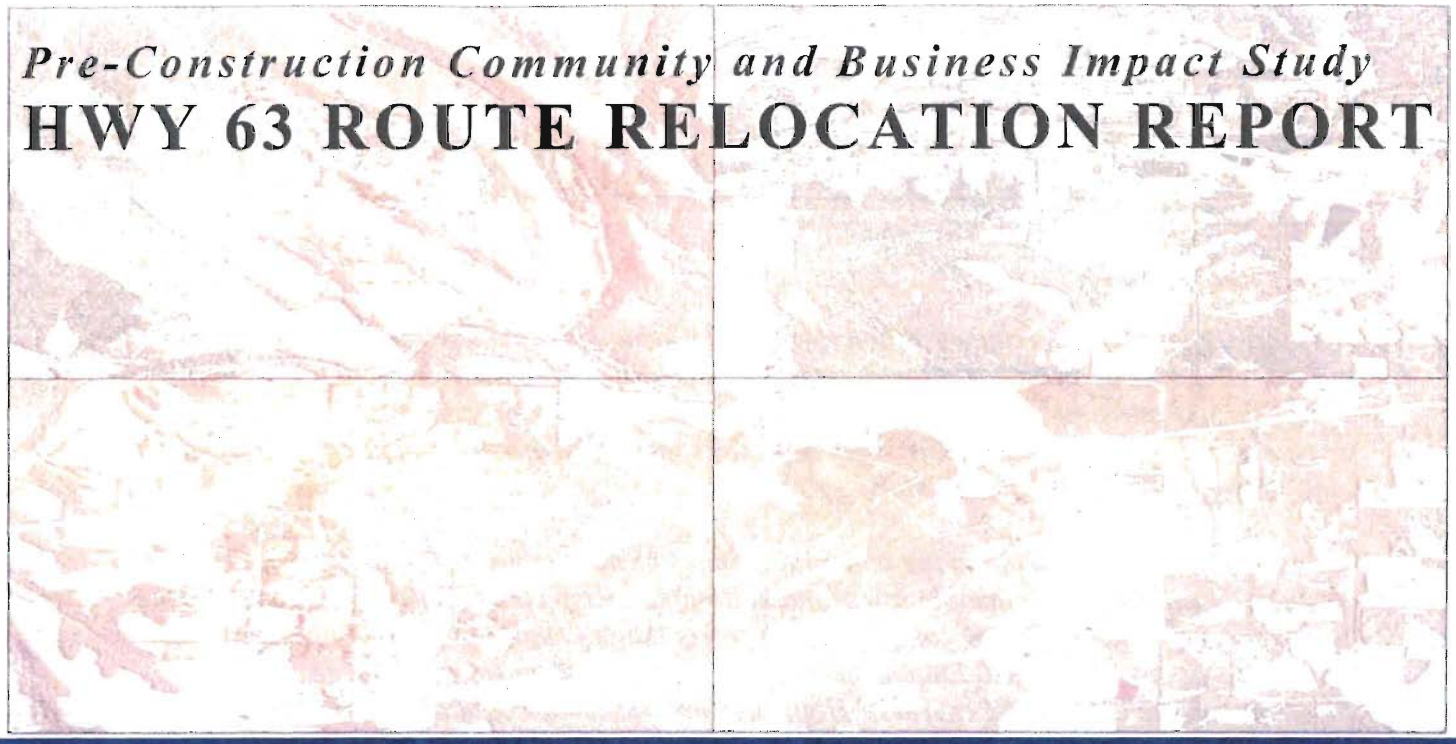
APPENDIX D

COMMUNITY IMPACT STUDY

Pre-Construction Community and Business Impact Study

HWY 63 ROUTE RELOCATION REPORT



September 2007

Organizational Results Division
Missouri Department of Transportation

Missouri Economic Research and Information Center
Missouri Department of Economic Development

Pre-Construction Community and Business Impact Study

HWY 63 ROUTE RELOCATION REPORT

Executive Summary

Missouri Department of Transportation (MoDOT) is conducting an environmental and location study of US Route 63 in Osage, Maries and Phelps counties to evaluate current and potential future transportation needs along a 47-mile stretch of US 63 from ½ mile south of the 50/63 junction to just north of Rolla. The study objectives include improving safety, traffic flow and continuity of the north\south corridor.

An improved road system offers the potential to improve the business climate conditions of these communities. Population, taxable sales, and household income are increasing at a steady rate; however, taxable sales are low compared with surrounding counties, most of which have four lane road systems. The Local Employment Dynamics (LED) data reveals a large number of commuters in the US Hwy 63 corridor. Highway improvements would benefit these commuters greatly by shortening their drive times.

A license plate study of patrons visiting local businesses revealed a high concentration of local customers. Most of them are likely residents who commute to Jefferson City, Rolla, Belle, or Freeburg. In contrast, though, Vienna attracted a wider range of customer base than the other communities probably due to being a half-way point between Rolla and Jefferson City and a pit stop for St. Louis traffic traveling to the Lake of Ozarks on the weekends. The majority of customers visited retail or gas stations in the four communities. Analysis revealed that every business studied in each community had over 60% of its customer base located within 30 miles.

