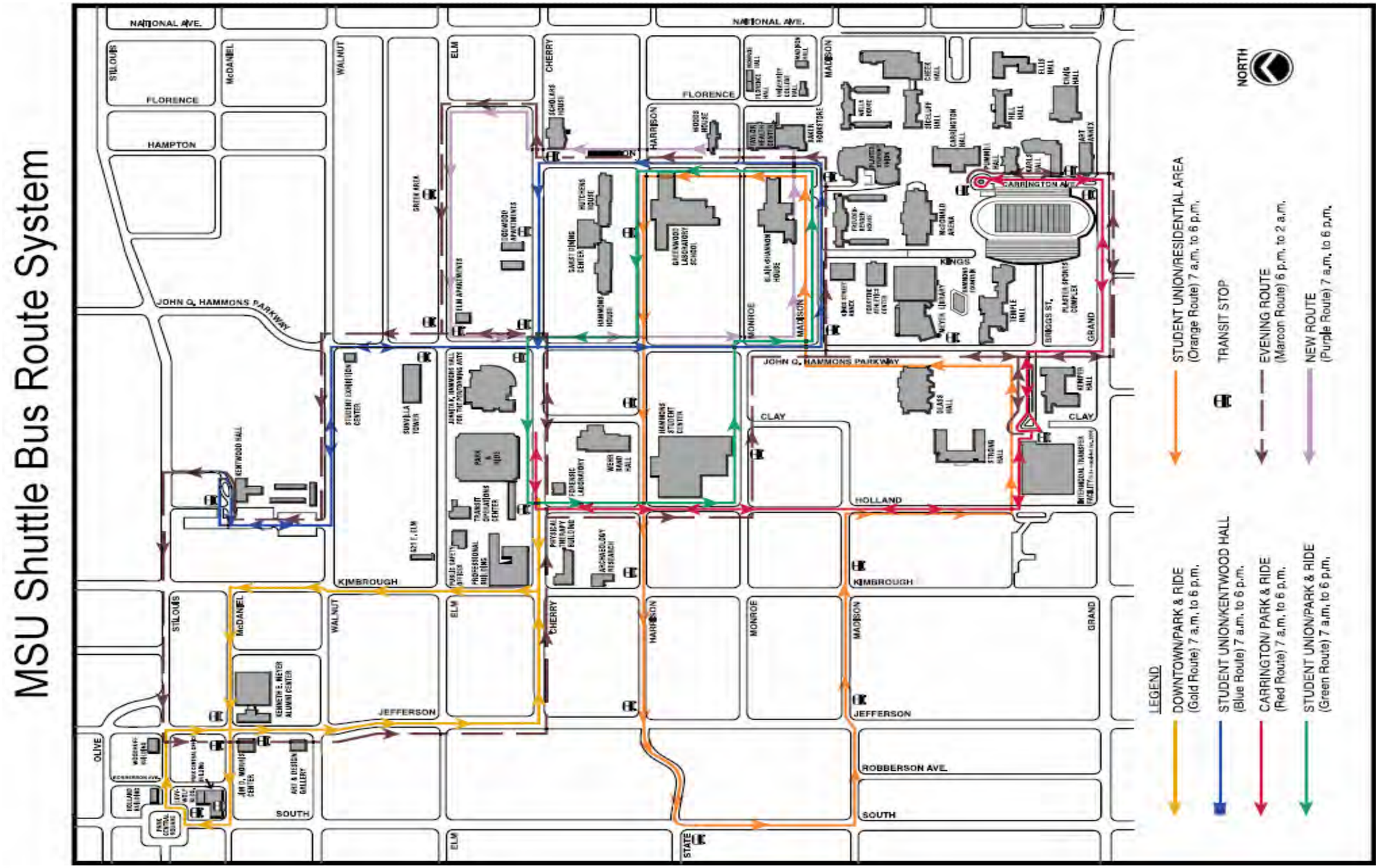


Figure 3.7 CU Fixed Route Bus System



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.

