

# **OTO TRANSIT DEVELOPMENT PLAN**



## **OZARKS TRANSPORTATION ORGANIZATION**

**Approved by the Board of Directors  
16 August 2007**



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## 1 Executive Summary

For FY2007, the Ozarks Transportation Organization (OTO) adopted Unified Planning Work Program (UPWP) chose to produce a Transit Development Plan (TDP) in cooperation with City Utilities Transit. A TDP is a five year plan recommended by the Federal Transit Administration (FTA) that calls for a description of the transit agency's vision for public transportation, along with an assessment of transit needs and a staged implementation program to set priorities for improvements. This is the first TDP ever conducted for City Utilities Transit. The City Utilities Transit Plan relied on both technical and anecdotal data to develop recommendations for the future of transit in the Springfield, Missouri metropolitan area. Technical data used included:

- City Utilities Transit Operational Data;
- An analysis using the National Transit Database of transit systems with similar operational parameters to CU Transit operations. The peer systems selected are located in:
  - Sioux Falls, SD
  - Topeka, KS
  - Gary, IN
  - Fort Wayne, IN
  - Clarksville, TN;
- Census data.

Anecdotal data included:

- Bus operator surveys;
- On-Board survey;
- Interviews with local elected officials;
- Focus groups interviews with non-users to find out what barriers exist that prevent them from using transit.

The use of both technical and anecdotal data allowed the process to be open and transparent. System users were afforded both the opportunity to comment on their satisfaction with the service and suggest improvements. The elected official interviews allowed for discussion of politically sensitive transit options in a non-confrontational format. In the case of City Utilities Transit, the interviews also revealed strong support for the transition to a more complex system. Technical data supported and augmented the suggestions or revealed that support for the suggestions was lacking. The resulting list of recommendations is specific to City Utilities Transit and the transportation needs of the region. These have been developed using perceptions and suggestions that can be backed up with technical analysis. For the purpose of this report the recommendations are staged using the following time points:



- To be completed in next year;
- To be completed in next three years;
- To be completed in next five years.

Recommendations that have a profound impact on operations include taking to voter referendum the idea of forming a regional transit authority, a fare increase, reconfiguring the system to a grid, developing bus rapid transit options, and embracing transit technologies to enhance service and improve operational efficiency.



## 2 Introduction

For FY2007, the Ozarks Transportation Organization's (OTO) adopted Unified Planning Work Program (UPWP) chose to produce a Transit Development Plan (TDP) in cooperation with City Utilities Transit. A TDP is a five year plan recommended by the Federal Transit Administration (FTA) that calls for a description of the transit agency's vision for public transportation, along with an assessment of transit needs and a staged implementation program to set priorities for improvements. This is the first TDP ever conducted for City Utilities Transit. The City Utilities Transit Plan relied on both technical and anecdotal data to develop recommendations for the future of transit in the Springfield, Missouri metropolitan area.

The Ozarks Transportation Organization (OTO) MPO is the federally designated regional transportation planning organization that serves as a forum for cooperative transportation decision-making by state and local governments, and regional transportation and planning agencies. MPO's are charged with maintaining and conducting a "continuing, cooperative, and comprehensive" regional transportation planning and project programming process for the MPO's study area. The study area is defined as the area projected to become urbanized within the next 20 years. Please see **Figures 1 and 2** for the study area boundary, as well as City Utilities' Day and Night bus routes.

The MPO includes local elected and appointed officials from Christian and Greene Counties, and the cities of Battlefield, Nixa, Ozark, Republic, Springfield, Strafford and Willard. It also includes technical staffs from the Missouri Department of Transportation, Federal Highway Administration, Federal Transit Administration, and the Federal Aviation Administration.

Staff from local governments and area transportation agencies serve on the MPO's Technical Committee (TC) which provides technical review, comments, and recommendations on draft MPO plans, programs, studies, and issues.

City Utilities is the designated recipient for the MPO area in regards to transit funding. CU is a community-owned utility serving southwest Missouri with electricity, natural gas, water, telecommunications and transit services. CU serves 106,000 utility customers in addition to the millions of rides provided on its buses





### Goals and Objectives

The following goals and objectives were developed for this plan by the Transit Development Plan Committee. This committee structure is defined in Chapter 3, Public Involvement.

#### *Goal 1: Existing Service Conditions and Demographics Analysis*

##### Objectives:

- Identify operational/capital/financial characteristics.
- Identify current ridership.
- Compile demographic and economic conditions.
- Identify study area setting/travel patterns and habits.
- Identify major trip attractors and generators.

#### *Goal 2: Establish Performance Measures and Performance Profile Indicators*

##### Objectives:

- Review current Performance Measures and Profile Indicators from the Long Range Transportation Plan.
- Establish new and current Performance Measures and Profile Indicators
- Update the new measures and indicators into the Long Rang Plan and any subsequent plans.

#### *Goal 3: Improve mobility of existing service/ Expansion of service*

##### Objectives:

- Reduce congestion.
- Connect major transit attractors and generators.
- Study feasibility of expansion outside of city limits.
- Review study feasibility of new location for transit system.

#### *Goal 4: Examine the feasibility of City Utilities managing the Missouri State University (MSU) Shuttle System*

##### Objectives:

- Review current MSU Shuttle conditions.
- Identify fiscal conditions and possible constraints on CU Transit.
- Develop procedural plan to integrate MSU Shuttle System into CU Transit (if found to be economically feasible).

#### *Goal 5: Explore the Possibility of a Regional Transit Authority*

##### Objectives:

- Review Transit/Fleet Management Facility Master Plan.
- Identify Cost/Benefit Analysis.
- Identify Potential Funding Sources.
- Identify Alternatives.



### *Goal 6: Community outreach and Public Involvement*

#### Objectives:

- Conduct surveys of riders needs.
- Conduct public hearings to alert public of study.
- Provide all chances and opportunity for public to be involved in planning process.

### *Goal 7: Transit Financial and Marketing Program*

#### Objectives:

- Create financial plan that focuses on operating expenses.
- Maintain an appropriate fare structure and fare levels.
- Search for alternative funding sources.
- Create services that will appeal to people who are not currently utilizing the transit system.
- Market to University/College Students in conjunction with Shuttle System.

### *Goal 8: Examine State and Local Transit Planning Priorities*

#### Objectives:

- Review current priorities.
- Identify how current transit system meets those priorities.
- Establish new priorities for the next 5-6 years.

### *Goal 9: Comply with all local, state, and federal regulations*

#### Objectives:

- Adhere to all procedures, rules, and regulations (including the Americans with Disabilities Act).
- Collect and submit timely data.
- Coordinate transit planning with the regional transportation planning goals

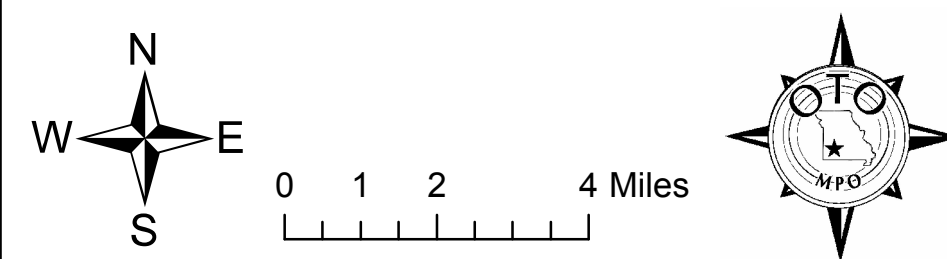
## Legend

**Transit Routes**

- Line 1
- Line 2
- Line 3
- Line 4
- Line 5
- Line 6
- Line 7
- Line 8
- Line 9
- Line 10
- Line 11
- Line 12
- Line 13
- Line 14

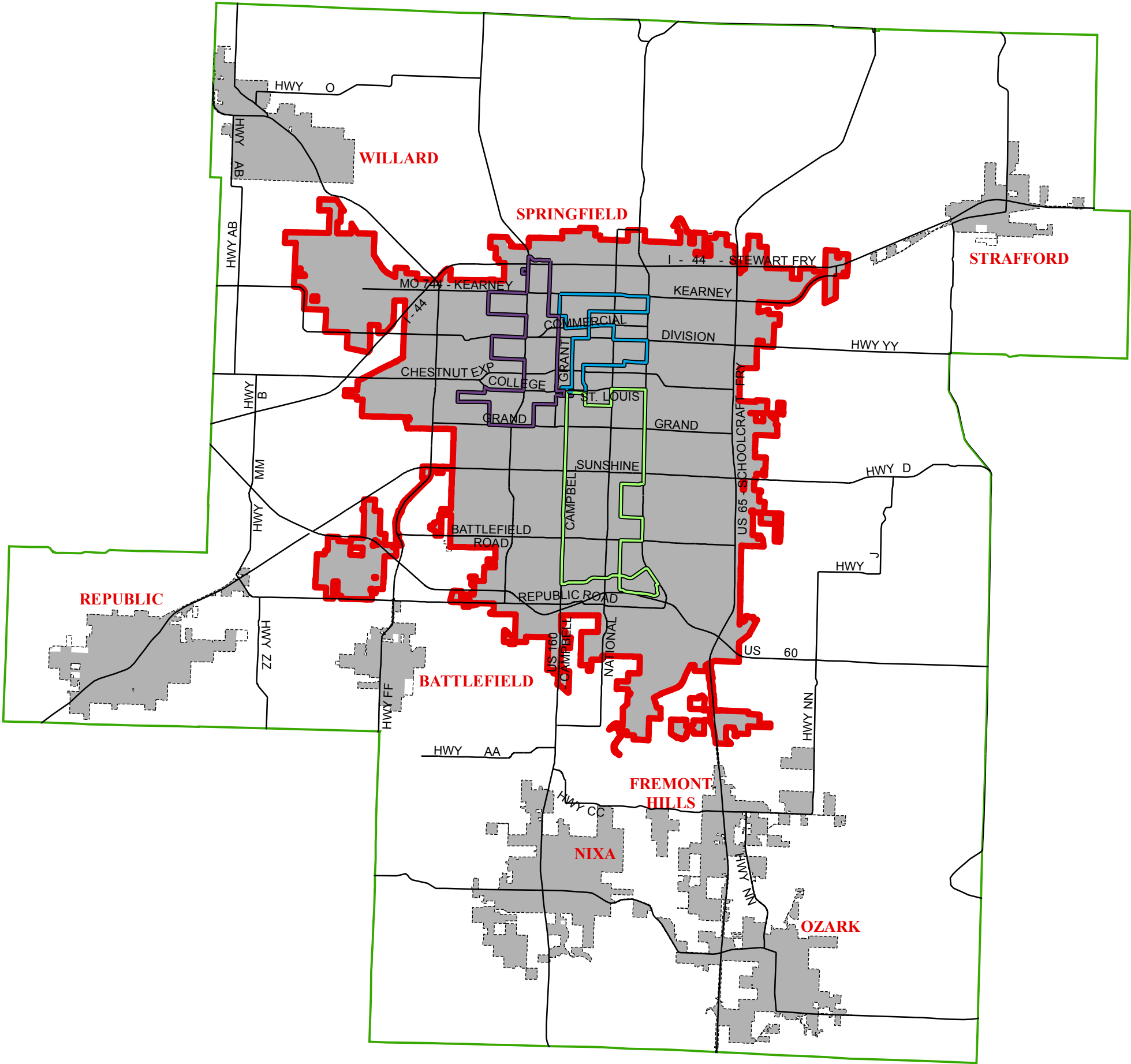
CU Service Area

OTO Study Area



The Ozarks Transportation Organization is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Missouri Department of Transportation (MoDOT), or the Ozarks Transportation Organization. This map does not constitute a standard, specification, or regulation.

Figure 2. Individual Night Routes



**Legend**

**Night Routes**

- Line 22
- Line 25
- Line 26

CU Service Area

OTO Study Area

Major Streets



**DISCLAIMER**  
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### 3 Public Input

Public involvement is a major component in any plan. Federal Transit Administration offers a variety of ways in which planning agencies may involve the public in plan development. For the purpose of this plan, the Ozarks Transportation Organization chose to work through an advisory Committee comprised of local service providers, transit users and the Missouri Department of Transportation (MoDOT) as well as the Southwest Missouri Council of Governments (SMCOG).

The following members participated on this committee:

- Paul Ajuwon, Missouri State University
- Carol Cruise, CU Transit
- Alex Desmuke, CU Transit Rider
- Michelle Garand, Community Partnership of the Ozarks
- Diane Hogan, CU Transit
- Scott Kosky, OATS, Inc.
- Natasha Longpine, OTO Staff
- Frank Miller, MoDOT
- Earl Newman, City of Springfield
- Dan Rudge, OTO Staff
- Wade Stinson, CU Transit
- Dan Watts, SMCOG

The purpose of the Transit Development Plan committee was to develop the goals and objectives for the plan, guide the creation of the on-board survey, and to provide feedback on plan progress and recommendations. This group met several times throughout calendar year 2006.

### Elected Official Interview

#### *Background*

As part of the Transit Development Plan, Ozarks Transportation Organization staff met with selected elected officials from eight OTO jurisdictions. The first round of interviews was conducted at the beginning of the project. The second round of interviews was conducted after the recommendations were developed. Below is a synopsis of each round of interviews.

#### *Round One*

Preliminary discussions focused on the elected official's vision for a regional transportation system and the role transit service would play in that system. All of the elected officials interviewed believed that transit would play an increasingly important role in the regional transportation system. Several officials noted that the number of



communications they received regarding establishment of a transit system was on the rise. Many felt that the interest in transit was being spurred by two factors. The first factor was that there were residents in their jurisdiction who did not have access to a working automobile. These individuals were either relying on family or friends for basic mobility or, when they could afford it, the use of taxi services. While some rural transit options exist for individuals that qualify for elderly and disabled services, there were many others that lacked a reliable transportation option.

The second factor was that the local populations were aging. As this group of baby boomers had reached retirement age they were looking for a variety of mobility options to choose from even though they had access to and could still drive a car. These baby boomers have had an unprecedented freedom of mobility and wanted to be able to use their transportation choice for more than just mobility. Elected officials pointed to the rise in popularity of tour bus operations where socialization could take place and where the individual could relax and not worry about the driving.

Another interesting topic brought up by some of the elected officials was the need to expand transit as part of an overall economic development strategy. According to the elected officials, some of the jobs in the region were low-skill, low-wage jobs and it was important to ensure that these workers had access to their job site. After further discussion, these elected officials felt that a regional transit system should include options for carpooling and vanpooling as well as transit.

Elected officials were somewhat split on the types of transit options that should be available in the region. While all agreed that bus service would be the backbone of the system, there was disagreement over whether a fixed-route system would be a wise use of transit funds. Instead, a route deviation or dial-a-ride type service was preferred, especially in the smaller jurisdictions. Interestingly, all jurisdiction representatives wanted to see express service during peak periods as the first transit services to be brought to their community. After discussion, most felt that a bus rapid transit system would be most cost effective, though a few felt establishment of rail service would be a bigger draw. Still others felt that both bus and rail service was needed to reduce citizens' reliance on the automobile.

Although supportive of transit in general, almost all of the elected officials interviewed stated that they could not identify a local funding source to support transit operations. Using general fund money was not an option and elected officials expressed deep reluctance to arbitrarily impose a new funding mechanism on their constituents. As an alternative, the elected officials felt that more funds at the state and federal level should be made available for regional transit operations, although several added not at the expense of highway funding.

### *Round Two*

After the OTO staff developed plan recommendations, the second round of elected official interviews was conducted to gauge reaction to these recommendations. Of the



recommendations made the one's that drew the most interest were the development of a regional transit authority, development of bus rapid transit options, and fare increases. In regards to the regional transit authority, elected officials asked if a strategic plan that spells out how service would be implemented and if successful, expanded, could be developed. The strategic plan would focus on each individual jurisdiction, the type of service and frequency proposed, and an explanation of the costs and benefits associated with such a service. After informing elected officials that state law requires a citizen vote be held before an authority can be established and that the ballot must identify service levels and funding sources, most were comfortable with considering a regional transit authority. Given that such an authority would be funded through a sales tax (most likely a ¼ cent retail sales tax) the elected officials felt that the citizens should have the right to decide if they want to tax themselves to expand transit options.

As was revealed in the round one interviews, there was support from outlying jurisdictions for a bus rapid transit option. Most elected officials envisioned a service in which a handful of stops would be made within their own jurisdiction and then the bus would not make any additional stops until it reached identified office and retail activity centers. A handful expressed an interest in a system that stopped in multiple jurisdictions, but that stops in these jurisdictions were limited to one or two before moving on to the next jurisdiction. Still others commented that a network of park and ride lots could facilitate express bus service.

Finally, most elected officials were surprised that there had not been a fare increase since 1997. They were also surprised that a one-way fare was only 75 cents. To the elected officials, this was a bargain that more people should take advantage of. Several elected officials asked how much of the cost of transit was supported by the farebox. After discussing where City Utilities fell in relation to farebox recovery ratio for other transit systems, the elected officials were comfortable with a 20-30 percent recovery. Only one elected official noted that this ratio was similar to a recovery ratio for highway construction.

Overall, the elected officials seemed pleased with the recommendations and represented the most feasible approach to expansion of transit service in the OTO region. Elected official input will again be sought after the strategic plan is completed.

### **Bus Operator Surveys**

Eighteen surveys were returned by the bus operators, **Appendix A**. The majority of comments dealt with the overall level of service which is being provided. Patron concerns most often mentioned the frequency and hours of service. Other complaints exhibited frustration with either not having enough stops and/or not having enough routes. Also mentioned was the need for bus services to extend later into the evening and to improve weekend services.



There was a general consent among the bus operators in regard to what needs to be improved. A majority of the survey data shows that an increase in service routes and hours are needed. The most highly ranked concerns were increases in the frequency of services, in night/evening services, as well as holiday/Sunday services. Routes 5 and 7 were also mentioned in the survey as being difficult to maintain or achieve timeliness. Of the routes mentioned, Route 7 received the most attention and was identified as needing to be modified. The possibility of a grid system was mentioned several times.

The bus operators also commented on the bus route and schedule information. On more than one survey an operator expressed concern with the ability of patrons to understand the current information as presented. One survey suggested developing a “Riders Guide” at the seventh grade level so that more patrons would be able to understand both the route maps and schedules.

The CU bus operators were distributed a survey in March of 2006. Responses were similar to the on-board customer surveys in recognizing the need for more frequent and available service and improvement of the routes on Campbell Avenue.

### On-Board Survey

The on-board bus survey was conducted July 18, 2006 including every bus route from 6:00 AM to 12:00 AM. A total of 815 surveys were returned, **Appendix B**. The survey was available in both English and Spanish. The key results are discussed below.

The table below, **Table 1**, demonstrates the importance of improving the time of day CU buses run during the week and on Saturday, as well as the importance of adding to and expanding bus service on Sundays.

Over 70 percent of the on-board bus survey respondents felt CU should improve not only the frequency of service in general, but also the time of day buses run Monday through Saturday and Sunday.

Table 1: Responses to Quality of Service				
How important do you feel it is for CU Transit to improve the following aspects of its service?		Percent of Total		
		All	Minority	Non-Minority
		Very Important and Somewhat Important	Very Important and Somewhat Important	Very Important and Somewhat Important
11a	Frequency of service	77.1	80.4	81.2
11b	Time of day buses run on Monday-Friday	70.8	73.0	74.4
11c	Time of day buses run on Saturday	69.2	72.4	73.2
11d	Addition/Expansion of Sunday buses	70.3	72.4	74.6

CU On-Board Bus Survey - 18 July 2006

Addressing fare types, of the on-board bus survey participants, only 19 percent purchase a reduced fare pass, while 72 percent have no option but to ride the bus and 50 percent





have an income of less than \$15,000 per year. There is a strong possibility not every qualified person is taking advantage of the reduced fare option.

Then, besides those who purchase a reduced fare, 39 participants purchase a monthly pass, 111 participants ride four to five days per week and buy an all-day pass, and 168 participants ride everyday yet still buy an all-day pass. In this instance alone, 279 on-board bus survey participants would almost benefit from a monthly pass, but don't because the price break does not exist. The average number of work days in a month is twenty-one. At an all-day price of \$1.50, the total monthly cost would be \$31.50. If someone were to buy a monthly pass, which is good for thirty days, the cost would be \$33. With reduced weekend service availability, the cost benefit of a monthly pass is very little.