The Department of Economic Development has conducted similar studies in the past. The I-64 Pre-construction Analysis used LED and Quarterly Census and Employment Wage data and patterns to analyze commuting and businesses from 1999 to 2005. The study concluded the benefits of the improvements would outweigh the costs of the construction by almost double. The US Hwy 67 Post-construction Analysis reviewed the bypass of Poplar Bluff. Economic growth was slow in the first five years following construction, but by the sixth year, signs of business growth and real estate offerings began to take place near the new route.

Related studies identify contributing factors to economic growth that can also be found in each of these communities. An improved highway would lead to improved traffic flow, meaning higher traffic volume and more efficient commuting. This increase in travelers through the area has great potential for enhancing the local economic infrastructure, attracting new businesses to the area, and increasing the residential population. Higher traffic volume means a larger customer base. New businesses will be interested in the area due to improved travel times and conditions for their transportation vehicles.

Project Overview

The Missouri Economic Research and Information Center (MERIC) was asked to provide an economic analysis of changes to US Hwy 63 affecting the communities of Westphalia, Freeburg, Vienna, and Vichy. Through public meetings conducted by the Missouri Department of Transportation, many have expressed concerns about the safety of the highways through these communities, and have welcomed the prospect of a four lane highway as part of the solution.1 This report is provided to assist in the decision making process as to the type of changes needed along US Hwy 63.

A current Business Climate is provided using data from Local Employment Dynamics, Quarterly Census of Employment and Wages, Census 2000, and Taxable Sales data. In addition to this data, community-identifying factors will be included to round out the current conditions. It is important to review the profiles of these communities as they stand right now, prior to being affected by any changes to US Hwy 63.

Local businesses are an important aspect of this project. Through the use of Geographic Information Systems, and a collaborative effort between the Department of Economic Development, the Department of Transportation and the Department of Revenue, the customer location base of potentially effected businesses were determined and analyzed.

As part of the project analysis, relevant economic studies of other highway projects may provide valuable lessons learned. A short summary and review of previous studies is included.

To conclude the report, both economic opportunities and possible concerns will be discussed. In addition, a community assessment and relocation strategy will be presented.

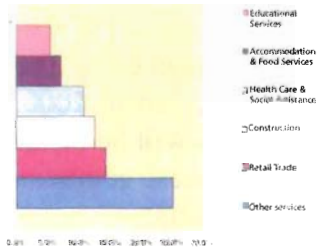
Westphalia Business Climate

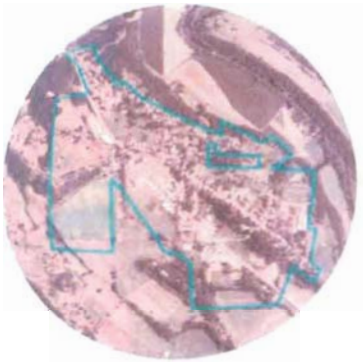
Local Demographics

Summary	2000	2007
Population	320	334
Median Household Income	$43,157	$50,361
Trends: 2007-2012 Annual Rate	**Area**	**National**
Population	0.76%	1.22%
Median Household Income	2.31%	3.29%

- Westphalia was founded in 1838 and is located approximately 14 miles east and south of Jefferson City.
- 77 percent of Westphalia residents commute to jobs outside of Westphalia.
- Over 80 percent of the observed customers for Westphalia's businesses noted in the study came from within 30 miles.
- 58.7 percent of Osage County residents leave their resident county to work in another county.

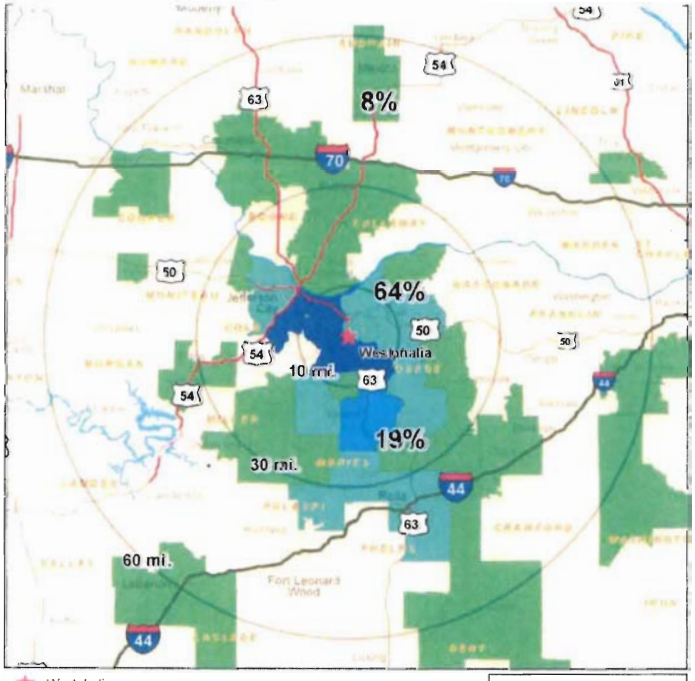
Westphalia Firms





Where do Westphalia's Customers Reside?