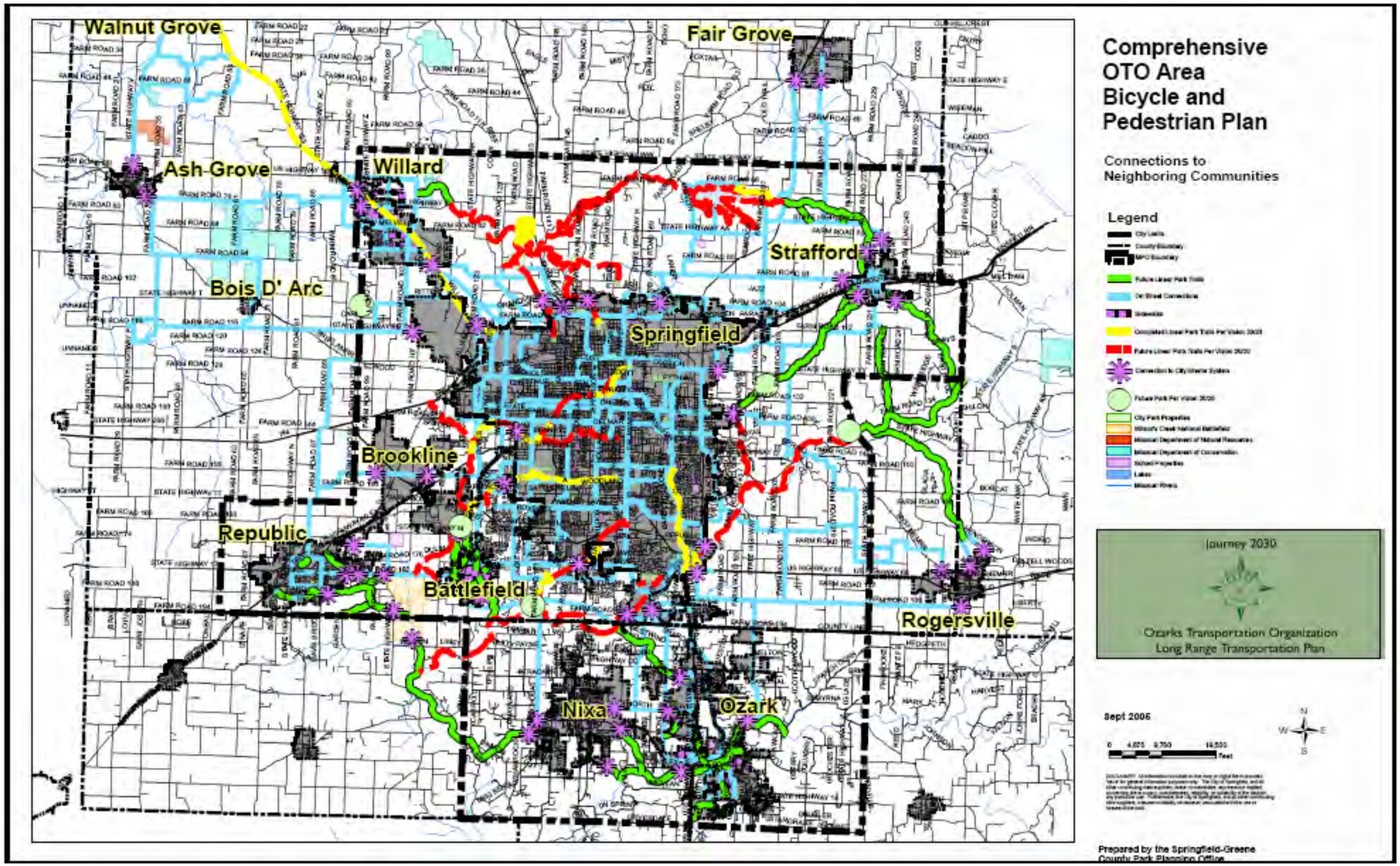
- Land Use/ Growth – The Springfield area is growing. While the growth has occurred throughout the region, a concentration of new growth is occurring south of the James River Freeway, resulting in increased traffic volumes and congestion of the existing streets and highways.