<b>Table 2: Fare Type by Frequency of Service</b>							
	Question 7. How often do you use CU transit?						
Question 5. What fare did you pay to get on this particular bus?	No Answer	Everyday	4 to 5 Days per Week	2 to 3 Days per Week	1 Day per Week	Once per Month or Less	Once every so many weeks
No Answer	7	10	9	1	1	1	
Full Fare	3	57	50	34	4	5	1
Reduced Fare		5	10	1			
All-Day Pass	9	168	111	72	7	5	4
All-Day Reduced	1	16	16	14	2	1	1
Monthly Pass		21	15	3			
Monthly Reduced	3	18	15	6			
Youth Fare		10	14	5	4	4	
Elderly Fare		1	6		1		
Other	2	24	18	12		3	2

CU On-Board Bus Survey - 18 July 2006

In addition to reviewing the comparison of an all-day price to the monthly price, it is proposed in Chapter 5 that all discount fares, including youth, elderly, and reduced, be examined for a more straightforward solution.

Chapter 4, Title VI, addresses the additional results and recommendations from the on-board survey.

### City Utilities Committee Process

The Transit Development Plan was initially brought before the CU Citizens' Advisory Council March 1, 2007 for the purpose of reviewing the Plan recommendations, as seen in Chapter 5. Questions and comments revolved mainly around the recommendation for a regional transportation authority, its subsequent funding, and the comprehensiveness of such an entity. It was also discussed that many CU customers do not likely realize that they subsidize the transit system through their utility payments.



OTO staff met with the CU Paratransit Advisory Committee March 29, 2007 to also review the Plan recommendations. One concern relating to the improvement of bus timing mentioned traffic congestion as a barrier to a timelier system. Congestion is to be managed and improved through OTO's Congestion Management System, traffic light synchronization, access improvements along National, and any improvements to Campbell, which might be proposed by the North/South Corridor Study. As for any delays caused by the coal trains traveling through Springfield, the future plans for the Highways 60/65 interchange and the at-grade crossings on Cherry and Division may promote a timelier bus system. The Paratransit Advisory Committee also questioned potential ridership loss due to fare increases. CU has estimated that ridership loss could be between 6 and 10 percent, however, ridership has also been increasing on a monthly basis, so the effects might be more limited.

The comments from CU's Fixed-Route Committee were much more detailed and did precipitate in some changes to the proposed recommendations. This meeting took place April 12, 2007. Recommendations included the improvement of the bus system inside the Springfield city limits before expanding service to the outlying areas and that Sunday service be increased before evening service. Many compliments of the City Utilities system were also received. Overall concerns relating to the Regional Transportation Authority were the potential for a decrease in driver courtesy, dramatically increased fares, and the potential for driver strikes. This committee also recommended that bus routes be named generically with head signs showing the bus destination. The group also approved of the idea for signal priority and swipe versus full-insertion cards. These comments were noted for discussion in the strategic plan, which will work to implement the TDP recommendations. Overall, the Fixed-Route Committee wanted to ensure, at least for service inside the Springfield city limits, that CU remains the lead transit agency.

The CU Board Retreat, April 27, 2007, provided CU Board approval for the recommendations in this Plan. Questions from the CU Board related to the costs and efficiencies of a regional transportation authority. Board members thought it would be beneficial to survey current City Utility customers as to their support of a tax that would allow for a lower CU bill. Overall, education of the public as to the potential of an RTA would be key to implementing this first plan recommendation.

### **OTO Board Approval**

The final adoption of the Transit Development Plan will be done by the OTO Board of Directors at its August 16, 2007 meeting. The OTO Board will act based upon the recommendation of the Technical Planning Committee which will meet July 18, 2007. Upon approval by the Technical Planning Committee, a press release will be done so that a 15-day public review period for the Transit Development Plan can be conducted and comments received prior to the August Board of Directors Meeting



## 4 Socioeconomic Conditions

### Introduction

The Ozarks Transportation Organization Study Area is comprised of nine jurisdictions, (seven cities and two counties) each with their own distinct socioeconomic characteristics. A transit plan can only be effective if it examines the changing socioeconomic patterns of the region the plan will cover. Socioeconomic characteristics such as population, households, and employment patterns help characterize an area. The study of where people live and work is essential in transit planning because the transportation network must be able to accommodate changing commuting patterns and habits of the population.

For the purposes of the Transit Development Plan, total population, households, and employment are all important characteristics that will be examined in this section. In addition, the population groups covered under Title VI of the Civil Rights Act and which represent traditionally underserved populations as determined by the U.S. Department of Transportation will also be examined in a later section of this document.

The Ozarks Transportation Organization has developed this plan in accordance with federal and state regulations and has utilized a comprehensive, cooperative and continuing planning process.

### Population and Households

According to the US Census Bureau the total population of the Ozarks Transportation Organization Study Area in 2000 was 257,738 people with 104,422 households. The boundaries of the Ozarks Transportation Organization Study Area were expanded in 2002. The Ozarks Transportation Organization Study Area's Travel Demand Model projects a total population within the current boundaries to be 494,100 in 2030. This represents a 91.7 percent increase in population over a 30-year period. In the same time frame, the area is projected to reach a total of 203,244 households, which corresponds to an increase of 94.6 percent. These projections imply that by the year 2030 there may be fewer people per household.

**Table 3** shows the population of the individual jurisdictions within the Ozarks Transportation Organization Study Area boundary in 2000, and projections for 2030. The population of the counties includes only the unincorporated portions of the counties within the Ozarks Transportation Organization Study Area boundary.



<b>Table 3: Population and Households by Jurisdictions Within the Ozarks Transportation Organization Study Area</b>						
Jurisdiction	Population		% Change Population 2000-2030	Households		% Change Households 2000-2030
	2000	2030		2000	2030	
Battlefield	2,385	11,167	368.2%	857	4,375	410.5%
Nixa	12,124	59,070	387.2%	4,654	18,780	303.5%
Ozark	9,665	40,106	315.0%	3,635	17,761	388.6%
Republic	8,438	40,889	384.6%	3,148	16,651	428.9%
Strafford	1,845	4,910	166.1%	683	2,077	204.1%
Willard	3,193	6,911	116.4%	1,154	2,350	103.6%
Springfield	151,580	184,892	22.0%	64,691	83,106	28.5%
Greene County	54,459	87,742	61.1%	20,413	38,827	90.2%
Christian County	14,049	58,413	315.8%	5,187	19,317	272.4%
TOTAL Ozarks Transportation Organization Study Area	257,738	494,100	91.7%	104,422	203,244	94.6%

Source: Census 2000 Summary File 1 (SF1), Travel Demand Model 2000-2030 Socioeconomic Data by TAZ

The major increases in population and households are estimated to happen in the south and southwest portion of the Ozarks Transportation Organization Study Area region. Ozark, Christian County (within the Ozarks Transportation Organization Study Area), Republic and Nixa are projected to have high percentages of population changes, estimating that by the year 2030, these cities may have approximately four times their current population.

In the year 2000, the population density for the Ozarks Transportation Organization Study Area was higher in the City of Springfield, mainly in the Downtown area and some other places along Battlefield Road, Glenstone Avenue and Division Street. Small areas in the cities located south and southwest of the Ozarks Transportation Organization Study Area showed slightly higher density than the rest of area. Estimates for the year 2030 show increases in population density in Republic, Nixa, Ozark, and Christian County and south of Greene County and also in the City of Springfield along Kearney Street (North) and in the southern portion of the City.

Of the nine jurisdictions within the Ozarks Transportation Organization Study Area, Springfield has the largest population with 59 percent followed by Greene County at 21 percent of the current Ozarks Transportation Organization Study Area population residing in the area. The other jurisdictions account for between 1 percent and 5 percent of the Ozarks Transportation Organization Study Area population.

Projections for the year 2030 show different trends. The City of Springfield and Greene County will continue to have the largest population within the Ozarks Transportation Organization Study Area, but with a smaller percentage (37.4 percent and 17.8 respectively) of the total Ozarks Transportation Organization Study Area population. On the other hand, jurisdictions in the south and southwest portion of the Ozarks



Transportation Organization Study Area, Nixa, Republic, Ozark and Christian County will increase their proportion of population of the total Ozarks Transportation Organization Study Area.

### Income

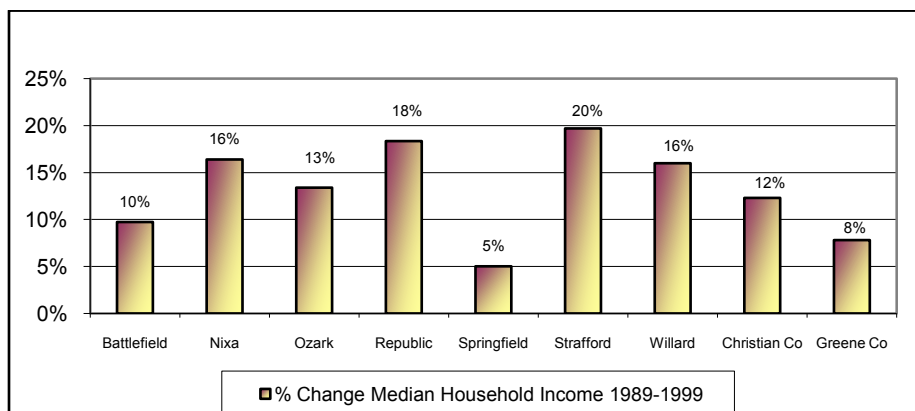
There are 104,422 households within the Ozarks Transportation Organization Study Area region. The median household income measures the distribution of the total number of households and families including those with no income. The median household income for the Ozarks Transportation Organization Study Area is \$37,237, which is slightly lower than the median income in the state of Missouri (\$37,934). **Table 4** below shows the household income information for each jurisdiction.

<b>Table 4: Household Incomes by Jurisdiction Within the Ozarks Transportation Organization Study Area</b>			
Jurisdiction	Median Household Income		% Change Median Household Income 1989-1999
	1989	1999	
Battlefield	\$43,549	\$47,788	10%
Nixa	\$32,353	\$37,655	16%
Ozark	\$30,170	\$34,210	13%
Republic	\$29,246	\$34,611	18%
Springfield	\$28,150	\$29,563	5%
Strafford	\$30,170	\$36,111	20%
Willard	\$34,111	\$39,565	16%
Christian Co	\$33,914	\$38,085	12%
Greene Co	\$31,683	\$34,157	8%
Ozarks Transportation Organization Study Area	N/A	\$37,237	

The City of Springfield had the lowest median household income of the area in the year 1989 with \$28,150 and in the year 1999 with \$29,563 dollars. That represents only a 5 percent increase from 1990 and 2000. On the other hand, the City of Battlefield had the highest median household income within the Ozarks Transportation Organization Study Area in 1989 (\$43,549) and in 1999 (\$47,788). The jurisdiction within the Ozarks Transportation Organization Study Area with the highest percentage of change in median household income between 1989 and 1999 was the City of Strafford with 20 percent increase from \$30,170 to \$36,111 in ten years.



**Figure 3: Percentage of change Median Households Income 1989-2000 illustrates these changes.**



## Employment

The Census Transportation Planning Package, which was produced by the United States Census, tracks the number of people employed by place of residence and place of work. In the year 2000 there were 160,207 employment positions in the Ozarks Transportation Organization Study Area. **Table 5** illustrates a breakdown of this employment positions by jurisdiction.

<b>Table 5: Employment in 2000 and 2030 by Jurisdiction</b>			
Jurisdiction	Employment		
	2000*	2030**	% Change 2000-2030
Battlefield	450	1,750	289%
Nixa	3,529	16,383	364%
Ozark	4,959	18,370	270%
Republic	2,444	8,799	260%
Springfield	133,723	251,183	88%
Stafford	420	2,527	502%
Willard	810	2,895	257%
Christian Co.	3,754	8,291	121%
Greene Co.	10,118	28,835	185%
TOTAL Ozarks Transportation Organization Study Area	160,207	339,033	112%

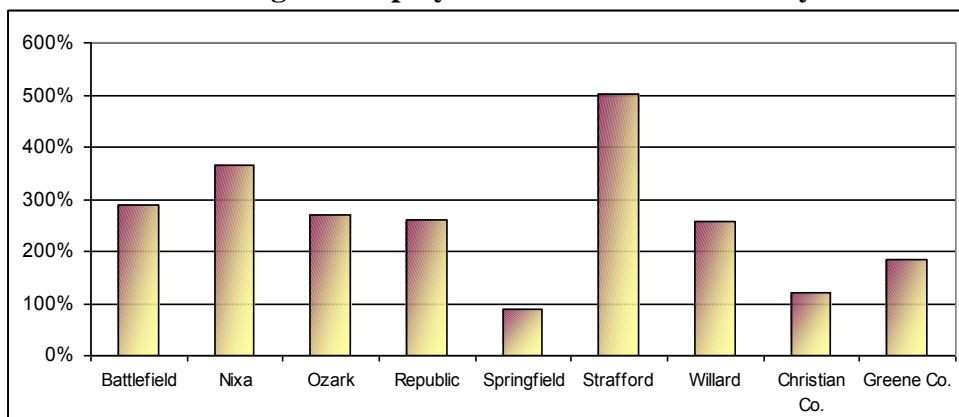
\*Census Transportation Planning Package (CTPP) 2000 Part 3

\*\*Travel Demand Model 2000-2030 Socioeconomic Data by TAZ



The estimated percentages of change in employment for the area to the year 2030 are represented in **Figure 4**. The City of Strafford, located in the northeast of the area, is estimated to have a highest percentage of change in employment with 502 percent increase in employment generation, followed by Nixa with 364 percent. The City of Springfield is expected to have the lowest change in employment generation in 30 years with 88 percent.

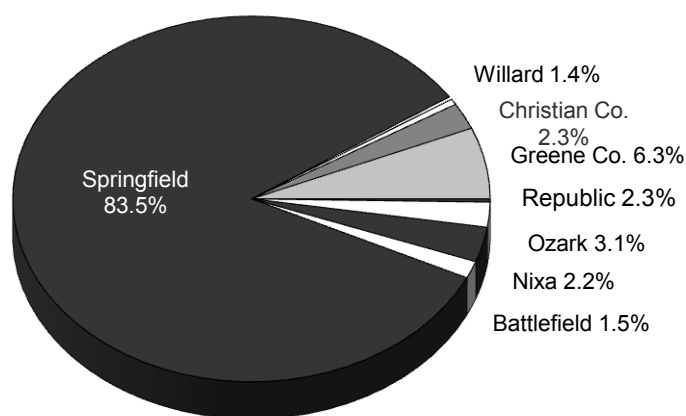
**Figure 4: Estimated Change in Employment from 2000 to 2030 by Jurisdiction**



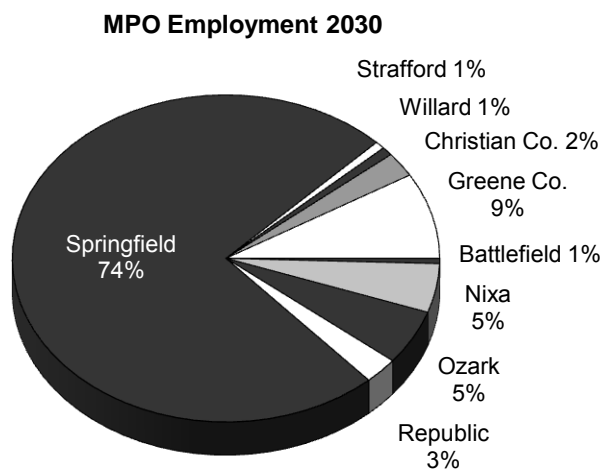
Currently, slightly more than four-fifths of employment positions in the Ozarks Transportation Organization Study Area (83.5 percent) are found in the City of Springfield. The other 16.5 percent of the total employment in the area is represented by the other seven jurisdictions. Projections to the year 2030 show still the predominance of employment generation within the City of Springfield, but representing a smaller percentage (73 percent) of the total Ozarks Transportation Organization Study Area.

**Figures 5 and 6** below show this distribution.

**MPO Employment 2000**



**Figure 5: Employment Distributions in 2000 by Jurisdiction within the Ozarks Transportation Organization Study Area.**



**Figure 6: Employment Distribution in 2030 by Jurisdiction Within the Ozarks Transportation Organization Study Area.**





## 5 Title VI

### Introduction

Title VI, 42 U.S.C. §2000d et seq., was enacted as part of the landmark Civil Rights Act of 1964. It prohibits discrimination on the basis of race, color, and national origin in programs and activities receiving federal financial assistance. The 4702.1A FTA Circular also includes income as a guideline for Title VI.

City Utilities (CU) Transit Service provides fixed route and paratransit services within the Springfield, Missouri city limits. City Utilities has three committees that oversee service adjustments, reductions, expansion, and capital projects. The goal of this Chapter is to review CU's quality of service and service standards in regards to minority populations.

### OTO Study Area Title VI Population

The minority population within the OTO study area is almost 8 percent of the total population. Those groups which are most predominant are Black at 1.81 percent, Hispanic at 1.70 percent, and multi-race at 1.89 percent. The majority of minority persons fall within the downtown Springfield area, although the area along Battlefield Road and National Avenue have a representative minority population. **Table 4** highlights those Census tracts which are considered to be minority tracts. **Figures 7, 8, 9 and 10** also demonstrate the location of minority populations within City Utilities' service area.

The low-income population is larger than the minority in the OTO study area. Most of the low-income population is located in the northwest side of Springfield, with three low-income tracts south of Nixa and Ozark in Christian County. The average percent of families considered low-income is 12.82 percent. This was determined by comparing the Health and Human Services 2007 Guidelines to the U.S. Bureau of the Census 2000 SF4 data, Table PCT117. Although none of the tracts in Christian County are considered minority, there are three which are low-income. City Utilities does not service this area as it is bound by the City of Springfield charter to the current City of Springfield limits. These tracts are shown in **Figures 11 and 12**.

All of the bus routes, including the night schedule, fall within the boundaries of the low-income tracts. This is demonstrated in **Figures 13 and 14**. Neither Line 8 nor Line 10 lies within a minority tract, however Line 10 does run adjacent to one. Line 8 is the only route which is not even within a ¼ mile walking distance of a minority tract. This line is available through transfer, however, at several locations. **Figures 15, 16, and 17** show those tracts which are both minority and low-income in relation to the bus routes. Again, Lines 8 and 10 do not lie within these boundaries, and Line 8 would only be accessible through a transfer or other mode.



## Service Standards

City Utilities system-wide transit performance measures which relate to Title VI include the following:

- The maximum passenger load should not exceed 125 percent of the seating capacity.
- Average bus age should not exceed twelve years.
- At least 90 percent of all bus trips should be less than five minutes early or late.

Additional service standards analyzed here include headways, vehicle assignment, and amenities.

### *Seating Capacity Ratio*

<b>Table 6: Seating Capacity by Route</b>			
	<u>Seating Capacity Ratio</u>		
	# of Riders/Seating Capacity (25)*100		
Line	FY 2005	FY 2006	Percent Change
1-N. Grant	97	115	19
2-E. Dale	132	146	10
3-Mt. Vernon	122	123	1
4-E. Central	90	102	13
5-St. Louis	98	105	8
6-College	135	157	17
7-S. Campbell	120	124	4
8-Norton/W. Kearney	46	50	9
9-Battlefield	89	93	5
10-E. Kearney/Cedarbrook	51	55	8
11-Ingram Mill/Republic	41	44	7
12-S. National	61	68	10
13-Nichols & Broadway	77	86	12
14-W. Atlantic	97	112	16
18-Extras	81	69	-14
19-Charters	46	41	-11
20-Access Express	8	8	-3
22-Sun, Night	71	85	20
25-Sun, Night	108	108	0
26-Sun, Night	65	83	28
TOTALS	79	88	11
FIXED ROUTE ONLY	88	98	11

During FY2006, only two routes, exceeded 125 percent of the seating capacity, as seen in **Table 7**. Line 6 – College, runs through both minority and non-minority Census tracts. Line 2 – East Dale, runs at 146 percent average capacity. This route serves a



predominantly minority area, but does also extend into non-minority Census tracts. Both of these routes increased this ratio from FY 2005 and were at 135 percent and 132 percent respectively. Line 7 – South Campbell as well as Line 3 – Mt. Vernon, came close to exceeding 125 percent with an average of 124 percent and 123 percent capacity, respectively. These lines also run through both types of Census tracts, while servicing several commercial centers and schools. Capacity figures are based upon the average number of passengers per hour. With the majority of routes having a 30-minute headway, these numbers represent the number of riders per total trip. Of the four lines mentioned above, only Line 3 – Mt. Vernon maintains a 60-minute headway.

### *Headways*

Headway times in relation to minority and Low-Income tracts are shown in **Table 7**.