Westphalia Customers

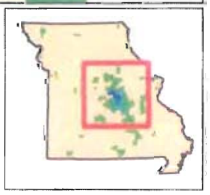


★ Westphalia

License Plates by Zip Code

Total Number

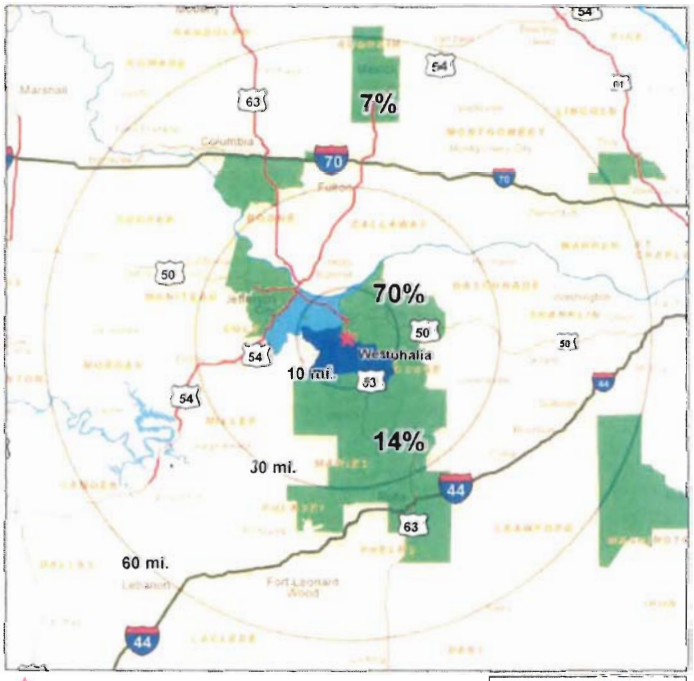
40 - 118
20 - 39
5 - 19
1 - 4



83 percent of customers reside within 30 miles of Westphalia.

452 license plate samples collected; 15 customers were foot traffic, had plates that were out-of-state, or had plates that did not return a residential zip code.

Westphalia Retail



★ Westphalia

Westphalia Retail

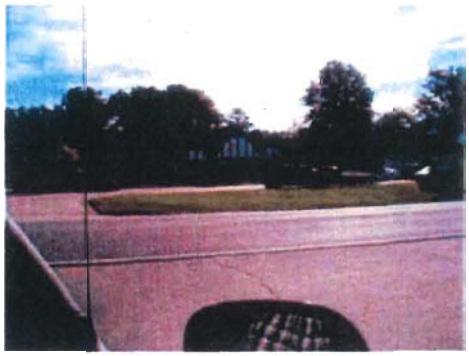
Customers by Zipcode

11 - 48
5 - 10
1 - 4

84 percent of Westphalia retail customers reside within 30 miles of Westphalia, while only 7 percent reside within 30 to 60 miles.

146 license plate samples collected; 9 customers were foot traffic, had plates that were out-of-state, or had plates that did not return a residential zip code.

License plate survey conducted July 20-Aug 15, 2007. Surveying took place on weekdays, weekends, and at various times of day.



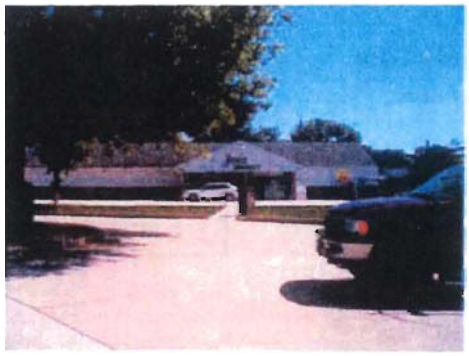
Those Who Live and Those Who Work in Westphalia

Jobs by Worker Age	Live Count	Share	Work Count	Share
Age 30 or younger	135	26.9%	122	35.2%
Age 31 to 54	291	58.1%	170	49.0%
Age 55 or older	75	15.0%	55	15.9%
	501	1	347	1