- 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

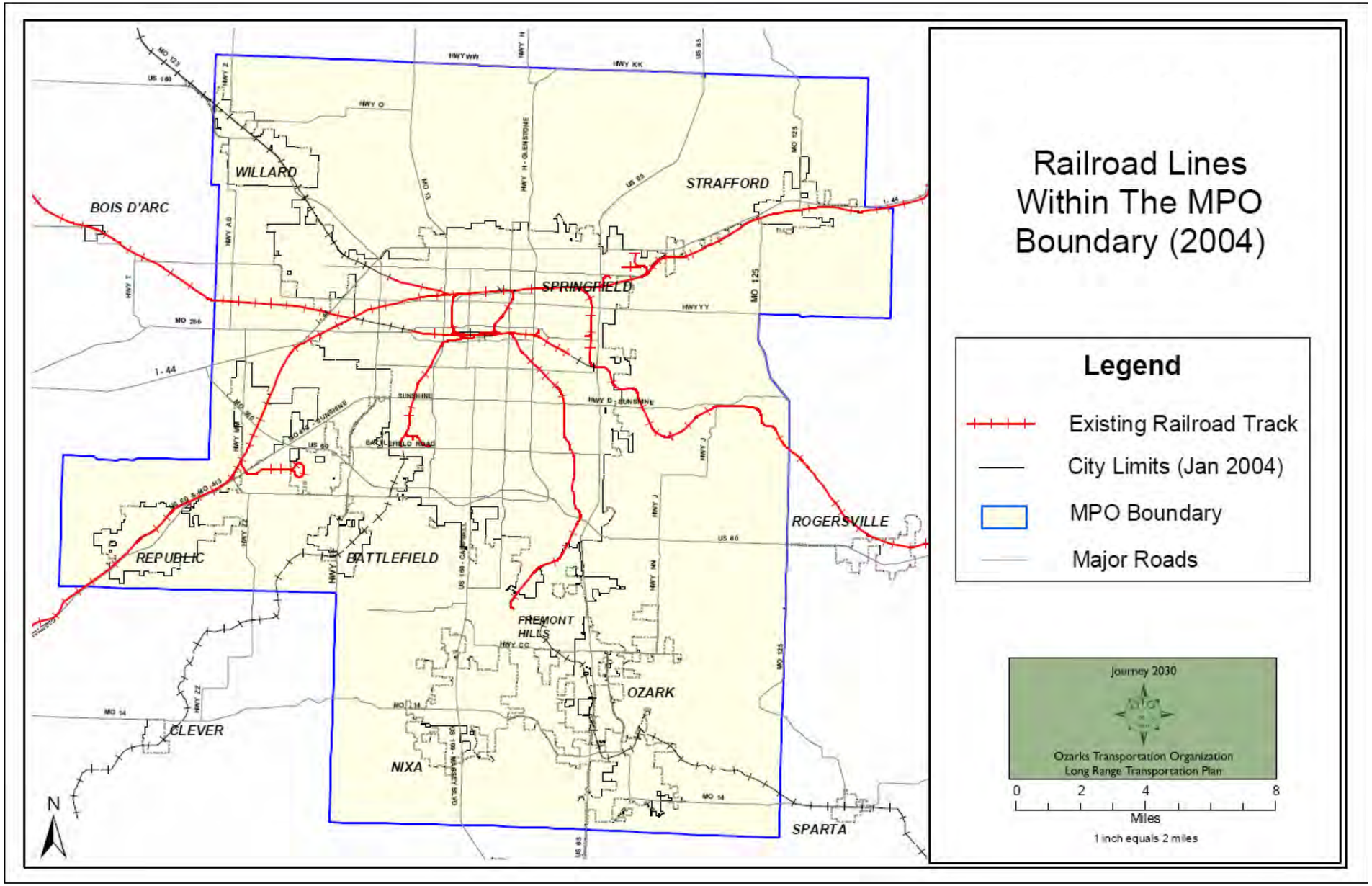
- Fixed route transit service is limited to the City of Springfield and not supported in other locations.

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