<b>Table 7: Headways by Route</b>			
Route	Headway	Minority Tract (Y/N)	Low-Income (Y/N)
1	30	Y	Y
2	30	Y	Y
3	60	Y	Y
4	60	Y	Y
5	30	Y	Y
6	30	Y	Y
7	20	Y	Y
8	60	N	N
9	60	Y	Y
10	30	N	N
11	60	Y	Y
12	30	Y	Y
13	30	Y	Y
14	30	Y	Y

### *Vehicle Assignments*

City Utilities does not pre-assign vehicles to any particular route. This can be seen by **Tables 8 and 9**. **Table 8** shows the current age and type of each vehicle while **Table 9** shows vehicle assignment. These numbers were derived from a sampling of bus routes during FY2005 mandatory NTD sampling from October 1, 2004 through September 30, 2005. The most any one bus was assigned to a particular route was six times, out of an average of about 17 route assignments per vehicle during the year of sampling.



## Transit Development Plan

Table 8: Bus Number and Age		
Vehicle Number	Vehicle Type	Age (in Years)
229	1997 New Flyer Fixed Route Bus	10
230	1997 New Flyer Fixed Route Bus	10
231	1997 New Flyer Fixed Route Bus	10
232	1997 New Flyer Fixed Route Bus	10
233	1997 New Flyer Fixed Route Bus	10
234	1997 New Flyer Fixed Route Bus	10
235	1997 New Flyer Fixed Route Bus	10
236	1997 New Flyer Fixed Route Bus	10
237	1997 New Flyer Fixed Route Bus	10
238	1997 New Flyer Fixed Route Bus	10
239	2000 New Flyer Fixed Route Bus	7
240	2000 New Flyer Fixed Route Bus	7
241	2000 New Flyer Fixed Route Bus	7
242	2000 New Flyer Fixed Route Bus	7
243	2000 New Flyer Fixed Route Bus	7
244	2000 New Flyer Fixed Route Bus	7
245	2000 New Flyer Fixed Route Bus	7
246	2000 New Flyer Fixed Route Bus	7
247	2000 New Flyer Fixed Route Bus	7
248	2000 New Flyer Fixed Route Bus	7
249	2000 New Flyer Fixed Route Bus	7
250	2000 New Flyer Fixed Route Bus	7
251	2000 New Flyer Fixed Route Bus	7
252	2005 Gillig Fixed Route Bus	2
253	2005 Gillig Fixed Route Bus	2
270	1997 International Thomas Built Paratransit Bus	10*
271	1997 International Thomas Built Paratransit Bus	10*
272	1997 International Thomas Built Paratransit Bus	10*
273	1997 International Thomas Built Paratransit Bus	10*
274	1997 International Thomas Built Paratransit Bus	10*
* Refurbished in 2005 and 2006 to give an additional 5 years life		



## Transit Development Plan

**Table 9: Vehicle Assignment by Route**

	Line 1	Line 2	Line 3	Line 4	Line 5	Line 6	Line 7	Line 8	Line 9	Line 10	Line 11	Line 12	Line 13	Line 14
229	1	2	0	1	1	3	1	2	0	0	1	0	0	2
230	2	0	0	0	0	2	2	0	1	1	2	0	1	1
231	2	3	0	1	1	0	4	0	0	0	0	0	2	2
232	3	1	0	1	3	1	0	1	3	2	0	4	0	1
233	1	2	0	0	1	0	2	1	0	0	2	0	0	3
234	2	2	0	1	4	0	2	1	1	0	0	1	5	3
235	2	2	0	1	1	0	3	0	2	0	1	2	0	1
236	0	1	0	1	0	2	0	0	0	0	4	2	0	1
237	4	0	0	0	1	2	2	6	0	0	1	1	3	3
238	0	3	0	2	0	1	2	2	1	0	0	1	1	1
239	1	3	0	1	0	1	2	1	1	0	0	1	0	4
240	0	1	0	0	2	0	0	3	1	2	0	0	1	1
241	1	0	0	0	3	1	2	0	0	3	1	0	2	2
242	2	1	1	0	4	0	1	0	0	0	2	1	1	2
243	3	3	0	0	0	4	4	2	3	1	2	1	1	1
244	0	1	0	0	3	3	1	1	4	0	1	0	1	2
245	2	3	0	2	1	2	0	0	0	4	0	1	1	0
246	1	1	0	1	1	3	1	1	2	1	1	2	0	2
247	1	3	0	0	0	3	0	3	1	1	0	1	0	1
248	1	4	0	1	1	3	2	1	0	0	1	1	0	4
249	6	6	2	1	1	2	2	0	0	0	3	0	4	2
250	1	1	0	0	1	4	3	1	0	0	1	3	6	4
251	2	0	0	1	0	1	1	1	0	2	0	0	4	0



### *Amenities*

Route amenities are based upon the needs of the ridership on each route. Lines 8 and 10 do not have any advantage of amenities over any other routes.

**Table 10: Transit Amenities**

Line	Number of Stops	Number of Shelters	Number of Benches	Percent Shelters	Percent Benches	Percent with Amenities	Percent without Amenities
1 - N. Grant	64	7	15	10.94	23.44	34.38	65.63
2 - E. Dale	62	5	8	8.06	12.90	20.97	79.03
22 - E. Dale Night Run	109	1	16	0.92	14.68	15.60	84.40
3 - Mt. Vernon	66	0	2	0.00	3.03	3.03	96.97
4 - E. Central	48	4	12	8.33	25.00	33.33	66.67
5 - St. Louis	69	8	34	11.59	49.28	60.87	39.13
25 - St. Louis Nights Sun Hol	89	12	43	13.48	48.31	61.80	38.20
6 - College St	75	1	4	1.33	5.33	6.67	93.33
26 - College St Nights Sun Hol	109	3	12	2.75	11.01	13.76	86.24
7 - S. Campbell	76	9	42	11.84	55.26	67.11	32.89
8 - Norton-W. Kearney	97	2	7	2.06	7.22	9.28	90.72
9 - Battlefield	85	5	32	5.88	37.65	43.53	56.47
10 - E. Kearney-Cedarbrook	80	2	8	2.50	10.00	12.50	87.50
11 - Ingram Mill-Republic	69	0	23	0.00	33.33	33.33	66.67
12 - S. National	73	8	43	10.96	58.90	69.86	30.14
13 - Nichols & Broadway	54	3	4	5.56	7.41	12.96	87.04
14 - W. Atlantic	111	11	18	9.91	16.22	26.13	73.87

### *Timeliness*

The timeliness of each bus route is determined through spot checks by bus supervisors at the terminal. Over the last year, CU has run on average 90 percent on-time. This is within the current service standard. Since almost all of the routes are considered minority, the distribution of the small percentage not on time would not demonstrate disparity against minorities.

### *Security*

The transfer facility, which is located in a central downtown location, does have a security guard on duty to monitor the safety of CU's patrons as well as security cameras with a fiber optic connection to the terminal for additional monitoring.



### Quality of Service

On July 18, 2006, the Ozarks Transportation Organization conducted an on-board bus survey. This survey was offered on all routes for the entire day of service, in both English and Spanish. Of the 815 surveys returned, 163 were from minority riders. As income data was not tabulated for the number of persons in each household, the first two categories from the survey, Less than \$15,000 and \$15,000-\$24,999, shall be used to determine low-income riders. Of the 815 surveys submitted, 582 were from riders whose household income was less than \$15,000. Another 171 riders had a household income between \$15,000 and \$24,999. This totals 71.4 percent of the respondents. Since an overwhelming number of riders are considered low income, the survey results focus more on minority concerns.

The majority of all populations are satisfied with the quality of service received by City Utilities. Very little difference exists between the responses of minority and non-minority populations. The biggest concerns related to the frequency of service, especially on Saturdays and Sundays. With all populations, the percentage that thought CU's frequency of service was either Very Good or Good was still at 55 and 54.6 percent respectively. The majority of the remaining riders, at 30 percent, still felt the frequency was Fair. Saturday service was the lowest rated. Minority and Non-Minority response was similar in the Very Good and Good categories. In the Fair designation, Minorities were not as positive, with 20 percent of minorities rating Saturday service as Fair compared to 26 percent of non-minorities designating Saturday service as Fair. The Ozarks Transportation Organization is currently in the process of developing a Transit Development plan in which improving service frequencies will be among the first recommendations.



**Table 11: Responses to Quality of Service**

		Percent of Total		
In General, how would you rate each of the following aspects of current CU Transit services?		All	Minority	Non-Minority
		Very Good and Good	Very Good and Good	Very Good and Good
9a	Overall satisfaction with CU transit	77.4	76.7	82.4
9b	Ability to get where you want to go	67.5	64.4	71.9
9c	Dependability of CU transit buses	61.0	62.0	64.2
9d	Availability of bus route info	80.4	79.8	85.3
9e	Availability of seats on the bus	69.1	70.6	72.2
9f	Safety on the bus	78.7	79.8	82.4
9g	Safety at the CU transit bus stops	75.5	76.7	79.5
9h	Courtesy of bus drivers	76.8	75.5	81.5
9i	Frequency of service	55.0	54.6	59.0
9j	Early/Late Monday-Friday	57.9	58.3	62.2
9k	Early/Late Saturdays	43.3	45.4	45.6
How important do you feel it is for CU Transit to improve the following aspects of its service?		Very Important and Somewhat Important	Very Important and Somewhat Important	Very Important and Somewhat Important
11a	Frequency of service	77.1	80.4	81.2
11b	Time of day buses run on Monday-Friday	70.8	73.0	74.4
11c	Time of day buses run on Saturday	69.2	72.4	73.2
11d	Addition/Expansion of Sunday buses	70.3	72.4	74.6

CU On-Board Bus Survey - 18 July 2006

In addition to opinions on the quality of CU's transit service, the survey also collected information on each rider. The on-board survey did not ask questions about how a rider typically travels within the city, however, it did focus more on the particular trip in which they took the survey.

More than half of the riders – 428 – used either an all-day pass or an all-day reduced pass to access the bus. The next largest fare category was by one-way users – 170 – who paid the full fare of \$0.75 or the reduced fare of \$0.35. Not many users accessed the bus with a monthly pass and though the survey did not specifically ask, several indicated they used a weekly pass for their bus fare.

## Summary of Title VI Compliance

CU's performance in regards to these standards has not had a disparate impact on minority populations. As seen in the discussions above, almost none of the routes exceed 125 percent of the seating capacity. The average bus age, including the paratransit vehicles is 8.17 years. For fixed route only, this average is 7.8 years. The CU limit is twelve years.



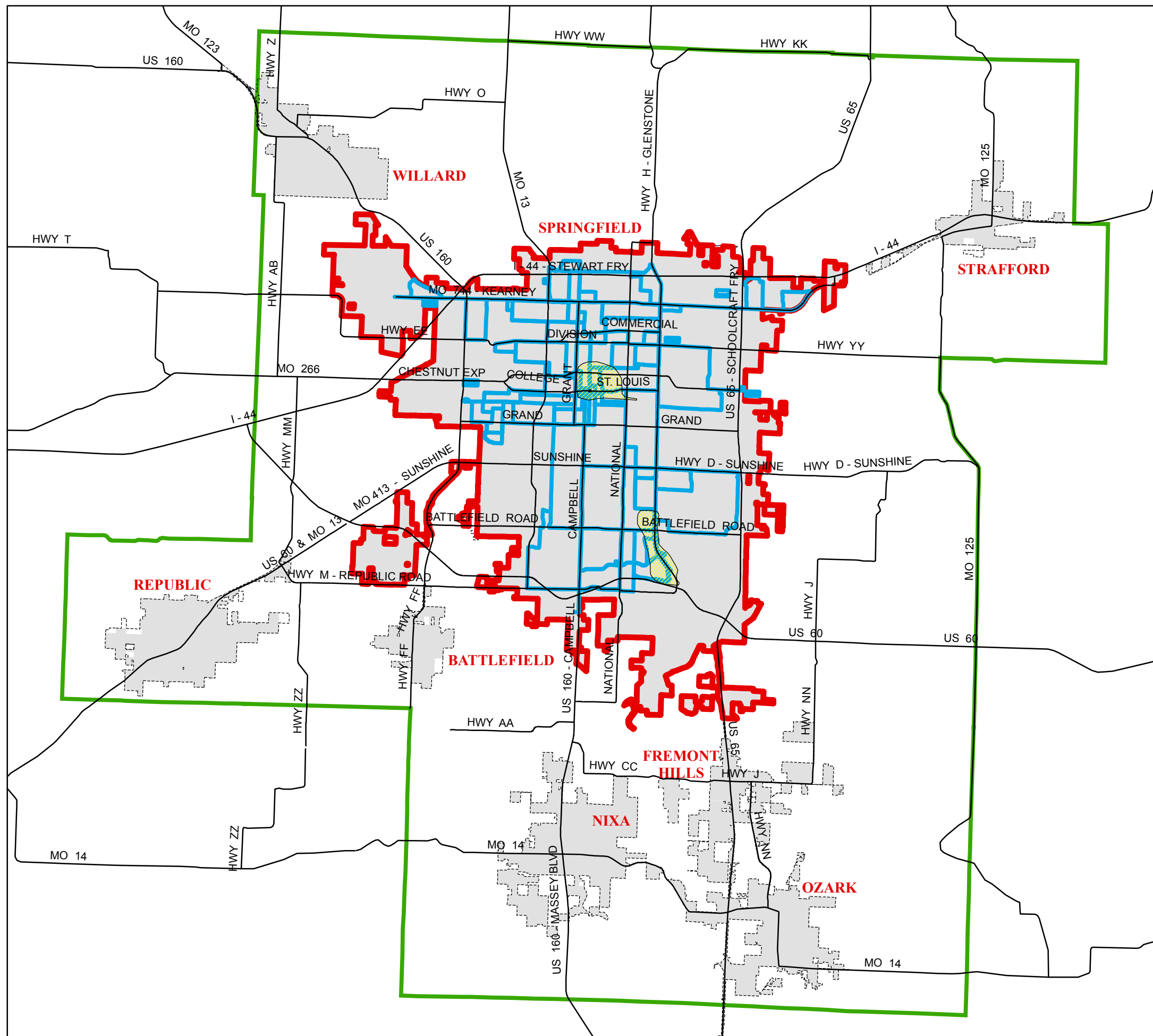


Line 8, the one route that does not directly service any minority or low-income tracts, does not receive any more positive treatment than the other routes. Though its average seating capacity ratio is that of 50 percent in FY2006, it also carries a 60-minute headway indicating fewer riders. Line 8 has been assigned bus number 237 more than any others, but has had a fairly even distribution of the remaining buses. Bus number 237 is among the ten 1997 New Flyer Fixed Route buses CU operates. These are the oldest buses within the fleet. Also, as seen in Table 6, Line 8 has just over 90 percent of its stops without benches or shelters.

City Utilities has received high marks from its most recent on-board survey. The minority responses do not greatly differ from the responses of non-minority riders. The greatest recommendations from the survey are for the expansion of service, which has been addressed in OTO's Transit Development Plan. In fact, one of the near-term recommendations in that plan is to expand evening service hours. Then, once more resources are available, the plan recommends investigating the expansion of weekend services.

Overall, there exists no apparent pattern of disparate treatment by City Utilities against minorities. The majority of riders are low-income, however most do not use a reduced fare pass. One recommendation to be added to this Plan is that CU better advertise the availability of the reduced fare. Throughout review of its practices, City Utilities has demonstrated that race, color, national origin and income are not factors in its decision making process.

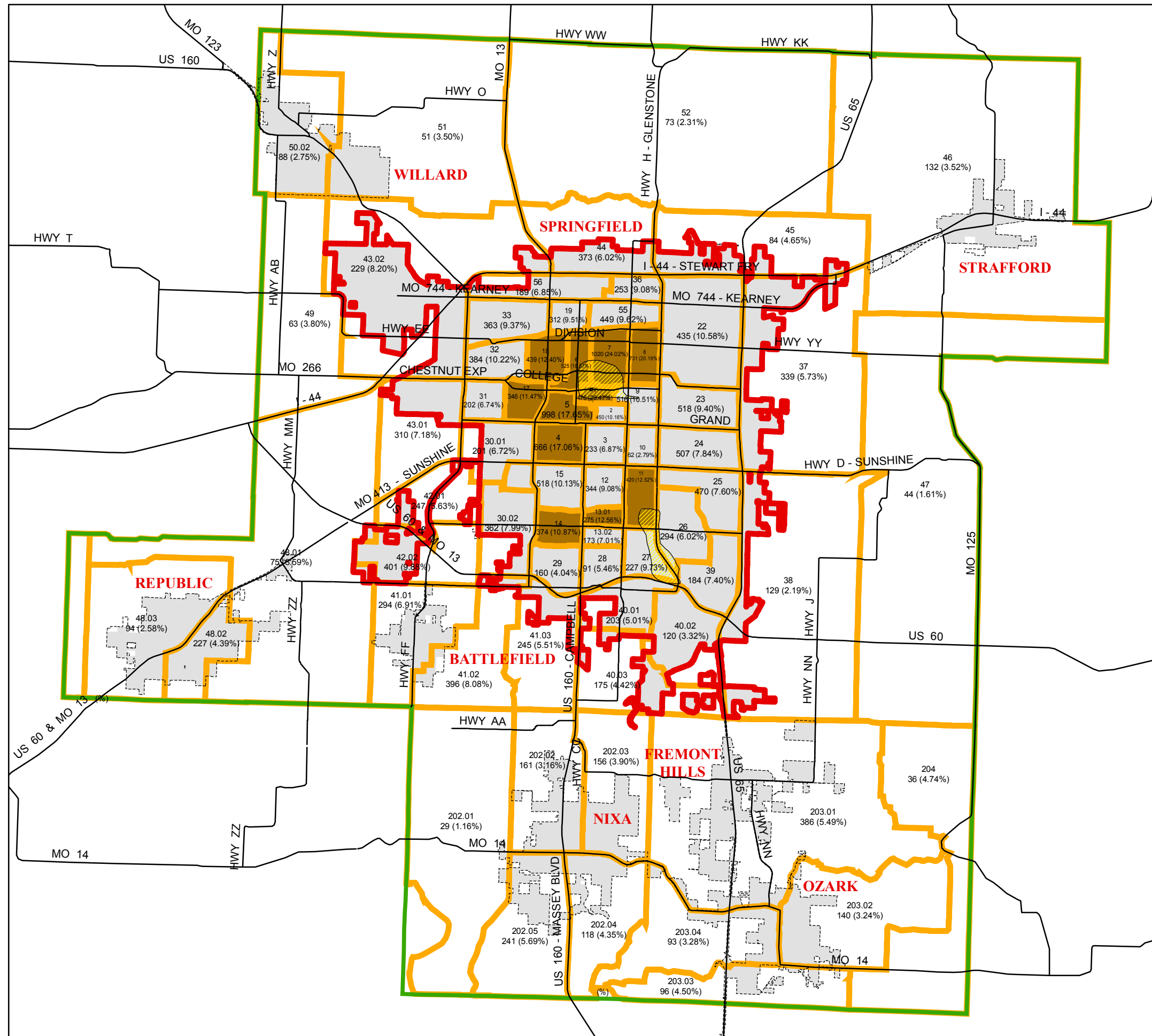
### Figure 7. CU Service Area Base Map



## DISCLAIMER

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### Figure 8. Service Area Minority Population