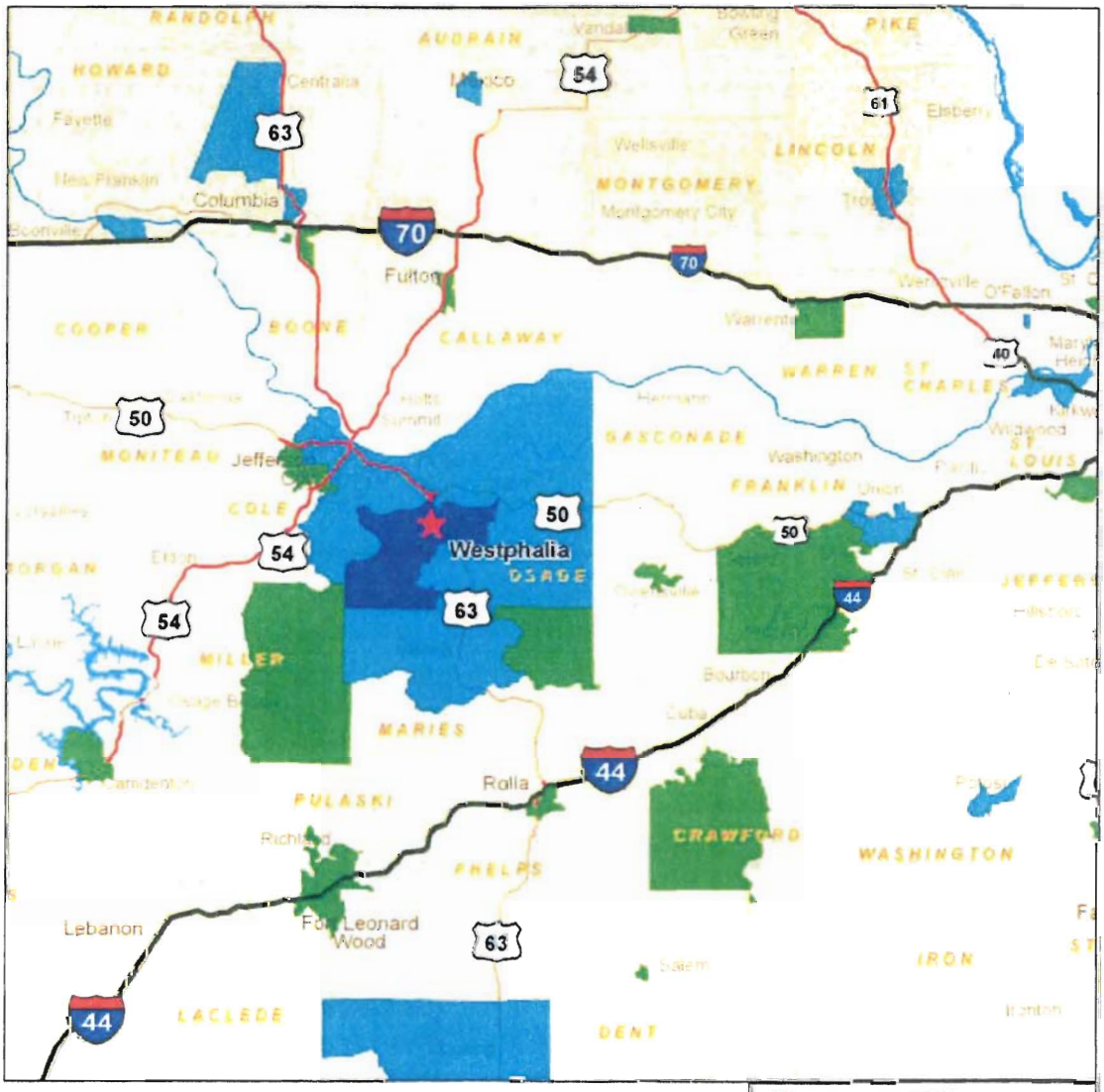
Jobs by Earnings Paid	Live Count	Share	Work Count	Share
$1,200 per month or less	128	25.5%	147	42.4%
$1,201 to $3,400 per month	270	53.9%	128	36.9%
More then $3,400 per month	103	20.6%	72	20.7%
	501	1	347	1

Where do Westphalia Residents Work?	
Manufacturing	19.0%
Public administration	17.8%
Construction	12.2%
Retail Trade	10.6%
Educational Services	10.0%
Health Care and Social Assistance	8.6%

What Industry Employment is in Westphalia?	
Educational Services	36.0%
Health Care and Social Assistance	23.9%
Manufacturing	19.6%
Construction	8.6%
Retail Trade	5.2%
Management	1.7%



US Hwy 63 Commuting Patterns - Westphalia



Legend

★ Westphalia

Local Employment Dynamics Data

Number of Westphalia Commuters

- 1
- 2 - 49
- 50 or more

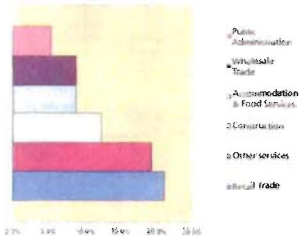
Freeburg Business Climate

Local Demographics

Summary	2000	2007
Population	423	452
Median Household Income	$37,192	$43,775
Trends: 2007-2012 Annual Rate	**Area**	**National**
Population	0.89%	1.22%
Median Household Income	2.34%	3.29%

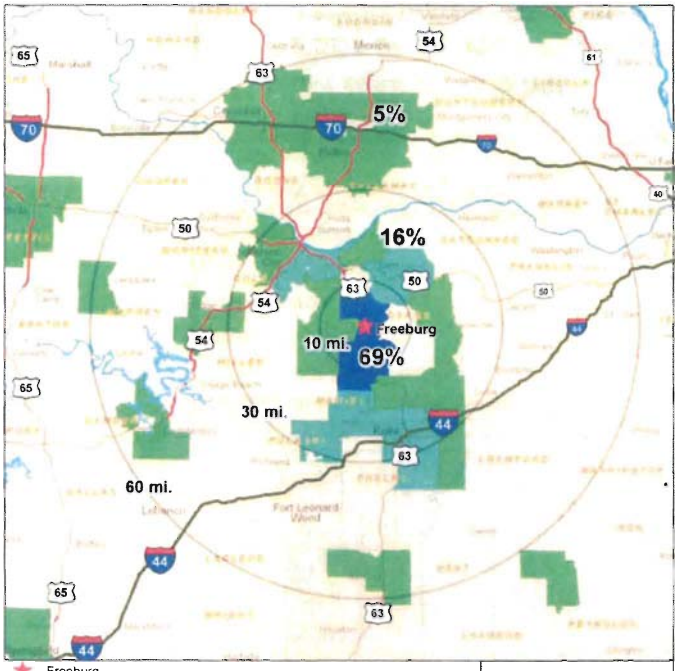
- Freeburg was founded in 1855 and is located on U.S. Route 63 approximately 20 miles southeast of Jefferson City.
- 82 percent of those who live in Freeburg commute to jobs outside of Freeburg.
- Osage County has 1,219 farms containing 314,788 acres of farmland.
- 58.7 percent of Osage County residents leave their resident county to work in another county.