## Legend

—— Major Streets

— CU Service Area



## Activity Centers



 Battlefield and Glenstone

 Center City

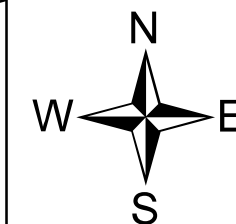
### Minority Census Tracts



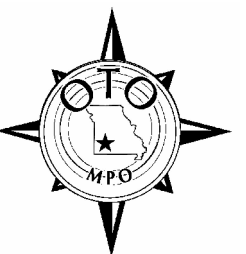
1.16 - 10.61 percent



10.62 - 29.47 percent



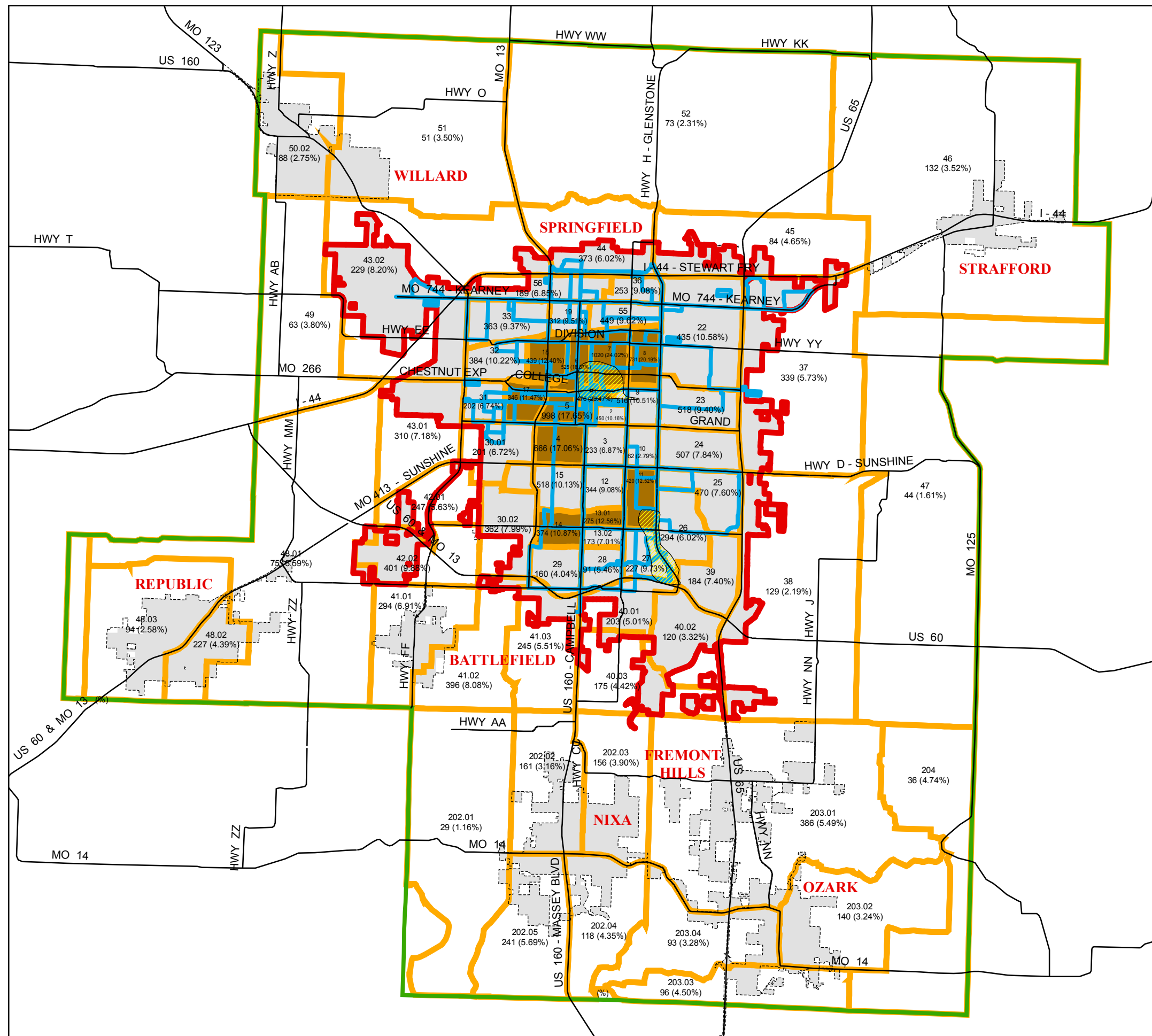
0 1 2 4 Miles



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## Figure 9. Service Area Minority Population with Transit Routes



## Legend

### Transit Routes

—— Major Streets

— CU Service Area

 OTO Study Area

## Activity Centers

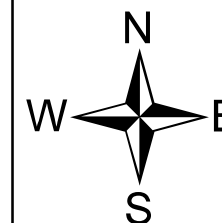
 Battlefield and Glenstone

 Center City

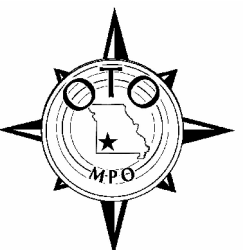
### Minority Census Tracts

1.16 - 10.61 percent

10.62 - 29.47 percent



0 1 2 4 Miles

















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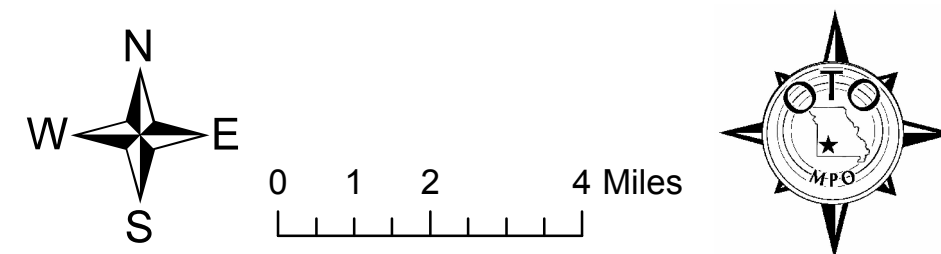


### Legend

#### Transit Routes

-  Line 1
-  Line 2
-  Line 3
-  Line 4
-  Line 5
-  Line 6
-  Line 7
-  Line 8
-  Line 9
-  Line 10
-  Line 11
-  Line 12
-  Line 13
-  Line 14

-  CU Service Area
-  OTO Study Area
-  Minority Census Tracts  
10.62 - 29.47 percent



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### Legend

**Night Routes**

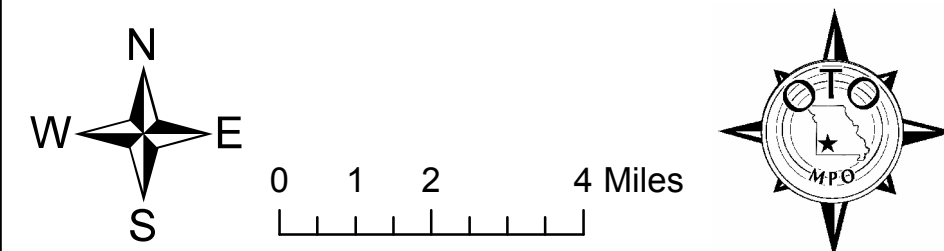
- Major Streets
- Line 22
- Line 25
- Line 26

CU Service Area

OTO Study Area

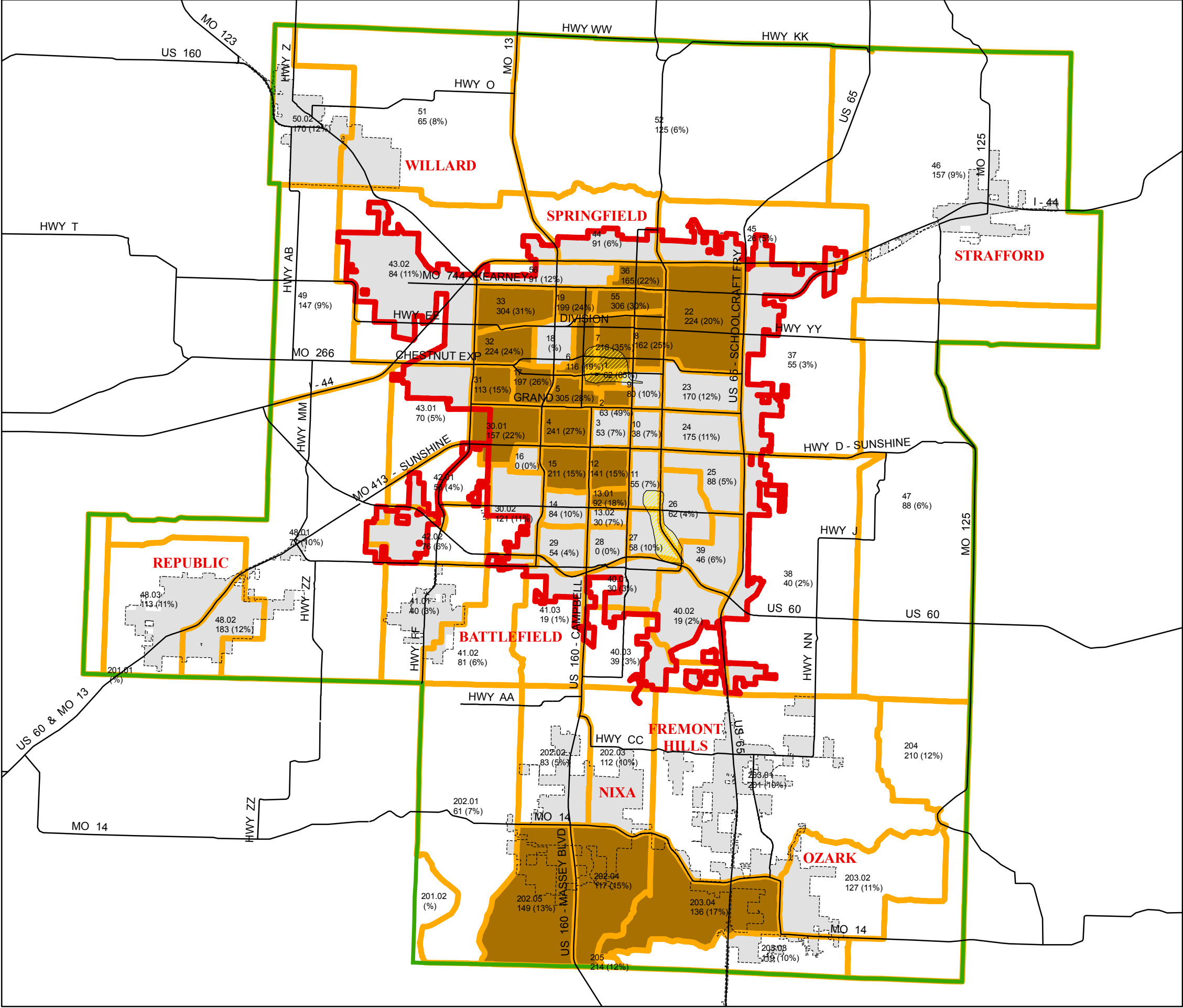
**Minority Census Tracts**

10.62 - 29.47 percent



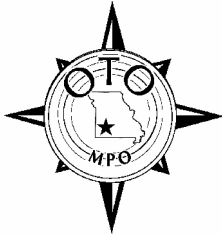
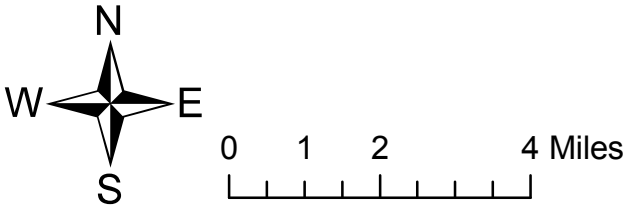
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Figure 12. Service Area  
Low Income Population



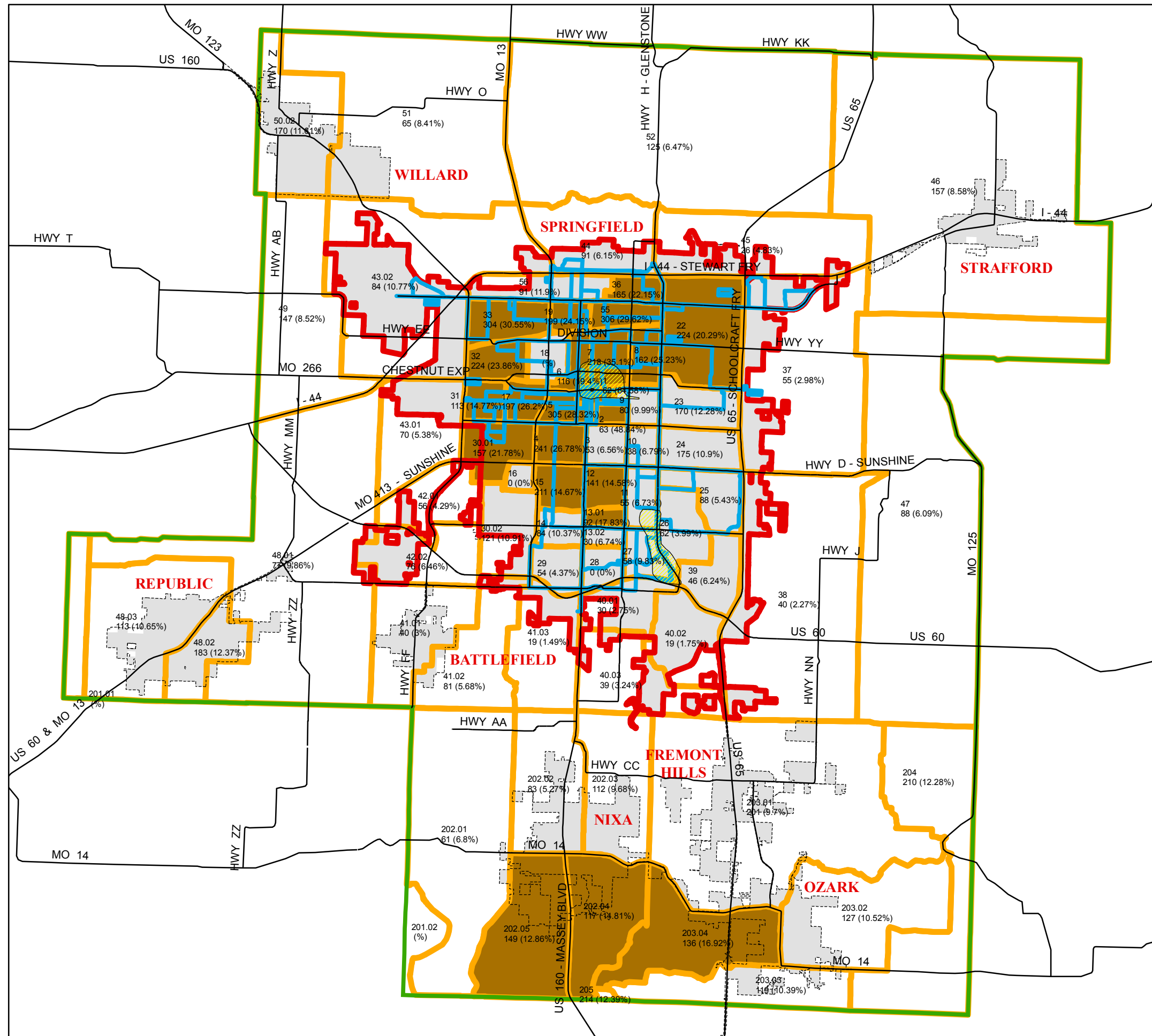
**Legend**

- Major Streets
- CU Service Area
- OTO Study Area
- Activity Centers**
  - Battlefield and Glenstone
  - Center City
- Low Income Census Tracts**
  - 0.00 - 12.81
  - 12.82 - 64.58







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### Figure 13. Service Area Low Income Population





## Legend

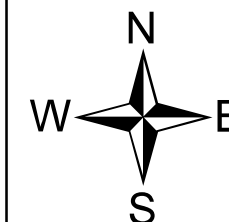
-  Transit Routes
-  Major Streets
-  CU Service Area
-  OTO Study Area

### Activity Centers

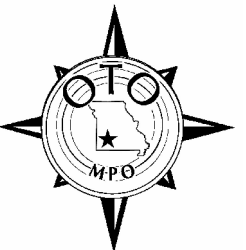
-  Battlefield and Glenstone
-  Center City

### Low Income Census Tracts

-  0.00 - 12.81
-  12.82 - 64.58



0 1 2 4 Miles

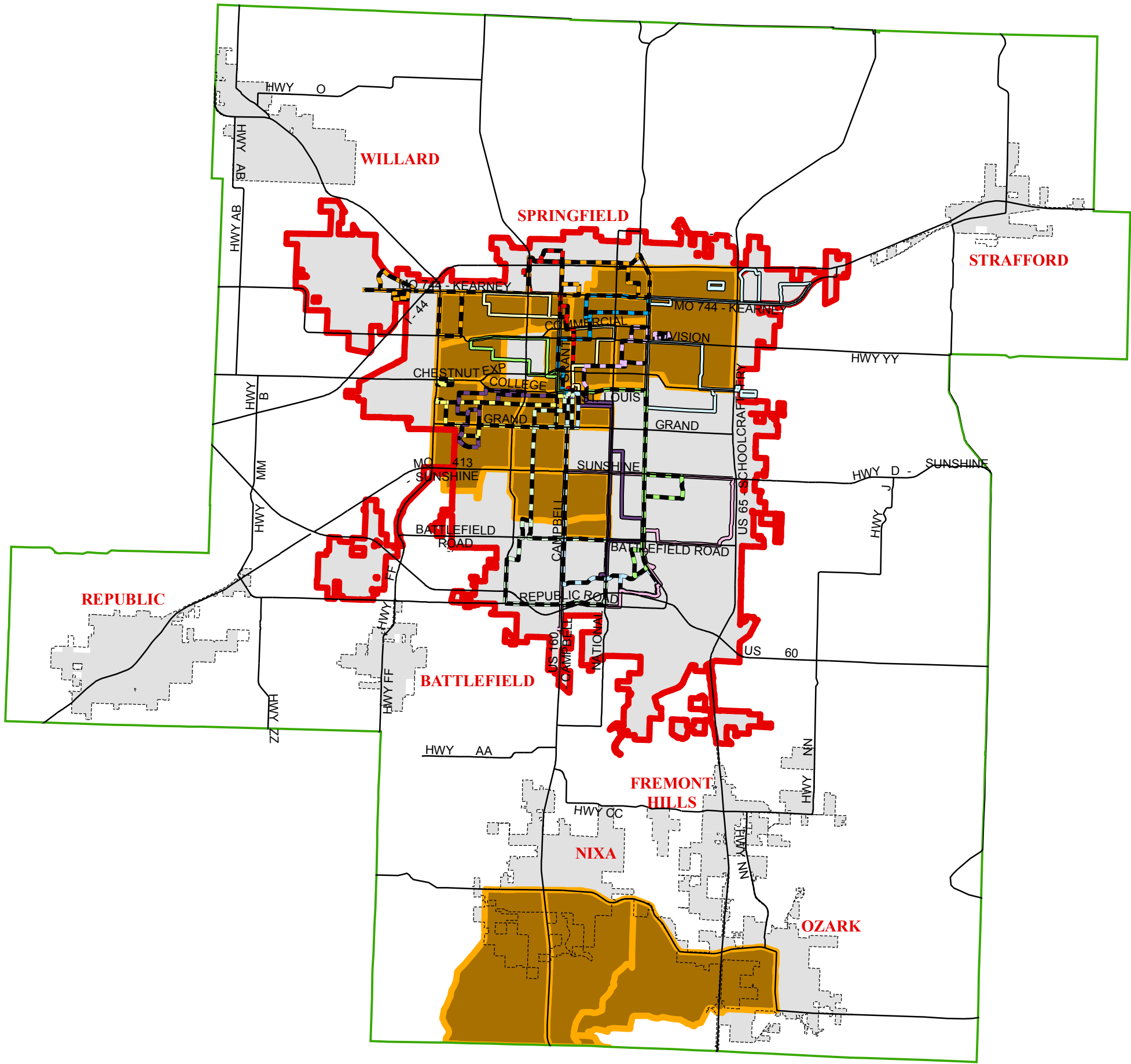


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# Figure 14. Fixed Route Bus Lines and Low Income Census Tracts

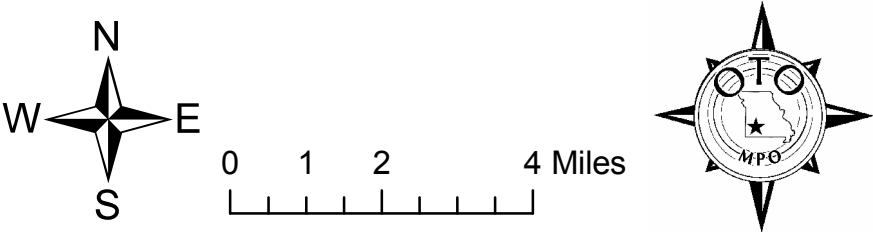


**Transit Routes**

- Line 1
- Line 2
- Line 3
- Line 4
- Line 5
- Line 6
- Line 7
- Line 8
- Line 9
- Line 10
- Line 11
- Line 12
- Line 13
- Line 14
- Major Streets