Freeburg Firms



Where do Freeburg's Customers Reside?

Freeburg Customers



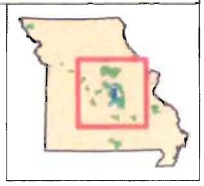
★ Freeburg

License Plates by Zip Code

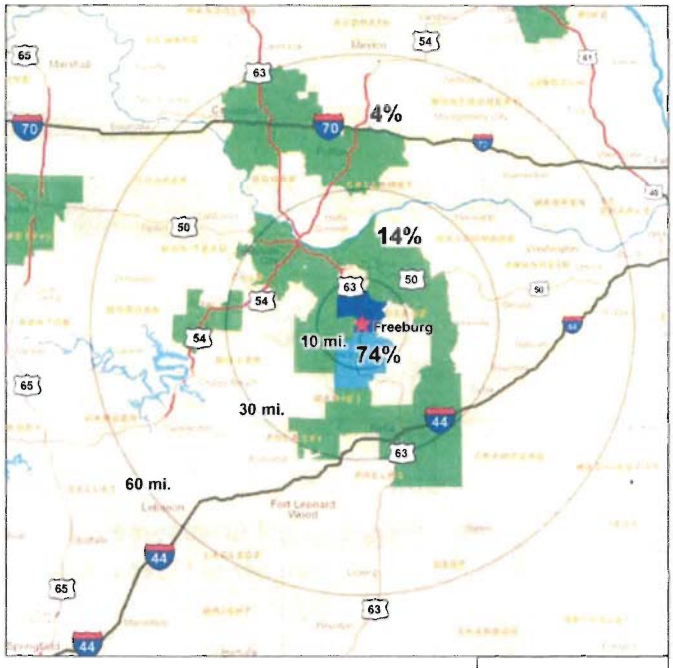
Total Number
- 1 - 4
- 5 - 19
- 20 - 39
- 40 or more

85 percent of customers reside within 30 miles of Freeburg.

295 license plate samples collected; 14 customers were foot traffic, had plates that were out-of-state, or had plates that did not return a residential zip code.



Freeburg Retail



★ Freeburg

Freeburg Retail

Customers by Zipcode
- 42 - 104
- 8 - 41
- 1 - 7

88 percent of retail customers reside within 30 miles of Freeburg, with only 4 percent residing within 30 to 60 miles.

215 license plate samples collected; 13 customers were foot traffic, had plates that were out-of-state, or had plates that did not return a residential zip code.

License plate survey conducted July 20-Aug 15, 2007. Surveying took place on weekdays, weekends, and at various times of day.

US Hwy 63 Commuting Patterns - Freeburg

Legend

★ Freeburg **Local Employment Dynamics Data**

Number of Freeburg Commuters

- 1
- 2 - 49
- 50 or more

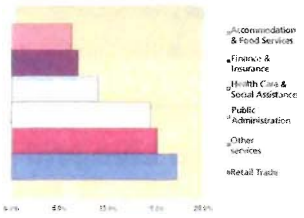
Vienna Business Climate

Local Demographics

Summary	2000	2007
Population	628	650
Median Household Income	$31,768	$36,918
Trends: 2007-2012 Annual Rate	**Area**	**National**
Population	0.41%	1.22%
Median Household Income	2.30%	3.29%

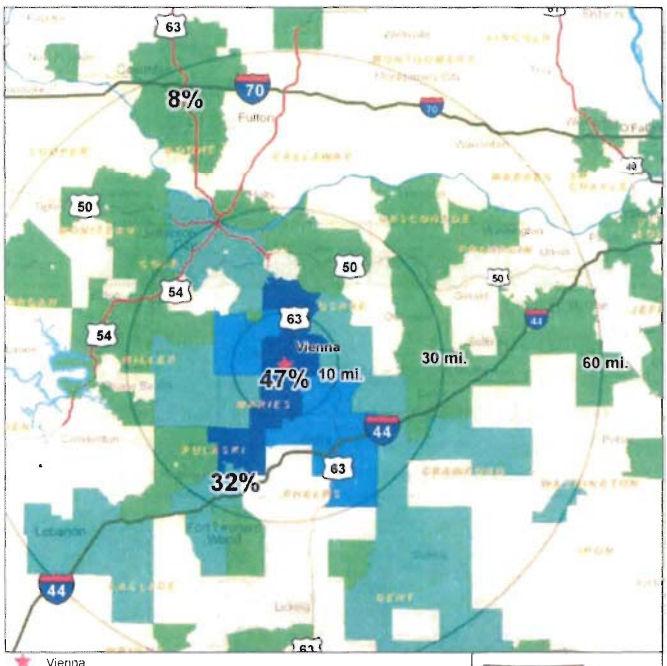
- Vienna has been the county seat for Maries County since its founding in 1855.
- 65.5 percent of Maries County residents leave their resident county to work in another county (2000 census data)
- 71 percent of those who live in Vienna commute to jobs outside of Vienna.
- Vienna exhibits characteristics that can be expected to benefit economic growth following relocation, increased traffic and population.

Vienna Firms



Where do Vienna's Customers Reside?

Vienna Customers



License Plates by Zip Code

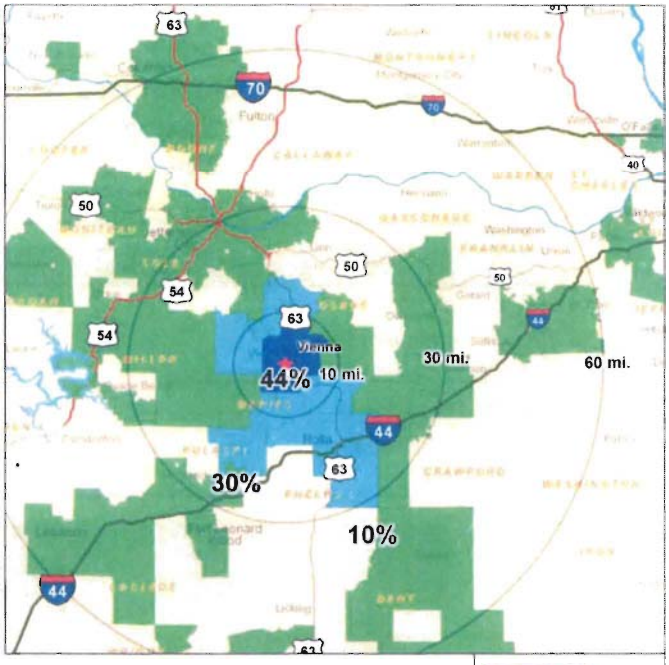
Total Number

- 1 - 4
- 5 - 19
- 20 - 39
- 40 or more

79 percent of customers reside within 30 miles of Vienna.

881 license plate samples collected; 29 customers were foot traffic, had plates that were out-of-state, or had plates that did not return a residential zip code.

Vienna Gas Stations



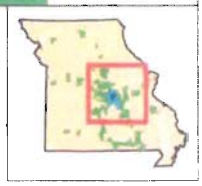
Vienna Gas Stations

Customers by Zipcode

- 26 - 119
- 8 - 25
- 1 - 7

For Vienna's gas stations, 74 percent of their customers reside within 30 miles. Only 10 percent reside from 30 to 60 miles away.

343 license plate samples collected from Vienna gas stations; 24 customers were foot traffic, had plates that were out-of-state, or had plates that did not return a residential zip code.



License plate survey conducted July 20-Aug 15, 2007. Surveying took place on weekdays, weekends, and at various times of day.

Those Who Live and Those Who Work in Vienna

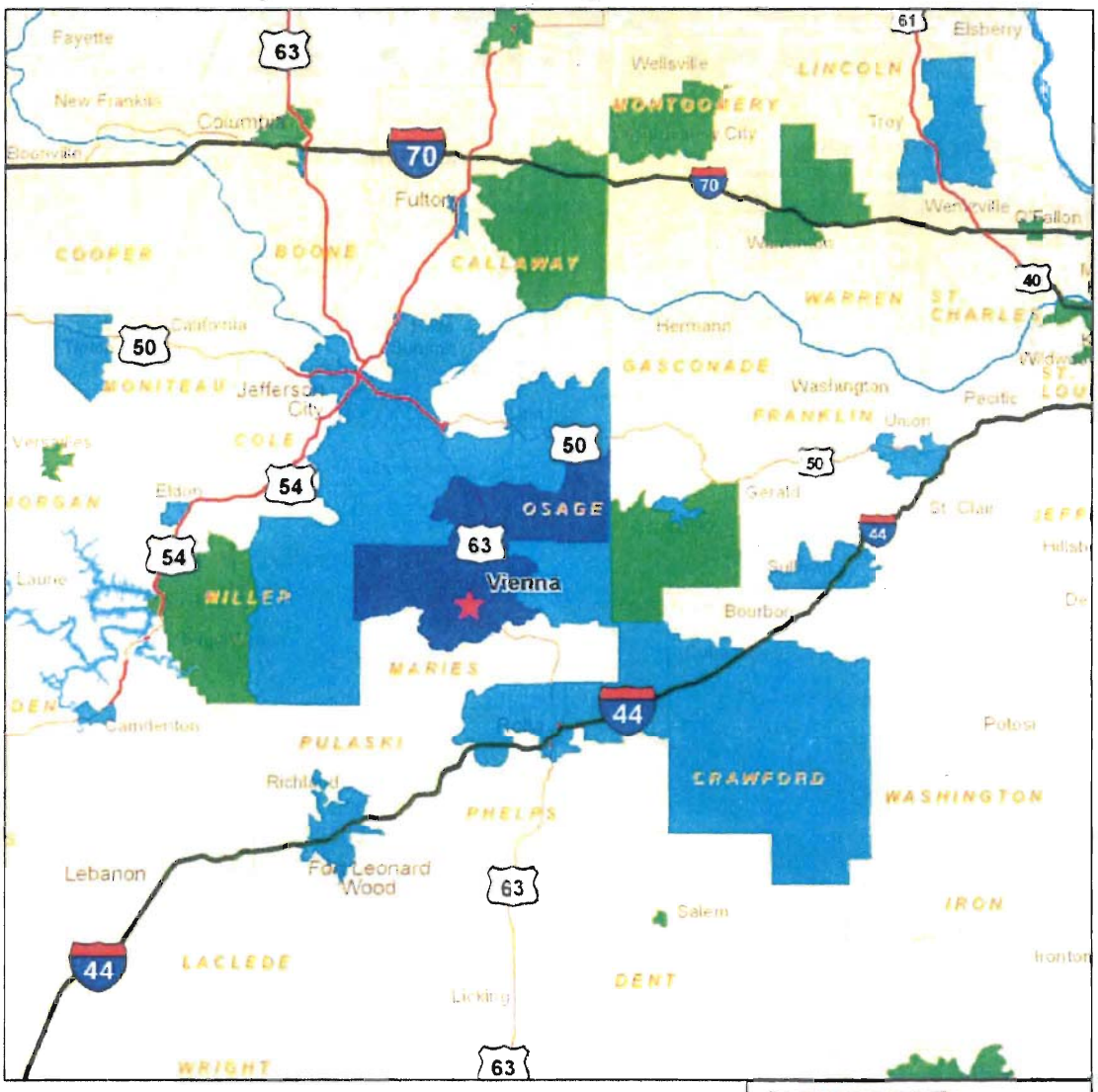
Vienna Jobs by Worker Age	Live Count	Live Share	Work Count	Work Share
Age 30 or younger	222	28.0%	221	30.2%
Age 31 to 54	442	55.8%	385	52.5%
Age 55 or older	128	16.2%	127	17.3%
	792	1	733	1