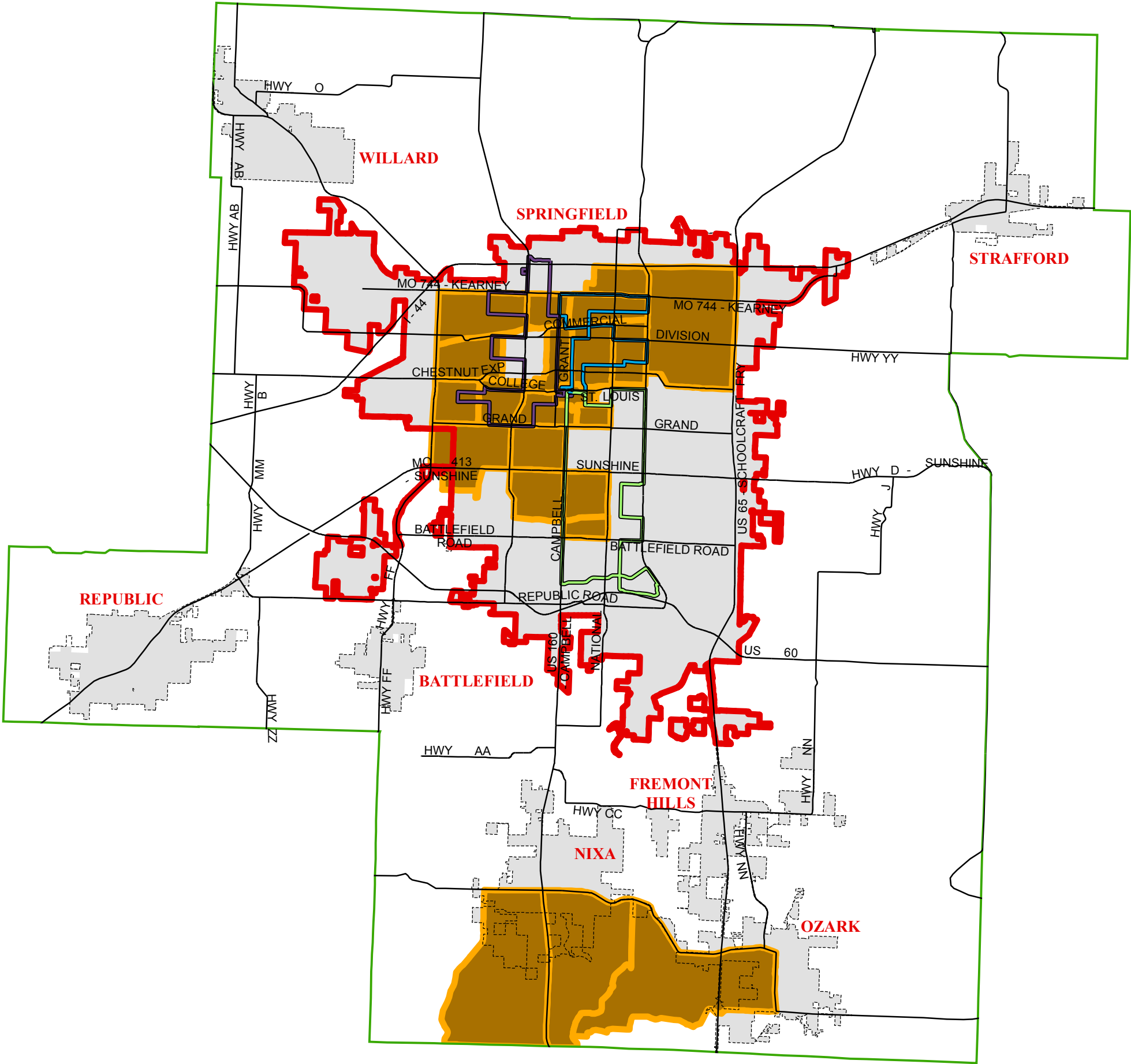
**Legend**

- CU Service Area
- OTO Study Area
- Low Income Census Tracts**
- 12.82 - 64.58



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Figure 15. Fixed Route Sunday Night Bus Lines and Low Income Census Tracts



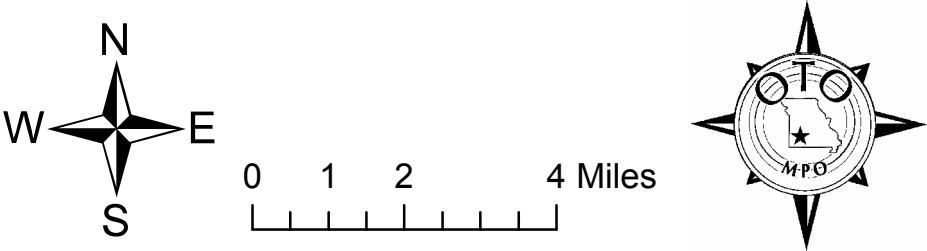
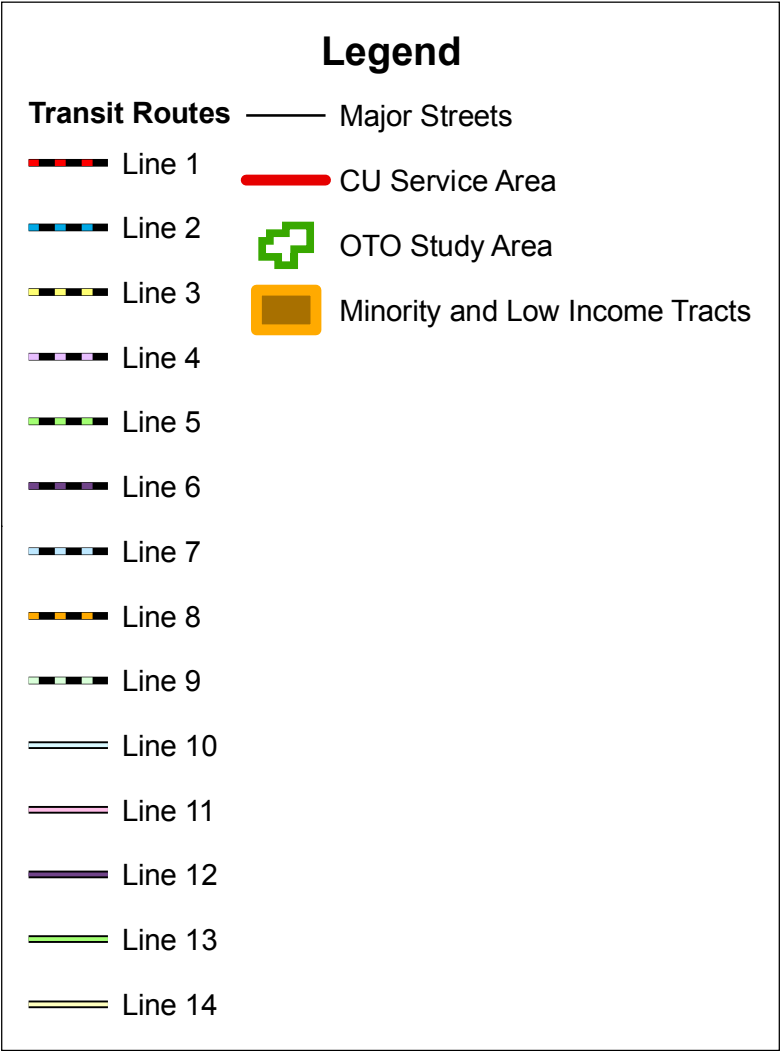
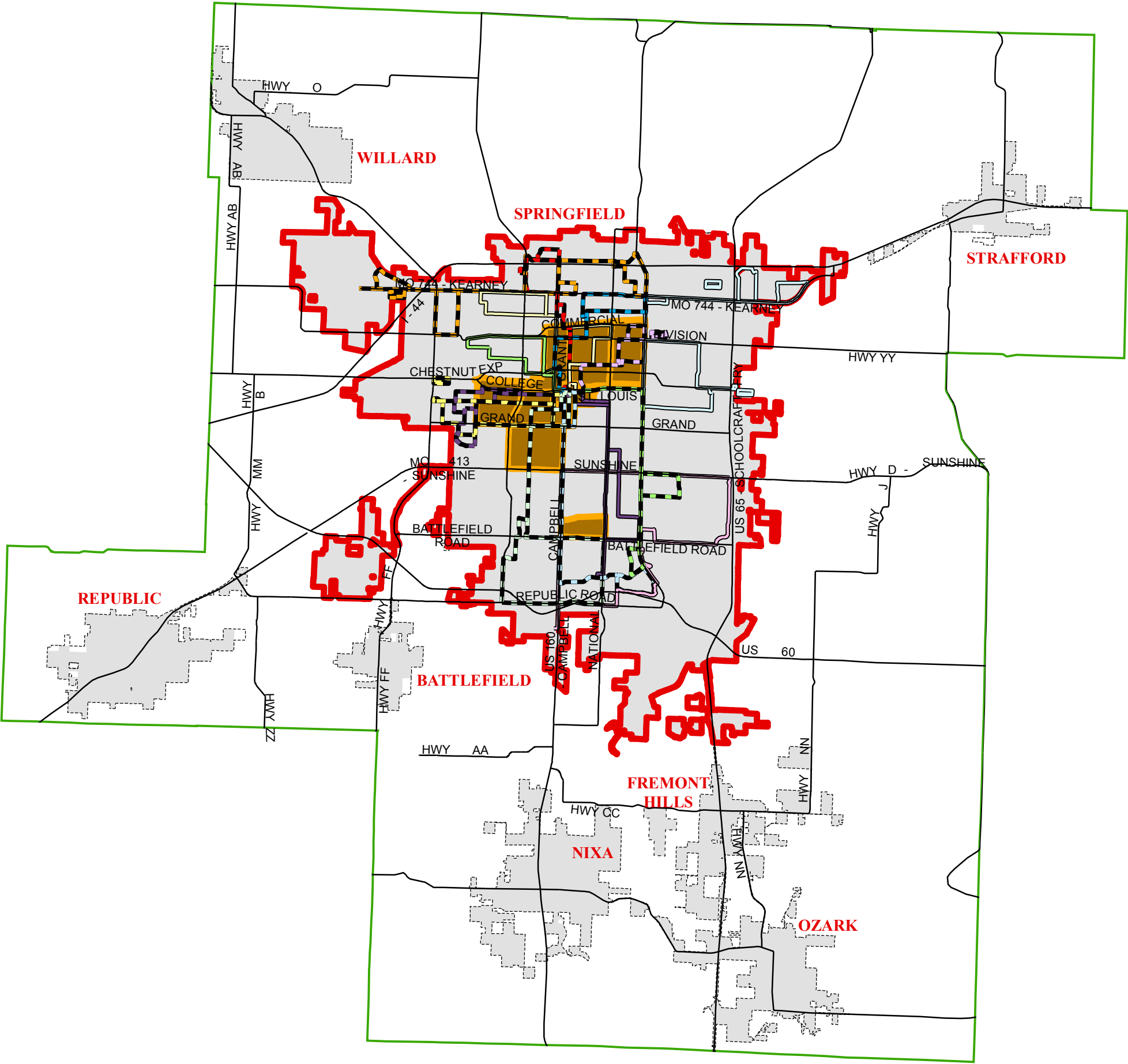
**Legend**

<b>Transit Routes</b>	— Major Streets
Line 22	CU Service Area
Line 25	OTO Study Area
Line 26	<b>Low Income Census Tracts</b>
	12.82 - 64.58



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Figure 16. Fixed Route Bus Lines - Minority and Low Income Census Tracts



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### Legend

**Transit Routes**

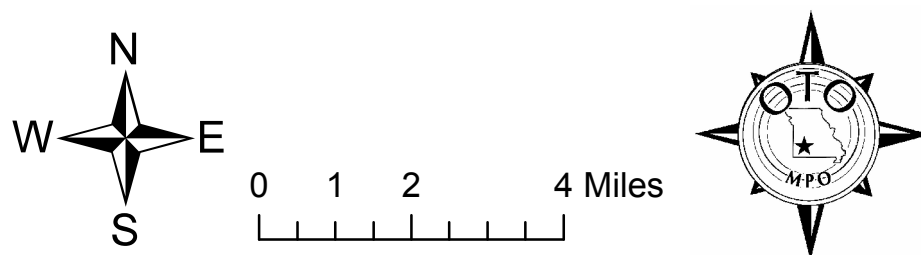
- Line 22
- Line 25
- Line 26

Major Streets

CU Service Area

OTO Study Area

Minority and Low Income Tracts



The Ozarks Transportation Organization is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Missouri Department of Transportation (MoDOT), or the Ozarks Transportation Organization. This map does not constitute a standard, specification, or regulation.



## 6 Inventory of Existing Services

### Introduction

This Chapter summarizes a fundamental task in the development of the TDP, which is the performance evaluation of CU Transit's existing transit services. This performance evaluation was conducted using two separate methods. First, a trend analysis was conducted, which involves an examination of the systems' performance from fiscal year 2001. The second method of analysis is the peer review, which compares performance with that of selected transit systems that share similar vehicle fleet sizes, service characteristics and operating environments.

### The Purpose of Performance Review

Because performance analysis is the only one method of evaluating performance and is limited to those aspects included in the analysis, one should exercise considerable caution in interpreting the results. These analyses are particularly strong in reviewing cost effectiveness and efficiency however, they do not report on the extent to which other objectives of the transit system are being fulfilled. For example, the performance evaluation will not directly measure several relevant considerations such as passenger satisfaction with regard to levels of service, taxpayer and public attitudes toward the agency, employee morale, success in attaining minority hiring or contracting goals, quality of planning, contributions to economic development, air quality improvements, or other goals that may be important to the agency. Also, several aspects of quality of service are not measured in performance reviews. These include vehicle cleanliness and comfort, operator courtesy, on-time performance, quality of marketing and passenger information support, and level of satisfaction with hours of operations, frequency of service, and geographic coverage of the service. These aspects of performance have been examined as part of the on-board survey analysis (**see Appendix**), as well as the interviews and other forms of public involvement.

In addition to understanding the limits of this analysis, one should use caution in interpreting the meaning of the various measures. The performance review does not necessarily provide information regarding which aspects of performance are within control of the agency and which measures are not. Performance reviews are a useful and important tool in monitoring and improving transit system performance. However, it should be recognized that the results of trend and peer analyses are only a starting point for fully understanding the performance of transit systems. The issues identified as a result of the analyses provide the basis for a series of questions that can lead to an enhanced understanding of the "hows" and "whys."



### **Performance Review Database**

To receive federal funds, transit properties are required to report a variety of data in a standardized format, resulting in what is known as a National Transit Database (NTD) report. These documents provide standardized measures of reporting that enable a more accurate comparison of information between properties. Since 1979, when this reporting requirement was instituted, additional refinements in data collection and reporting have increased the accuracy and comparability of the data. The data are for the fiscal year used by each transit system.

### **Data Reliability**

All NTD data submitted to the Federal Transit Administration (FTA) are subject to considerable review and validation through manual and automated methods. Each report is thoroughly examined to identify errors, questions, and inconsistencies. FTA identifies problems and requires each reporting agency to respond to these problems before the final report is accepted.

### **Data Definitions**

To fully understand the data presented in NTD reports, it is important to understand the definitions of the terms used by the FTA. In many instances, these definitions differ from initial perceptions and may be subject to interpretation. The data collection procedures further specify exactly what is being referred to by a given term. For example, “passenger trip” refers to an individual boarding a transit vehicle. A person riding a bus from the corner to the office takes one passenger trip to work and a second passenger trip to return home. Likewise a person transferring from one bus to another is considered to make two passenger trips to get to his or her destination. Despite these definitions and continued refinements in data collection procedures, there remain some discrepancies between systems as to how terms are defined and how information is collected. Accordingly, caution should be used in interpreting findings, especially for those variables that are more likely to be subject to variation in definitions. Discrepancies can result from differences in the organizational structure of the agency and the allocation of responsibilities among the various governmental entities within the service area. For example, street sweeping and garbage pickup at transit facilities may be provided at no cost by a given jurisdiction or may be a contract or in-house cost to the transit system. Legal services, computer services, engineering and design support, administrative support, and other costs are often shared costs that may or may not be accurately allocated between the transit system and a parent governmental body.

The national inflation rate, as defined by the percentage change in the Consumer Price Index (CPI) for all items (including commodities and services) from year to year, was used to adjust cost indicators for inflation so that they could be presented in real terms. In general, service and labor cost tend to increase at a faster rate than commodity pieces. Therefore, transit operating expenses, which are predominantly composed of service and



labor costs are expected to increase somewhat faster than inflation even if the amount of service provided is not increased.

### Performance Indicators and Measures

The evaluation measures that are used throughout the performance review are divided into three major categories: performance indicators, effectiveness measures, and efficiency measures. Performance indicators report absolute data in the selected categories that are required by NTD reporting. These tend to be key indicators of overall transit system performance. Effectiveness measures typically refine the data further and indicate the extent to which various service-related goals are being attained. For example, passenger trips per capita is an indicator of the effectiveness of the agency in meeting transportation needs. Efficiency measures involve reviewing the level of resources (labor or cost) required to achieve a given level of output. It is possible to have very efficient service that is not effective or to have highly effective service that is not efficient.

<b>Table 12: Performance Indicators and Measures</b>		
Performance Indicators	Effectiveness Measures	Efficiency Measures
Service Area Population Service Area Size (square miles)  Passenger Trips  Vehicle Miles Revenue Miles Vehicle Hours Revenue Hours  Total Operating Expense Passenger Fare Revenue  Vehicles Available for Max. Service Vehicles Operated in Max. Service	Service Supply Vehicle Miles Per Capita  Service Consumption Passenger Trips Per Capita Passenger Trips Per Revenue Mile Passenger Trips Per Revenue Hour  Safety and Reliability Revenue Miles Between Service Interruptions	Cost Efficiency Operating Expense Per Capita Operating Expense Per Pass. Trip Operating Expense Per Rev. Mile Operating Expense Per Rev. Hour  Operating Ratios Farebox Recovery Ratio  Vehicle Utilization Revenue Miles Per Vehicle Mile Revenue Miles Per Peak Vehicle  Fare Average Fare

### Trend Analysis

The Performance Indicators show an increase percentage in all areas of the tabled elements. The element data represents the years 2001-2004 and displays the highest percentage increased attributed to Operating Expense and equal to 19.69 percent change increase representing \$1,199,578. The Fare Revenue shows the lowest increase of 1.61 percent change representing \$8,065. The Passenger and vehicle data are in a range of





three to five percent of change increase except for vehicles available for maximum service. Vehicles Available for Maximum Service indicator show a 9.68 percent change increase. All elements of the performance indicators show a change increases for FYs 2001-2004.

### City Utilities Transit – Performance Indicators

Table 13: Performance Indicators							
Indicator	FY 2001	FY2002	FY2003	FY2004	%Change FYs 01-04	%Change FYs 02-04	%Change FYs 03-04
Passenger Trips	1,366,879	1,375,747	1,395,395	1,416,003	3.47%	2.84%	1.46%
Vehicle Miles	1,126,700	1,212,200	1,085,811	1,184,809	4.90%	-2.31%	8.36%
Revenue Miles	1,087,237	1,169,912	1,184,514	1,142,405	4.83%	-2.41%	-3.69%
Vehicle Hours	80,400	84,800	82,062	84,637	5.01%	-0.19%	3.04%
Revenue Hours	77,867	82,209	82,062	80,856	3.70%	-1.67%	-1.49%
Operating Expense	4,892,302	5,307,982	6,087,576	6,091,880	19.69%	12.87%	0.07%
Operating Expense 01 \$	4,892,302	5,223,054	5,850,161	5,689,816	14.02%	8.20%	-2.82%
Fare Revenue	493,046	494,683	506,074	501,111	1.61%	1.28%	-0.99%
Vehicles Available for Max Service	28	28	31	31	9.68%	9.68%	0.00%
Vehicles Operated in Max Service	22	24	24	23	4.35%	-4.35%	-4.35%

The following eight charts give visual representation of the performance indicators. Each chart shows annual data for 2001-2004 while creating a graphical overview for the specific performance indicator listed in the table. The charts for Revenue Miles, Revenue Hours and Fare Revenue show a decrease from 2003-2004. Vehicle Miles, Vehicle Hours both show an increase for 2003-2004 denoting an increase of bus operation.