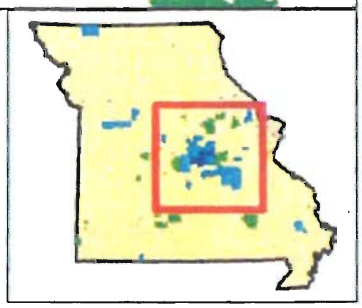
Jobs by Earnings Paid	Live Count	Live Share	Work Count	Work Share
$1,200 per month or less	246	31.1%	308	42.0%
$1,201 to $3,400 per month	445	56.2%	322	43.9%
More then $3,400 per month	101	12.8%	103	14.1%
	792	1	733	1

Where do Vienna Residents Work?	
Manufacturing	25.1%
Public administration	15.7%
Health Care and Social Assistance	10.1%
Retail Trade	9.8%
Wholesale Trade	6.4%
Construction	5.6%

What Industry Employment is in Vienna?	
Manufacturing	16.9%
Wholesale Trade	15.4%
Health Care and Social Assistance	11.7%
Educational Services	10.9%
Retail Trade	10.6%
Finance and Insurance	7.4%

US Hwy 63 Commuting Patterns - Vienna





Legend

★ Vienna **Local Employment Dynamics Data**

Number of Commuters

- 1
- 2 - 49
- 50 or more

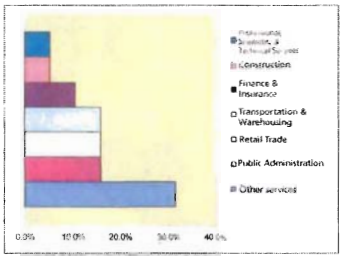
Vichy Business Climate

Local Demographics

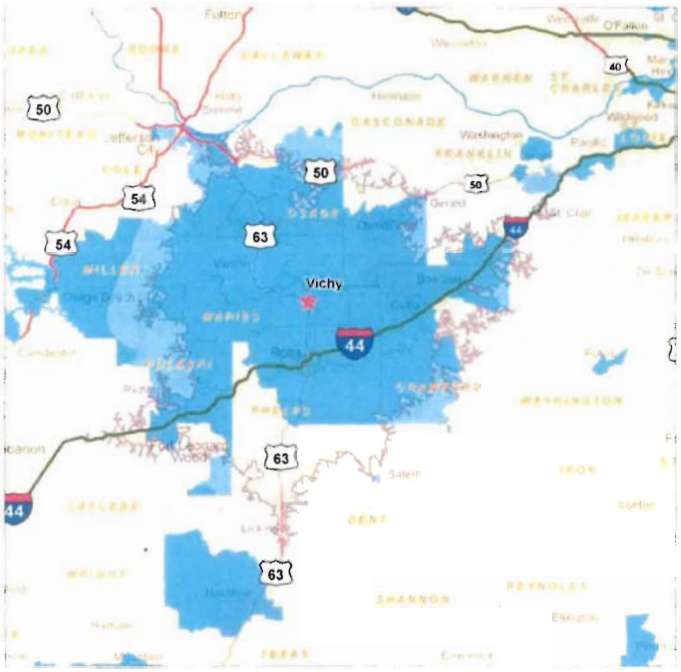
Summary	2000	2007
Population	121	132
Median Household Income	$35,028	$41,075
Trends: 2007-2012 Annual Rate	**Area**	**National**
Population	1.03%	1.22%
Median Household Income	2.25%	3.29%

- Vichy is an unincorporated community located about ten miles north of Rolla.
- Only 1.7 percent of people who live in Vichy work in Vichy.
- In Maries County, there are 883 farms containing a total of 234,381 acres.

Vichy Firms



U.S. 63 Relocation Study – Vichy



Legend

Vichy
Commuters from Vichy
1 Hour Travel Distance
~Travel Distance After US 63 Relocation*

*Assuming an approximate increase in average speed of five mph after highway is finished.

Work Destinations of Vichy Area Residents

Vichy

Local Employment Dynamics Data
Number of Commuters
1
2 - 49

98 percent of Vichy area residents commute to jobs outside Vichy.

An hour's drive time distance would expand to include Jefferson City, Linn, Union, and Lebanon due to decreased travel time following route improvements.