## Transit Coordination Plan

Figure 18

### Passenger Trips

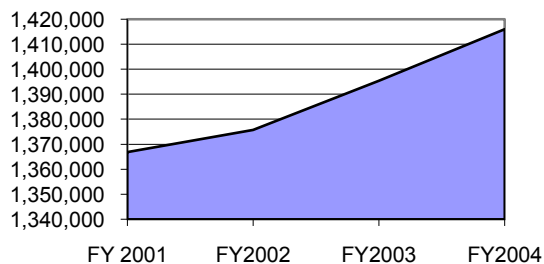


Figure 19

### Vehicle Miles

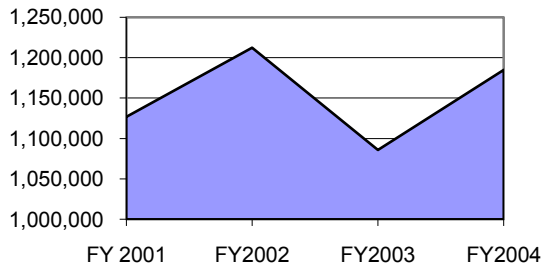


Figure 20

### Revenue Miles

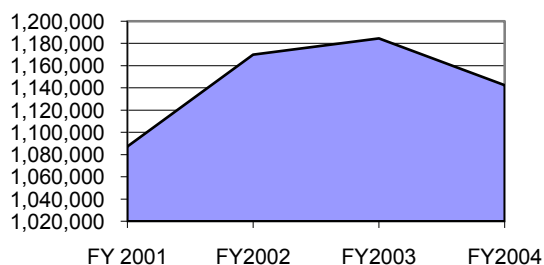


Figure 21

### Vehicle Hours

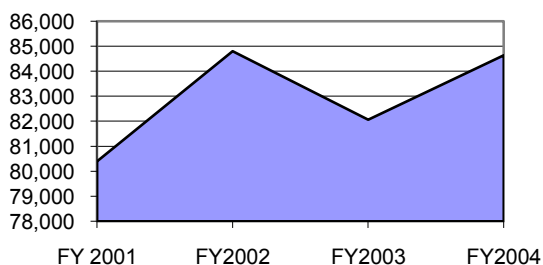


Figure 22

### Revenue Hours

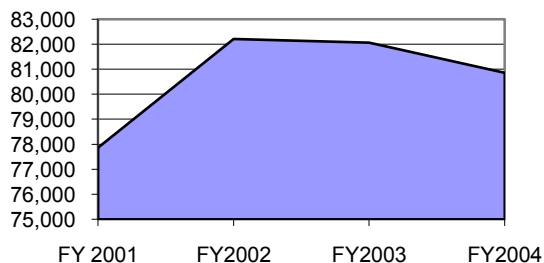


Figure 23 Total Operating Expense

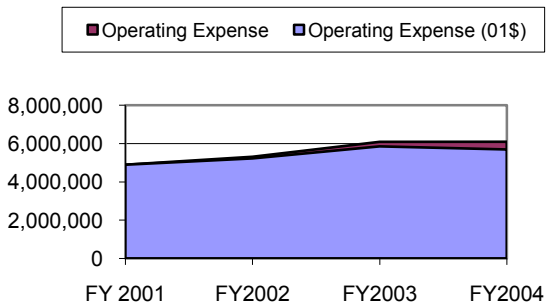


Figure 24

### Fare Revenue

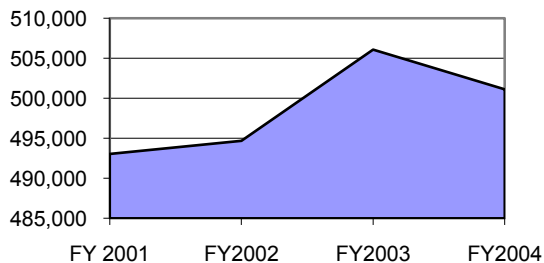
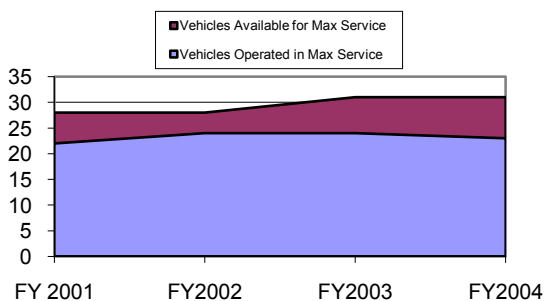


Figure 25

### Vehicles in Service



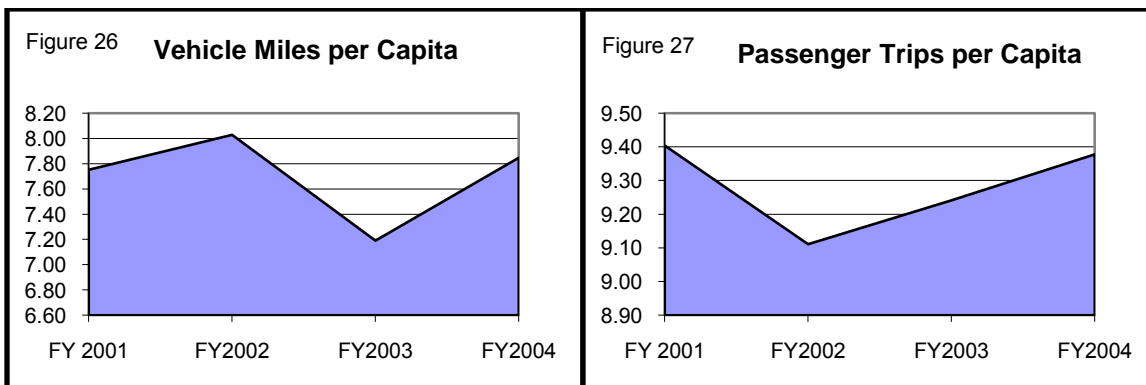


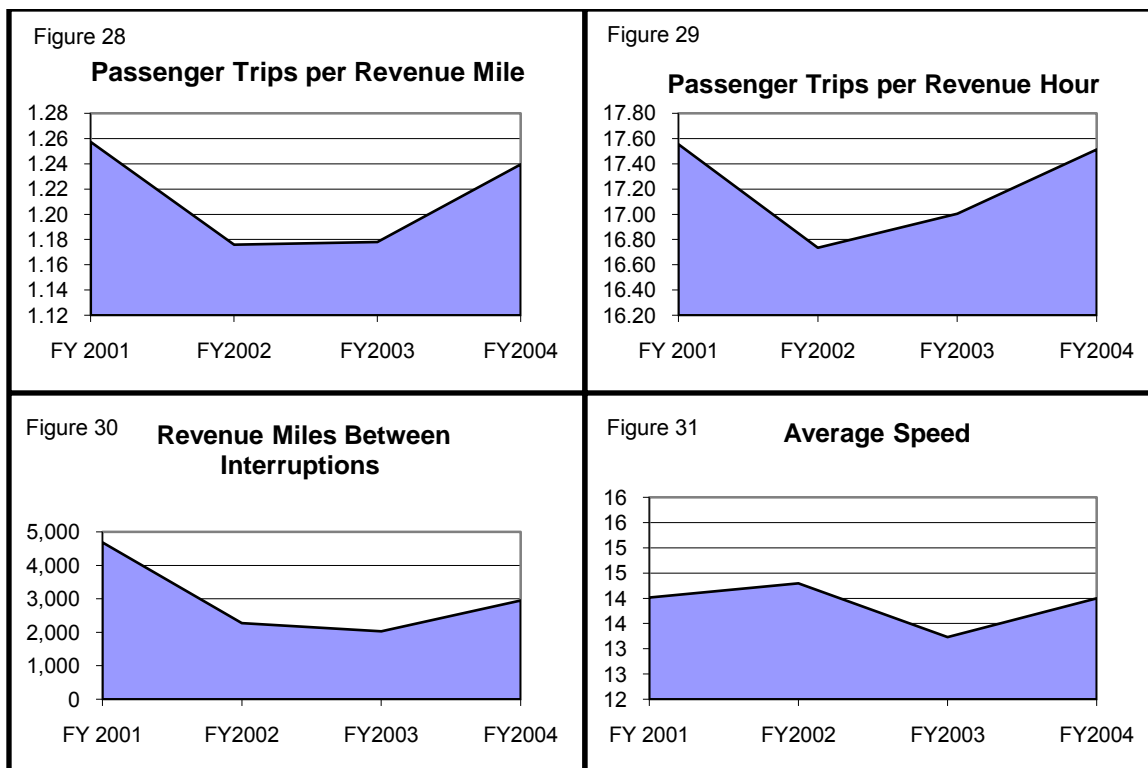
## City Utilities Transit – Effectiveness Measures

Effectiveness Measure allows a refined insight of indicators. The listed indicators in **Table 14** show the change increase for Vehicle Miles Per Capita at 1.12 percent and the greatest decrease is 58.75 percent for revenue miles between vehicle failures. All other indicators show a slight change decrease that are within 0.11 percent to 1.43 percent for 2001-2004.

Table 14: Effectiveness Measure							
Indicator	FY 2001	FY2002	FY2003	FY2004	% Change FYs 01-04	% Change FYs 02-04	% Change FYs 03-04
Vehicle Miles Per Capita	7.75	8.03	7.19	7.85	1.21%	-2.31%	8.36%
Passenger Trips Per Capita	9.40	9.11	9.24	9.38	-0.28%	2.84%	1.46%
Passenger Trips Per Revenue Miles	1.26	1.18	1.18	1.24	-1.43%	5.13%	4.96%
Passenger Trips Per Revenue Hours	17.55	16.73	17.00	17.51	-0.24%	4.44%	2.90%
Revenue Miles Between Vehicle Failures	4,686	2,276	2,032	2,952	-58.75%	22.90%	31.17%
Average Speed	14	14	13	14	-0.11%	-2.12%	5.48%

The following six charts give visual representation of the Effectiveness Measure Indicators. Each chart shows annual data while creating a graphical overview of specific Effectiveness Measure indicator for 2001-2004. Passenger Trip per Revenue Mile, Passenger Trip for Revenue Hour and Revenue Mile Between Interruptions have similarities in the graphical views. The 2001 data indicates a high point but then drops in 2002 with little increase or decrease in 2003 and finally shows an increase in 2004 for passenger activities. Passenger and Vehicle data shows a change increase from 2003-2004.





### City Utilities Transit – Efficiency Measures

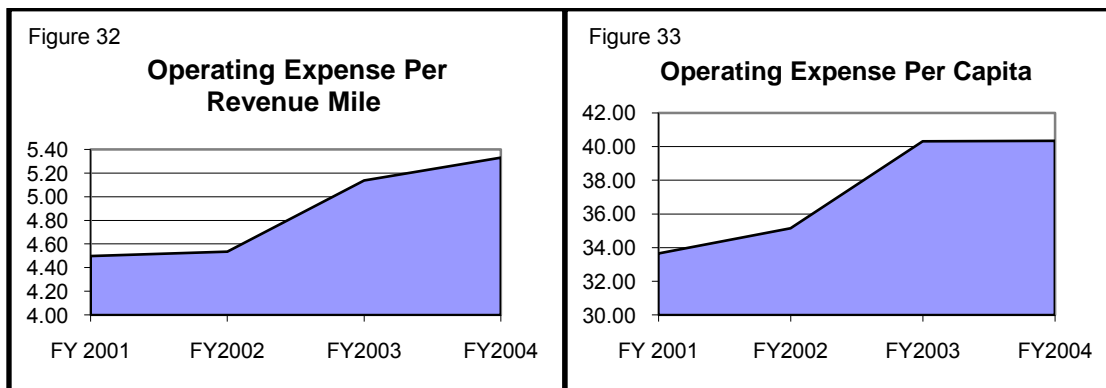
Efficiency measures are shown in the **Table 15**. The listed indicators for 2001-2004 show the greatest change increase for Operating Expense Per Capita, Operating Expense Per Revenue Mile and Operating Expense Per Revenue Hour. These indicators are within a range of 15 percent and 16 percent. Operating Expense Per Passenger Trip shows 8.71 percent change increase. All other indicators show a change decrease for the 2001-2004. Farebox Recovery Ratio has the greatest decrease of 22.52 percent change equal to a difference of 1.85 value for 2001-2004 data.

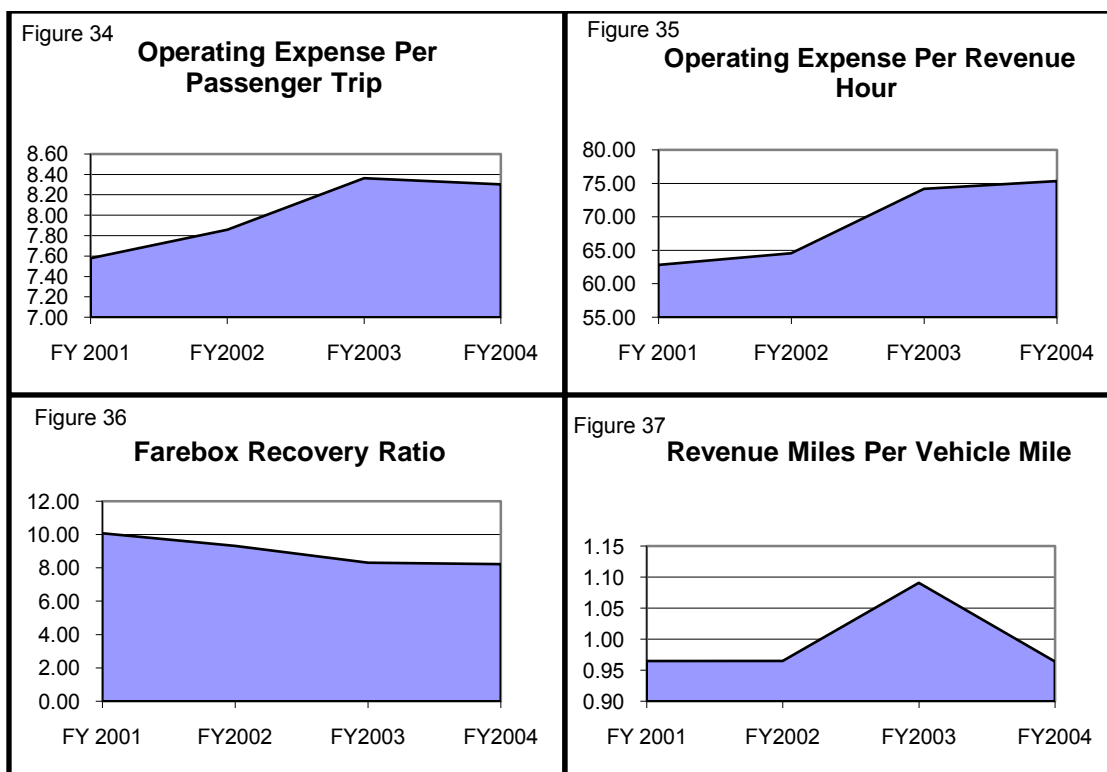


**Table 15: Efficiency Measures**

Indicator	FY2001	FY2002	FY2003	FY2004	%Change FYs 01-04	%Change FYs 02-04	%Change FYs 03-04
Operating Expense Per Capita	33.66	35.15	40.32	40.34	16.57%	12.87%	0.07%
Operating Expense Per Passenger Trip	7.58	7.86	8.36	8.30	8.71%	5.35%	-0.73%
Operating Expense Per Revenue Mile	4.50	4.54	5.14	5.33	15.62%	14.92%	3.62%
Operating Expense Per Revenue Hour	62.83	64.57	74.18	75.34	16.61%	14.30%	1.54%
Farebox Recovery Ratio	10.08	9.32	8.31	8.23	-22.52%	-13.30%	-1.06%
Revenue Miles Per Vehicle Mile	0.96	0.97	1.09	0.96	-0.08%	-0.09%	-13.14%
Revenue Miles Per Peak Vehicle	38,830	41,783	38,210	36,852	-5.37%	-13.38%	-3.69%
Average Fare	0.36	0.36	0.36	0.35	-1.93%	-1.61%	-2.48%

The following charts represent selected elements of the annual efficiency data 2001-2004. Significant increase of efficiencies occurred between 2002-2003 for all elements except Farebox Recovery Ratio. The efficiencies elements are semi-parallel for change increase displayed in Operating Expense Per Revenue Mile, Operating Expenses Per Capita, Operating Expense Per passenger Trip, and Operating Expense Per Revenue Hour. These charts show a slight increased value for each indicator except the Farebox Recovery Ratio and Revenue Miles Per Vehicle Mile.





### City Utilities Transit Peer Analysis - Performance Indicators

The data for this peer analysis includes the following comparable metropolitan areas. These areas are similar in population size and bus transit system coverage:

- Sioux Falls, South Dakota
- Topeka, Kansas
- Sioux City, Iowa
- Springfield, Missouri
- Gary, Indiana
- Fort Wayne, Indiana
- Clarksville, Tennessee

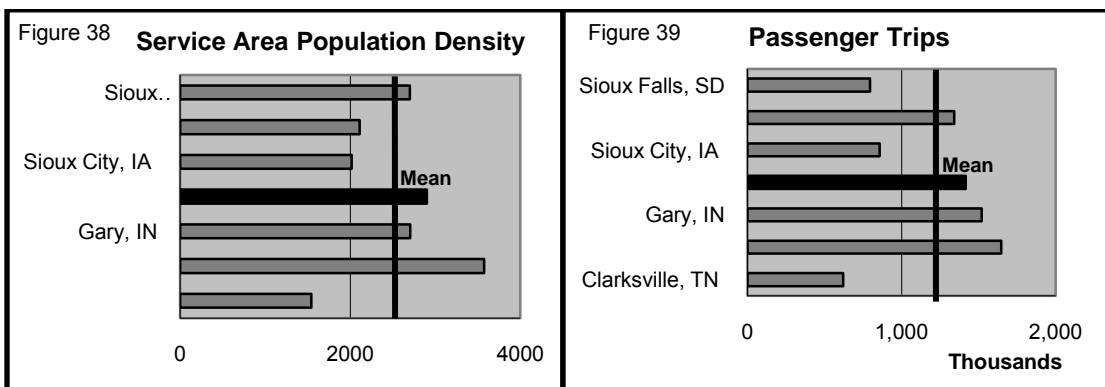
The listed indicators cover the value for CU Transit, and compare the minimum, maximum and mean value from the peer group. **Table 16** displays the data results for compeer analysis.



**Table 16: Peer Analysis - Performance**

Indicator	CU Transit	Peer Group Minimum	Peer Group Maximum	Peer Group Mean	CU % From Mean
Service Area Population Density	2904	1366	3576	2,507	15.81%
Passenger Trips	1,416,003	620,344	1,647,826	1,171,203	20.90%
Vehicle Miles	1,184,809	707,401	1,759,191	1,190,789	-0.50%
Revenue Miles	1,142,405	666,803	1,632,997	1,128,362	1.24%
Vehicle hours	84,637	54,591	129,146	85,592	-1.12%
Revenue Hours	80,856	52,697	123,639	81,910	-1.29%
Operating Expense	6,091,880	2,686,107	7,828,068	5,261,508	15.78%
Fare Revenue	501,111	339,350	998,388	634,706	-21.05%
Vehicles Available for Max. Service	31	22	74	42	-26.19%
Vehicles Operated in Max. Service	23	17	47	31	-25.46%

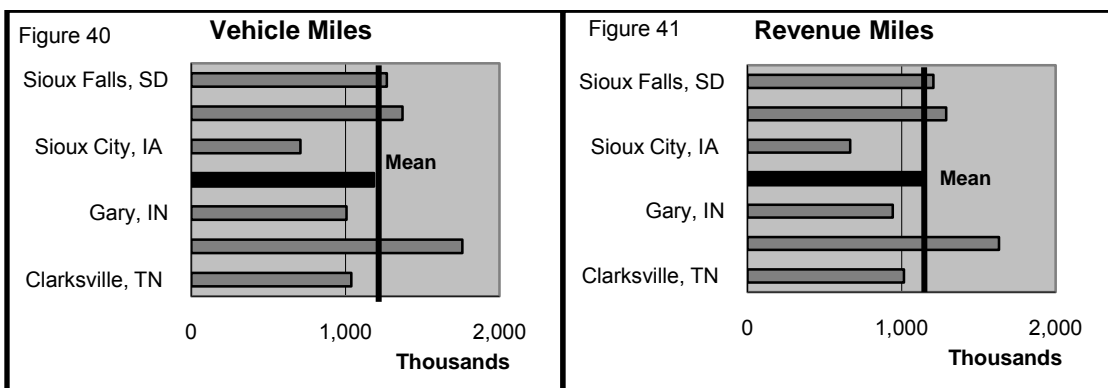
The chart showing Service Area Population Density for the compeers has an average mean of 2500. Service Area Population Density is calculates by square miles of service area divided by the service area population. The two peers closely related in population density are Gary density (2692) and Sioux Falls density (2702). Springfield has a density of (2904). The City of Springfield is well above the mean of the peer group having the second highest mean. The peer group passenger trip mean is 1,171,203 and 1,342,491 passenger trips for Topeka, while Gary had 1,519,967 passenger trips and the City of Springfield had 1,416,003 passenger trips, which is well above the peer mean.



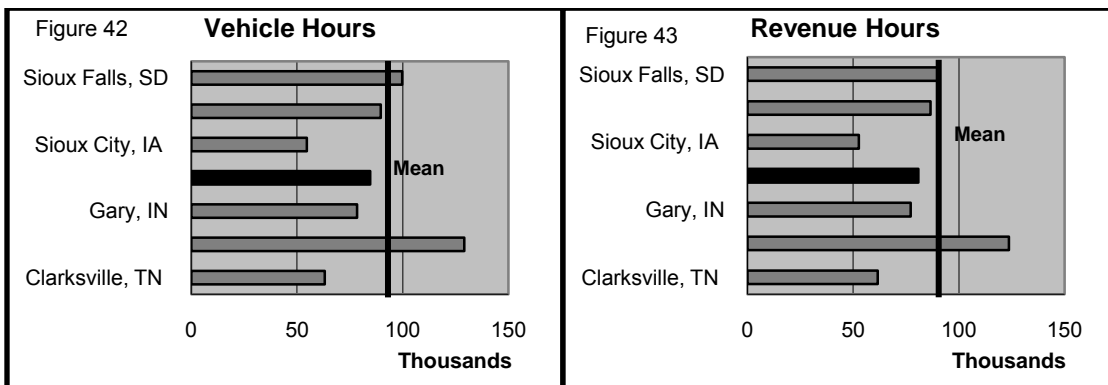
The mean for Vehicle Miles is 1,190,789. The City of Springfield has a value of 1,184,809 slightly under the mean value with a difference of 5,980 miles. Sioux Falls has a value of 1,267,989, which is above the mean value. Topeka has a value of 1,370,552 also above the mean value. The Revenue Miles is seemingly parallel with Vehicle Miles. The peer group mean for Revenue Miles is 1,128,362. Springfield has a



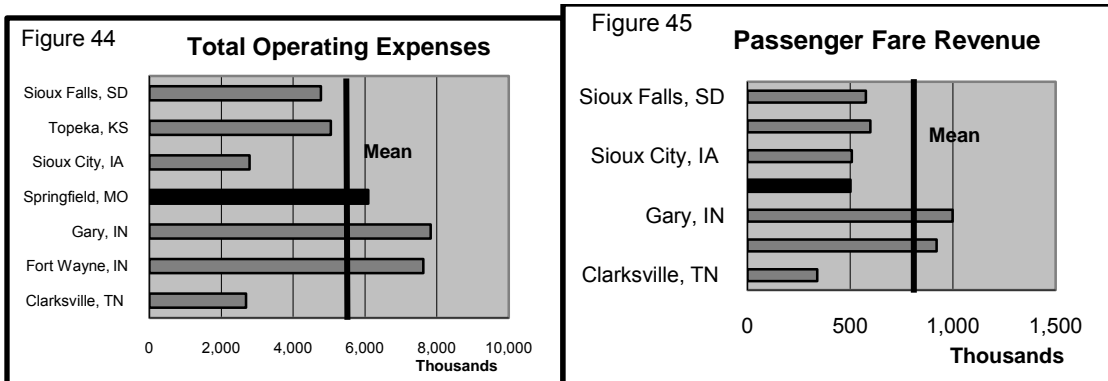
value of 1,142,405 a difference of 14,043. Sioux Falls has a value of 1,207,592 and Topeka has a value of 1,290,420.



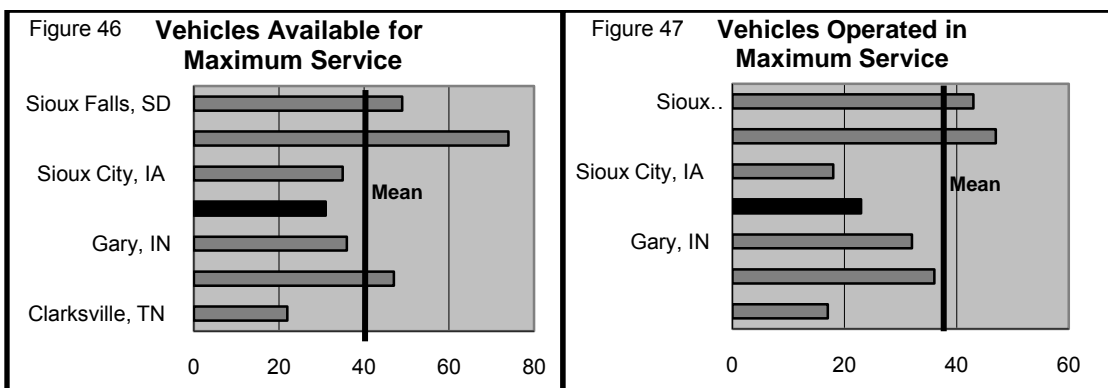
Vehicle Hours peer mean is 85,592 while the City of Springfield was slightly less with a value of 80,856 the difference of 4,736. Topeka has a value of 89,603 and Sioux Falls has a value of 99,703 Vehicles Hours and Revenue Hours are nearly parallel when graphed in the following two charts. Revenue Hours peer mean is 81,910 while the City of Springfield was slightly less with a value of 80,856 a difference of 1054. Topeka has a value of 89,603 while Sioux Falls has a value of 90,848.



The Total Operating Expenses of compeers has a mean of 5,261,508. The City of Springfield has a value of \$6,091,880, which is \$830,372 more than the mean cost of operation of the peer group. Topeka and Sioux Falls are shown just below the peer mean value. The passenger Fare has a mean of \$634,706. The City of Springfield is shown sixth concerning passenger fares with a value of \$ 501,111 a difference from the group mean of \$133,595. This is well below the peer group mean. Gary and Fort Wayne both show a higher value in Passenger Fare Revenue than the other listed compeers.



The Vehicles Available for Maximum Service shows the peer group mean value of 42. The City of Springfield has a value of 31 and is well below the mean. Sioux City which has a value of 35, and is just one less than Gary, which has a value 36. The Vehicles Operating in Maximum Service has a mean of 31. The City of Springfield is operating 23 vehicles while Sioux City is operating 18 vehicles and Gary is operating 32 vehicles at maximum service, which is slightly above the mean peer value.



### City Utilities Transit Peer Analysis - Effectiveness Indicators

The Effectiveness Indicators gives a more defined view of the transit system and its ability to function at higher levels of quality when utilized properly. **Table 17** indicators show the minimum, maximum and mean values for the peer group and indicator values for the City of Springfield.

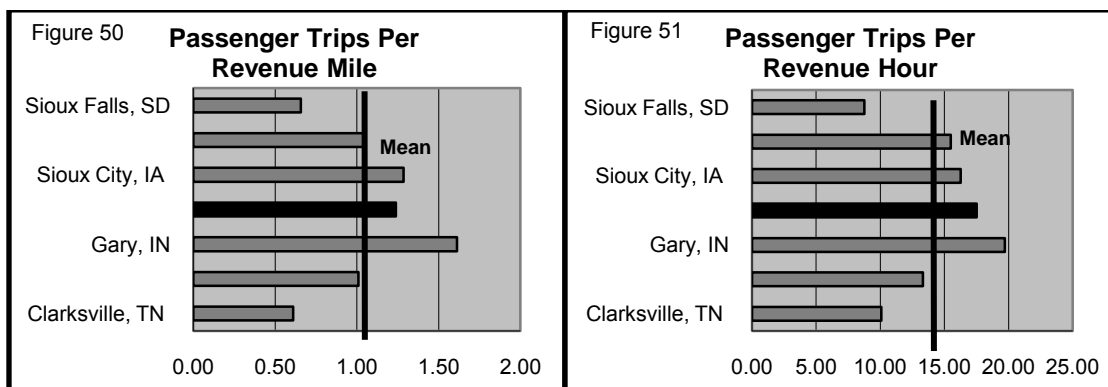
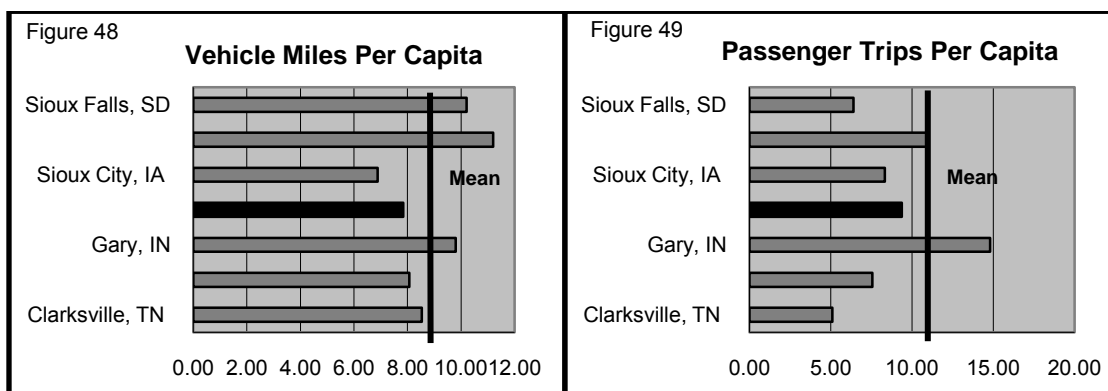




**Table 17: Peer Analysis Effectiveness**

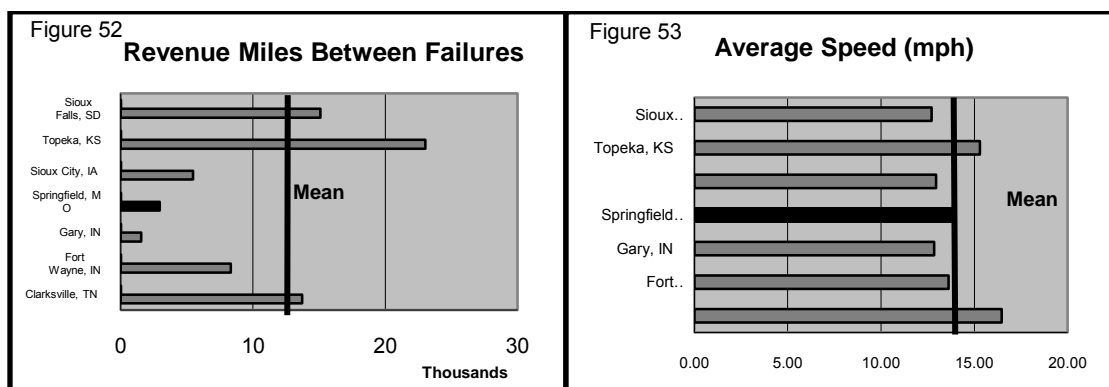
Indicators	CU Transit	Peer Group Minimum	Peer Group Maximum	Peer Group Mean	CU % From Mean
Vehicle Miles per Capita	7.85	6.88	9.80	8.93	-12.16%
Passenger Trips per Capita	9.38	5.09	14.79	8.93	4.99%
Passenger Trips per Revenue Mile	1.24	0.61	1.61	1.07	16.38%
Passenger Trips per Revenue Hour	17.51	8.75	19.70	14.45	21.20%
Revenue Miles Between Vehicle Failures	2952	1541	23043	10021.47	-70.54%
Average Speed	14.00	12.72	16.47	13.99	0.09%

The Vehicle Miles Per Capita has a peer group mean of 8.93 miles. The City of Springfield has a value of nearly 1 mile less at 7.85 miles per capita. Fort Wayne shows 8.06 miles per capita, and Clarksville 8.53 miles. The City of Springfield has a value above the peer group mean for Passenger Trips Per Capita, Passenger Trips Per Revenue Mile and Passenger Trips Per Revenue Hour.





Revenue Miles Between Failures has a mean value of 10,021.47. The City of Springfield has an extremely low value of 2952 and is a difference of 7,069.47 from the group mean. The Average Speed has a mean value of 13.99 while the City of Springfield mean value is for the average speed is 14 mph.



### City Utilities Transit Peer Analysis - Efficiency Indicators

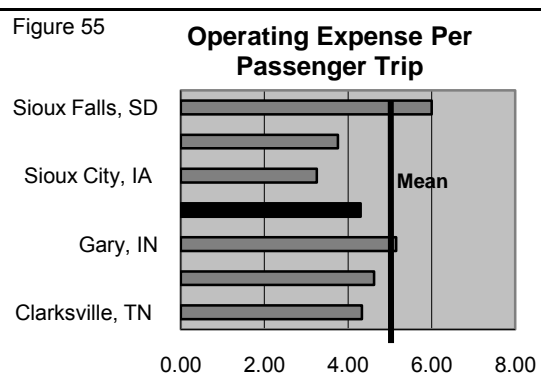
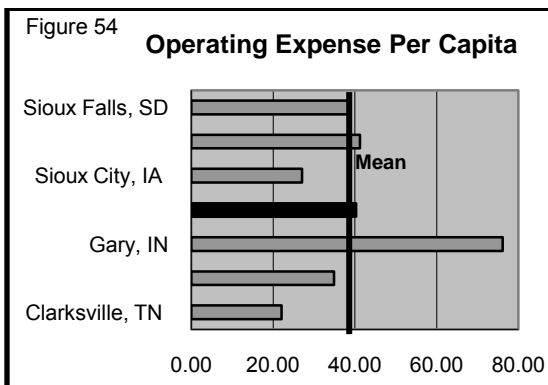
The Efficiency Indicator data represent the cost of the CU transit system and a peer comparison is an analysis of like systems. **Table 18** lists the indicators of comparison. Farebox Recovery Ratio is negative 34.45 percent and Average Fare is negative 36.87 percent both indicators have the greatest change difference from the peer group mean. Revenue Milers per Peak Vehicle has the greatest change increase of 25.79 percent followed by Operating Expense per Revenue Hour 18.32 percent and Operating Expense per Revenue Mile 13.10 percent.



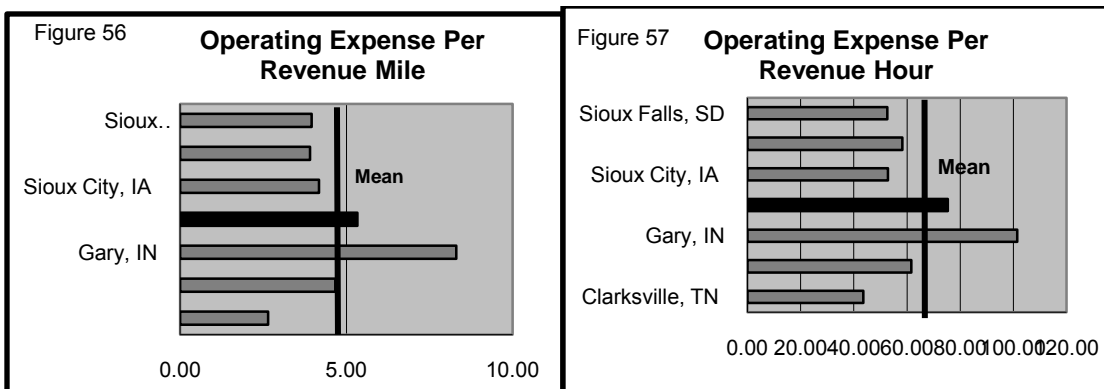
**Table 18: Peer Analysis Efficiency**

Indicators	CU Transit	Peer Group Minimum	Peer Group Maximum	Peer Group Mean	CU % From Mean
Operating Expense per Capita	40.34	22.06	76.19	40.04	0.75%
Operating Expense per Passenger Trip	4.30	3.23	6.00	4.49	-4.20%
Operating Expense per Revenue Mile	5.33	2.65	8.30	4.71	13.10%
Operating Expense per Revenue Hour	75.34	43.61	101.48	63.68	18.32%
Farebox Recovery Ratio	8.23	8.23	18.25	12.56	-34.45%
Revenue Miles per Vehicle Mile	0.96	0.94	0.98	0.95	1.16%
Revenue Miles per Peak Vehicle	36852	17438	46157	29297	25.79%
Average Fare	0.35	0.45	0.73	0.55	-36.87%

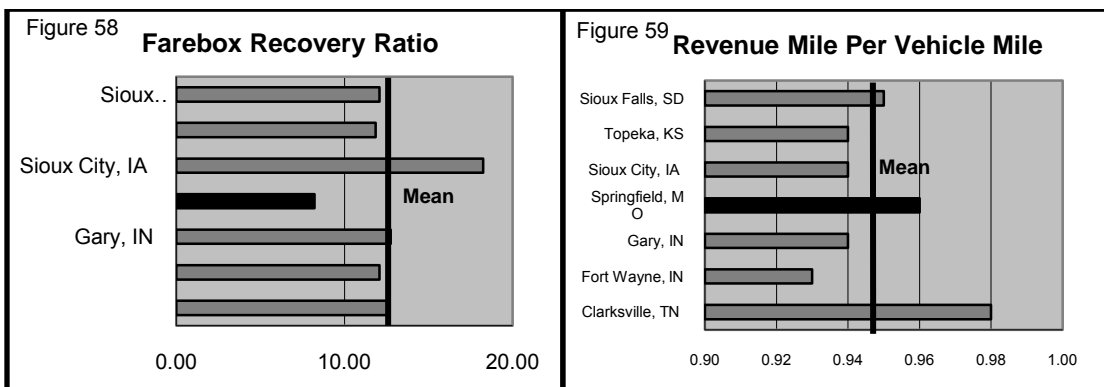
The Operating Expense Per Capita mean is 40.04 and the City of Springfield is 40.34, which is inline with the mean value. There are two metropolitan areas that have similar values, Topeka at 41.24 and Sioux Falls at 38.41. The Operating Expense Per Passenger Trip has a mean value of 4.49 whereas the City of Springfield has a value of 4.30, Fort Wayne is 4.62 and Clarksville is 4.33.



The peer operating Expense Per Revenue Mile has a mean value of 4.71 where the City of Springfield has a value of 5.33. Fort Wayne has a value of 4.67 and Sioux City has a value of 4.18. The Operating Expense per Revenue Hour shows a mean of 63.68 compared to the City of Springfield which is 75.34. Again Fort Wayne at 61.62 and Topeka at 58.28 are at similar levels of expense.



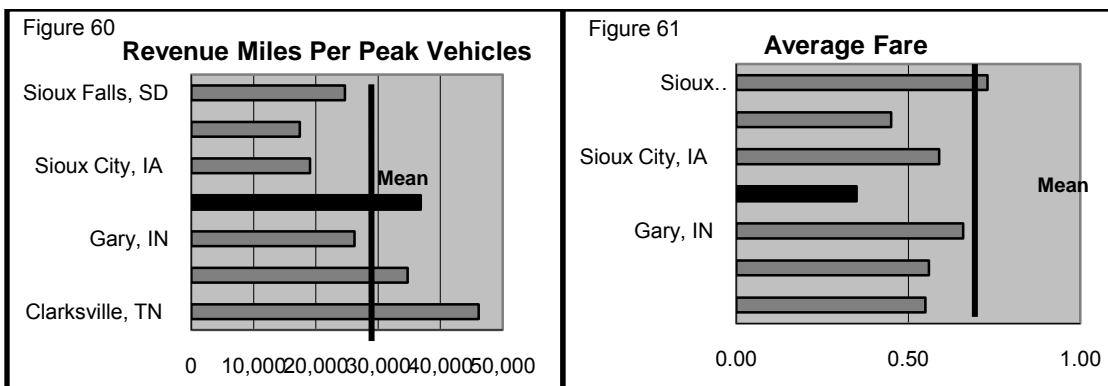
The City of Springfield has a value significantly less than the compeers mean for the Farebox Recovery Ratio. The compeers mean value is 12.56. The City of Springfield is 8.23. Sioux Fall 12.09, Gary 12.75 and Clarksville 12.63 which are close to the peer mean value. The Revenue Miles per Vehicle Mile are shown with a mean 63.68 and the City of Springfield has a value of 75.34.



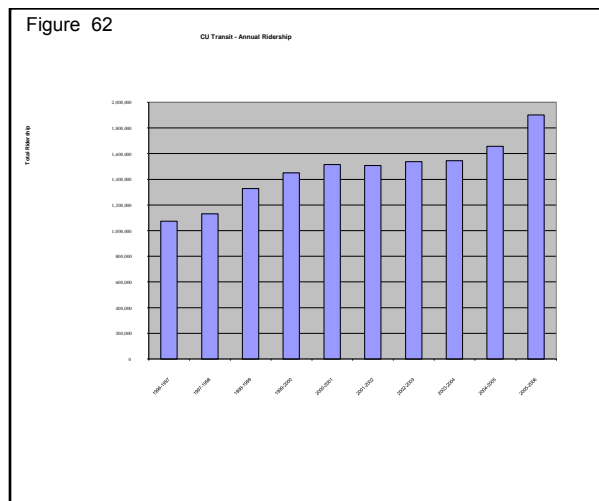
The Revenue Miles per Peak Vehicle has a peer mean of 29,297. The City of Springfield has a value of 36,582. Fort Wayne has a value of 34,745 and Gary 26,191. The peer group Average Fare has a mean of 0.55. The City of Springfield has an average fare of 0.35. Topeka has a value of 0.45 and is the only other metropolitan area having a fare value less than that peer mean.



## Transit Coordination Plan



The CU transit system has increased annually in ridership from 1,075,215 in 1996-1997 to 1,903,926 in 2005-2006. The current total for May 2006-2007 is at 1,350,556 and is 112,755 more riders than May 2005-2006. **Figure 62** shows a continual incline on an annual base.





## 7 Transit Development Plan Recommendations

The recommendations were developed through TDP committee meetings and City Utility meetings.

### To Be Completed within the Next Year

1. City Utilities Transit, in partnership with the Ozarks Transportation Organization, should prepare a strategic plan for the creation of a stand-alone regional transit authority. The issue of whether a stand-alone organization should be created must be approved by voter referendum. The earliest such a vote could take place would be in August 2008. The August 2008 referendum in Greene County is intended to solicit public approval for a variety of transportation projects and including the transit authority question on this referendum is the preferred timing of such a request, though the strategic plan should consider other dates as well. The strategic plan should include service expansion plans into outlying jurisdictions, modifications to routes in the existing service area, as well as a program for soliciting public support at the ballot box.
2. City Utilities Transit should begin a fare increase process in line with its fiscal year calendar. The target for farebox recovery ratio should be 20 percent and would necessitate that one-way fares be increased to \$1.00 in FY2008 and \$1.25 in FY2009 just to maintain existing service. Any service increase would likely require a one-way fare increase to \$1.50.
3. City Utilities Transit, with the Ozarks Transportation Organization, should review current service standards and develop a comprehensive set of service standards. Included in this review should be consideration of how trips are defined, how timeliness is reported, and how data collection techniques can be improved. In FY2008, the Federal Transit Administration will require that all transit agencies conduct a full year data collection effort to capture data specific to the National Transit Database. These efforts will facilitate this data collection as well.
4. Based on passenger input, riders are in need of additional service during evening hours and on weekends. City Utilities Transit, in association with its own Fixed Route Advisory Committee and the Ozarks Transportation Organization, should prioritize whether evening service or weekend service is the higher priority and make plans to increase service in the priority area selected. City Utilities Transit and the Ozarks Transportation Organization should then determine what fare increase would be necessary to maintain the targeted farebox recovery ratio.
5. City Utilities Transit should rework and simplify its fare structure as it currently offers regular fare, daily fare with unlimited rides, 7-day pass with unlimited rides, 30-ride passes, 60-ride passes, 31-day passes with unlimited rides and an



- annual pass with unlimited rides. The fare charged is dependent on whether the person is considered an adult, youth, elderly, disabled, is on a field trip, or a child under five. There is also a special semester pass for full-time college students.
6. City Utilities Transit should complete a comprehensive review of its bus stop locations and determine if stops could be consolidated, what stops could be relocated, and what stops could be removed. If grid system service is implemented, the existing bus turn-out stop locations could be augmented with a flag stop policy. Data collected during the FTA mandated collection effort in FY2008 could be expanded to include data for each bus stop.
  7. City Utilities Transit should aggressively pursue the continuation of its bus turn-out program with the City of Springfield. As part of this program, all existing and future turn-outs should have striped pavement markings and be appropriately signed.

### **To Be Completed within the Next Three Years**

1. City Utilities Transit and the Fixed-Route Advisory Committee should determine ways in which the second priority for service expansion (either night or weekend service) could be enhanced and develop a program for instituting this expansion. As the service is expanded, City Utilities Transit and the Ozarks Transportation Organization should then determine what fare increase would be necessary to maintain the targeted farebox recovery ratio.
2. City Utilities Transit should consider a change in the basic route structure it currently uses within the City of Springfield. Because of the effective grid roadway network completed within the City, the transit system should take advantage of such a network and implement a grid based system. This would also relieve some of the pressure on the transfer facility as transfers could occur at key intersection within the grid.
3. City Utilities Transit should approach Missouri State University, Drury University, Ozarks Technical College, Evangel University, Baptist Bible College, and Central Bible College to discuss including a surcharge in each student's student activity fee that would then be distributed to City Utilities Transit in exchange for unlimited free rides on the CU Transit network. Such a charge ranges from \$10.00 to \$25.00 per semester. According to national research, only about 20 percent of the student population become regular users of the system with another 25-30 percent using it occasionally. Because only 20-50 percent of the students would use the system, the remaining student activity fees collected would subsidize those students who do use the system.
4. In response to issues raised in the on-board survey, City Utilities Transit should invest in an automated voice annunciation system that would be used to announce



- all stop locations during a transit trip. This technology would remove the responsibility of announcing current and next stop information from the bus drivers and allow for recorded voice announcements that are clearly audible and configured to coincide with each stop.
5. The existing transfer facility has become outdated. City Utilities, in cooperation with the City of Springfield, should determine if the relocation of the transfer facility from McDaniel Street to Water Street is a joint development project or a stand-alone City Utilities project. The new transfer facility should include customer amenities such as climate-controlled waiting areas with benches, restroom facilities, and a fare media purchase office. The facility should also be designed so that future expansion and new transit technologies can be accommodated.

### **To Be Completed within the Next Five Years**

1. To assist in on-time performance and to provide customers with real-time travel information, City Utilities Transit should invest in Automated Vehicle Locator (AVL) Technology so that the exact location of busses is known at all times. This information could then be linked to variable message signs and/or monitors at the transfer facility so that customers were aware of their projected wait time. The technology would also be useful for CU dispatchers in tracking service levels and for planning purposes in run cutting and routing.
2. As the regional vanpool program being developed by the Ozarks Transportation Organization grows, City Utilities Transit should take over management and operations of the program. Under Federal law, vanpool mileage can be counted as part of a transit agency's National Transit Database operating statistics if the program is managed and operated by the transit agency. There are over 50 transit agencies nationwide that take advantage of this opportunity. The vanpool operation is financially self-sustaining (in fact it creates an operating surplus) and any additional funds that accrue as a result of the program can be used on fixed-route, paratransit or vanpool operations. Working with Transportation Demand Management experts at the Ozarks Transportation Organization, a plan for a vanpool program managed and operated by City Utilities is the first step in CU taking over the vanpool operations.
3. While the Springfield Metropolitan area does not have a sufficient population size or density to support any type of fixed-rail service, City Utilities Transit should explore opportunities for Bus Rapid Transit (BRT) to and from the Central Business District. Bus Rapid Transit can be as minimal as specially designed buses operating with limited stops along existing corridors with signal preemption technology to the development of a network of transit only roadways that connect outlying communities to the center city. The current Ozarks Transportation





Organization Long-Range Transportation Plan and Congestion Management System program specify BRT as one option that must be considered prior to roadway expansion.

4. There are numerous new technologies that may have applications for City Utilities Transit as it grows over the next five years. These technologies include but are not limited to:
  - ◆ Automated bus stop fare collection devices
  - ◆ Signal preemption devices
  - ◆ Swipe card technology
  - ◆ Specialized fare media

City Utilities Transit staff should continue to monitor advances in transit technology and determine if investment in such technologies is warranted.



# **Appendix A**

## **Bus Operators Survey**



Bus Survey Questions-Operators

1. What are the five most commonly heard complaints from bus patrons?

a. ....

b. ....

c. ....

d. ....

e. ....

2. Do you feel the complaints heard from bus patrons are valid? If so, Why?

3. Please rank the importance of improving the following on a scale of 1 to 10, with 10 being the highest level of importance and 1 the lowest level of importance.

Complaint	Rank Score
Lower the Fare/Raise the Fare	
Better Route/Schedule Information	
Increase the Number of Shelters	
Increase the Frequency of Service	
Increase Bus Maintenance	
New/Larger Vehicles	
Provide more Bus Routes	
Increase Night/Evening Service	
Increase Holiday/Sunday Service	
Improve Schedule Coordination between Routes	



- Thank you for your cooperation.*



# Appendix B

## On-Board Survey

# CITY UTILITIES (CU) TRANSIT ON-BOARD SURVEY

(la version en Espanol al dorso)

Your participation in this survey is totally **voluntary**, and your responses will not identify you **personally**. Thank you for helping CU Transit improve services for you! PLEASE RETURN THE COMPLETED SURVEY TO THE BUS DRIVER OR SURVEYOR. **If you have any additional comments or questions, please call (417) 864-1453**

## Please Tell Us About your Trip Today

1. Where did you **come from** before you got on this bus?

- 1 \_\_\_ Home      4 \_\_\_ School (K-12)      7 \_\_\_ Shopping/Errands  
2 \_\_\_ Work      5 \_\_\_ College/Technical School      8 \_\_\_ Other \_\_\_\_\_  
3 \_\_\_ Medical      6 \_\_\_ Visiting/Recreation

2. How did you get to the bus stop for this particular bus trip? (**Please √ only ONE**)

- 1 \_\_\_ Walked      5 \_\_\_ Transfer from CU Transit bus route name \_\_\_\_\_  
2 \_\_\_ Drove      6 \_\_\_ Was dropped off  
3 \_\_\_ Taxi      7 \_\_\_ Other \_\_\_\_\_  
4 \_\_\_ Bicycle

3. Using the street location of your bus stop, a shopping center or other landmark, could you give the location of where you started your trip (your origin) and where your trip will end (your destination)?

\_\_\_\_\_ (Location where my trip began)      \_\_\_\_\_ (Location where my trip will end)

4. How will you get to your final destination at the end of this particular trip? (**Please √ only ONE**)

- 1 \_\_\_ Walk      5 \_\_\_ Transfer from CU Transit bus route name \_\_\_\_\_  
2 \_\_\_ Drove      6 \_\_\_ Will be picked up  
3 \_\_\_ Taxi      7 \_\_\_ Other \_\_\_\_\_  
4 \_\_\_ Bicycle

5. What fare did you pay to get on this particular bus?

- 1 \_\_\_ Full Fare (\$0.75)      4 \_\_\_ All-Day Pass Reduced (\$0.70)      7 \_\_\_ Youth Fare (\$0.50)  
2 \_\_\_ Reduced Fare (\$0.35)      5 \_\_\_ Monthly Pass (\$33.00)      8 \_\_\_ Youth Fare Daily (\$1.00)  
3 \_\_\_ All-Day Pass (\$1.50)      6 \_\_\_ Monthly Pass Reduced (\$16.50)      9 \_\_\_ Youth Monthly (\$22.00)

6. Where are you **going on THIS** trip? (**Please √ only your FINAL destination**)

- 1 \_\_\_ Home      4 \_\_\_ School (K-12)      7 \_\_\_ Shopping/Errands  
2 \_\_\_ Work      5 \_\_\_ College/Technical School      8 \_\_\_ Other \_\_\_\_\_  
3 \_\_\_ Medical      6 \_\_\_ Visiting/Recreation

## Please Tell Us About Your Experience with CU Transit

7. How often do you use CU Transit? (**Please √ only ONE**)

- 1 \_\_\_ Everyday      3 \_\_\_ 2 or 3 days per week      5 \_\_\_ Once per month or less  
2 \_\_\_ 4 or 5 days per week      4 \_\_\_ 1 day per week      6 \_\_\_ Once every \_\_\_ weeks

8. What is the most important reason why you use CU Transit? (**Please √ only ONE**)

- 1 \_\_\_ Don't drive/have no valid license      5 \_\_\_ Traffic is too bad  
2 \_\_\_ Car is not available      6 \_\_\_ CU Transit is more convenient  
3 \_\_\_ Bus is more economical      7 \_\_\_ Free/convenient park-and-ride lots  
4 \_\_\_ Parking is too difficult/expensive      8 \_\_\_ Other \_\_\_\_\_

9. In general, how would you rate each of the following aspects of current CU Transit services?

Please circle the number that best reflects your opinion		Very Good	Good	Fair	Poor	Very Poor
a.	Your overall satisfaction with CU Transit	5	4	3	2	1
b.	Ability to get where you want to go	5	4	3	2	1
c.	Dependability of CU Transit Buses (on time)	5	4	3	2	1
d.	Availability of bus route information/maps	5	4	3	2	1
e.	Availability of seats on the bus	5	4	3	2	1
f.	Safety on the bus	5	4	3	2	1
g.	Safety at the CU Transit bus stops	5	4	3	2	1
h.	Courtesy of bus drivers	5	4	3	2	1
i.	Frequency of <u>current</u> CU Transit service (how often buses run)	5	4	3	2	1
j.	How early/late <u>current</u> buses run on Monday-Friday	5	4	3	2	1
k.	How early/late <u>current</u> buses run on Saturdays	5	4	3	2	1

10. What three service characteristics, from question # 9 above, would be most useful to you if CU Transit were to improve them:

1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_

11. How important do you feel it is for CU Transit to improve the following aspects of its service?

Please circle the number that best reflects your opinion	Very Important	Somewhat Important	Neutral	Somewhat Unimportant	Very Unimportant
Frequency of service (how often buses run)	5	4	3	2	1
Time of day buses run on Monday-Friday	5	4	3	2	1
Time of day buses run on Saturdays	5	4	3	2	1
Addition/Expansion of Sunday services	5	4	3	2	1

## Please Tell Us About Yourself

12. Your age is:

- 1 \_\_\_ 18 years or under      3 \_\_\_ 25 to 34      5 \_\_\_ 45 to 54      7 \_\_\_ 65 or over  
2 \_\_\_ 19 to 24      4 \_\_\_ 35 to 44      6 \_\_\_ 55 to 64

13. What is your race? (**Please √ only ONE**)

- 1 \_\_\_ White Non-Hispanic      3 \_\_\_ Hispanic      5 \_\_\_ Native American  
2 \_\_\_ Black Non-Hispanic      4 \_\_\_ Asian      6 \_\_\_ Other

14. What is the range of your total household income for 2005?

- 1 \_\_\_ Less than \$15,000      2 \_\_\_ \$15,000 to \$24,999  
3 \_\_\_ \$25,000 to \$49,999      4 \_\_\_ \$50,000 or more

Additional Comments and Suggestions about CU Transit service:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

THANK YOU FOR COMPLETING THIS SURVEY

# CITY UTILITIES (CU) TRÁNSITO CUESTIONARIO

(English version on reverse side)

Su participación en el cuestionario es totalmente **Voluntaria** y sus respuestas **no** lo identificarán personalmente. Gracias por ayudar a CU Tránsito mejorar nuestros servicios! POR FAVOR ENTREGUE EL ESTUDIO COMPLETADO AL CONDUCTOR O AL INVESTIGADOR. **Si tiene comentarios o preguntas adicionales, por favor llame a (417) 864-1453.**

## Por Favor Dime De Su Viaje Hoy

- ¿De donde viene antes de montarte en el autobús para este viaje?  
 1 \_\_\_ Casa      4 \_\_\_ Escuela (K-12)      7 \_\_\_ Compras / Diligencias  
 2 \_\_\_ Trabajo      5 \_\_\_ Colegio / Escuela Técnica      8 \_\_\_ Otro \_\_\_\_\_  
 3 \_\_\_ Médico      6 \_\_\_ Visita / Recreación
- ¿Cómo llegó a la parada de autobús para este viaje? **(Margue solo UNA respuesta)**  
 1 \_\_\_ Caminado      5 \_\_\_ Una transferencia de ruta CU Transita \_\_\_\_\_  
 2 \_\_\_ Conduciendo      6 \_\_\_ Me llevaron a la parada  
 3 \_\_\_ Taxi      7 \_\_\_ Otro \_\_\_\_\_  
 4 \_\_\_ Por Bicicleta
- ¿Utilizando la ubicación de la calle de su parada de autobús, un centro comercial, u otra marca de identificación de la localización, podría dar usted la ubicación de donde usted empezó su viaje (su origen) y donde su viaje terminará (su destino)?  
 \_\_\_\_\_  
 (la ubicación donde mi viaje empezó)      (la ubicación donde mi viaje terminará)

- ¿Cómo va a llegar a su ultimo destinación? **(Margue √ solo UNA respuesta)**  
 1 \_\_\_ Casa      4 \_\_\_ Escuela (K-12)      7 \_\_\_ Compras / Diligencias  
 2 \_\_\_ Trabajo      5 \_\_\_ Colegio / Escuela Técnica      8 \_\_\_ Otro \_\_\_\_\_  
 3 \_\_\_ Médico      6 \_\_\_ Visita / Recreación

- ¿Cuánto pagó por este viaje?  
 1 \_\_\_ Precio normal (\$.75)      4 \_\_\_ Pase Diario reducido (\$1.50)      7 \_\_\_ Precio Juvenil (\$1.00)  
 2 \_\_\_ Precio reducido (\$0.35)      5 \_\_\_ Pase Mensual (\$30.00)      8 \_\_\_ Pase Diario Juvenil (\$1.00)  
 3 \_\_\_ Pase Diario (\$1.506)      6 \_\_\_ Pase Mensual reducido (\$16.50)      9 \_\_\_ Pase Mensual Juvenil (\$22.00)

- ¿A donde va en ESTE viaje? **(Margue √ solo UNA respuesta)**  
 1 \_\_\_ Casa      4 \_\_\_ Escuela (K-12)      7 \_\_\_ Compras / Diligencias  
 2 \_\_\_ Trabajo      5 \_\_\_ Colegio / Escuela Técnica      8 \_\_\_ Otro \_\_\_\_\_  
 3 \_\_\_ Médico      6 \_\_\_ Visita / Recreación

## Por Favor Dime De Su Experiencia Con CU Tránsito

- ¿Cuantas veces usa usted el sistema de CU Transita? **(Margue √ solo UNA respuesta)**  
 1 \_\_\_ Todos los días      3 \_\_\_ 2 o 3 días por la semana      5 \_\_\_ Una vez cada mes o menos  
 2 \_\_\_ 4 o 5 días por la semana      4 \_\_\_ 1 día por la semana      6 \_\_\_ Una vez cada \_\_\_ semanas
- ¿Cuál es la razón más importante por usar esta ruta de autobús? **(Margue √ solo UNA respuesta)**  
 1 \_\_\_ No condujo / no tengo licencia de conducir      5 \_\_\_ Hay demasiado tráfico  
 2 \_\_\_ Automóvil no es disponible      6 \_\_\_ Autobús es más conveniente  
 3 \_\_\_ Autobús es más económico      7 \_\_\_ Gratis y conveniente "Park-and-ride"  
 4 \_\_\_ Aparcamiento demasiado difícil / costoso      8 \_\_\_ Otro \_\_\_\_\_

- ¿En general, cómo usted evaluaría los siguientes aspectos del servicio de autobús CU Tránsito?

Por favor circula el numero que mejor representa su opinión	Muy Bien	Bueno	Neutral	Malo	Muy Malo
a. Su satisfacción en general con el autobús	5	4	3	2	1
b. Facilidad de ir donde desea	5	4	3	2	1
c. Fiabilidad de los autobuses (a tiempo)	5	4	3	2	1
d. Colocación de información de las rutas de autobús/ cartas	5	4	3	2	1
e. Asientos disponibles en el autobús	5	4	3	2	1
f. Seguridad en autobús	5	4	3	2	1
g. Seguridad en paradas de autobús CU Transito	5	4	3	2	1
h. La cortesía de los conductores	5	4	3	2	1
i. Frecuencia <u>corriente</u> de servicio de autobuses (Cuan a menudo corren los autobús)	5	4	3	2	1
j. Las horas de operación <u>corriente</u> mas temprano o tarde de los autobuses (Días de semana)	5	4	3	2	1
k. Las horas de operación <u>corriente</u> mas temprano o tarde de los autobuses (Sábado)	5	4	3	2	1

- ¿Cuales tres características de servicio mencionada en pregunta nueve (9) sería más importante para usted si CU Tránsito los mejora?

1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_

- ¿Es importante que CU Transita mejore las siguientes características?

Por favor circula el numero que mejor representa su opinión	Muy Importante	Poco Importante	Neutral	Poco Importancia	Muy Importancia
Frecuencia de servicio de autobús (Cuan a menudo corren los autobús)	5	4	3	2	1
Tiempo del día de los autobuses (Días de semana)	5	4	3	2	1
Tiempo del día de los autobuses (Sábado)	5	4	3	2	1
Operación de los autobuses el Domingo	5	4	3	2	1

## Por Favor Dime De Usted

- Su edad es:  
 1 \_\_\_ 18 años o menos      3 \_\_\_ 25 a 34      5 \_\_\_ 45 a 54      7 \_\_\_ 65 o mas  
 2 \_\_\_ 19 a 24      4 \_\_\_ 35 a 44      6 \_\_\_ 55 a 64
- ¿Cuál es su raza? **(Margue √ solo UNA respuesta)**  
 1 \_\_\_ Caucásico Non-Hispánico      3 \_\_\_ Hispánico      5 \_\_\_ Indio Norte Americano  
 2 \_\_\_ Americano Africano No-Hispánico      4 \_\_\_ Asiático      6 \_\_\_ Otro \_\_\_\_\_
- ¿Cuál fue el intervalo de ingreso total de su casa por el año 2005?  
 1 \_\_\_ Menos de \$15,000      2 \_\_\_ \$15,000 a \$24,999  
 3 \_\_\_ \$25,000 a \$49,999      4 \_\_\_ \$50,000 a mas

## Comentarios y sujeciones para el sistema de autobús CU Tránsito:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

GRACIAS POR TERMINAR EL ESTUDIO