Those Who Live and Those Who Work in Vichy

Jobs by Worker Age	Live Count	Share	Work Count	Share
Age 30 or younger	123	29.9%	16	30.2%
Age 31 to 54	232	56.4%	30	56.6%
Age 55 or older	56	13.6%	7	13.2%
	411	1	53	1

Jobs by Earnings Paid	Live Count	Share	Work Count	Share
$1,200 per month or less	140	34.1%	14	26.4%
$1,201 to $3,400 per month	200	48.7%	24	45.3%
More then $3,400 per month	71	17.3%	15	28.3%
	411	1	53	1

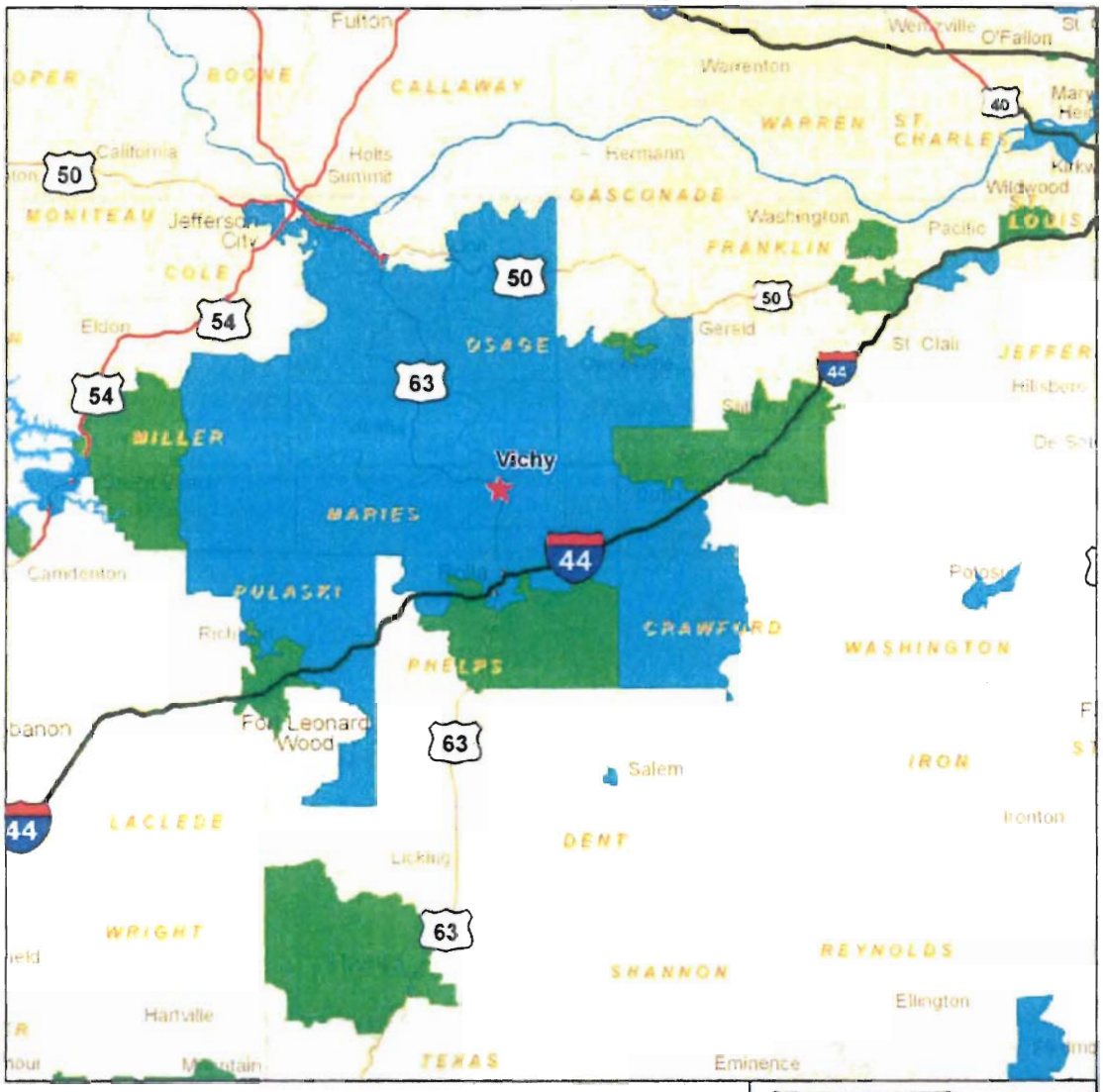
Where do Vichy Residents Work?

Manufacturing	21.7%
Retail Trade	16.1%
Health Care and Social Assistance	12.7%
Educational Services	9.0%
Construction	7.1%
Public administration	6.3%

What Industry Employment is in Vichy?

Transportation and Warehousing	71.7%
Construction	13.2%
Management	5.7%
Other services	3.8%
Wholesale Trade	1.9%
Retail Trade	1.9%

US Hwy 63 Commuting Patterns - Vichy



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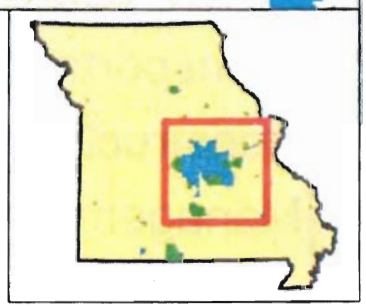
★ Vichy **Local Employment Dynamics Data**

Number of Commuters

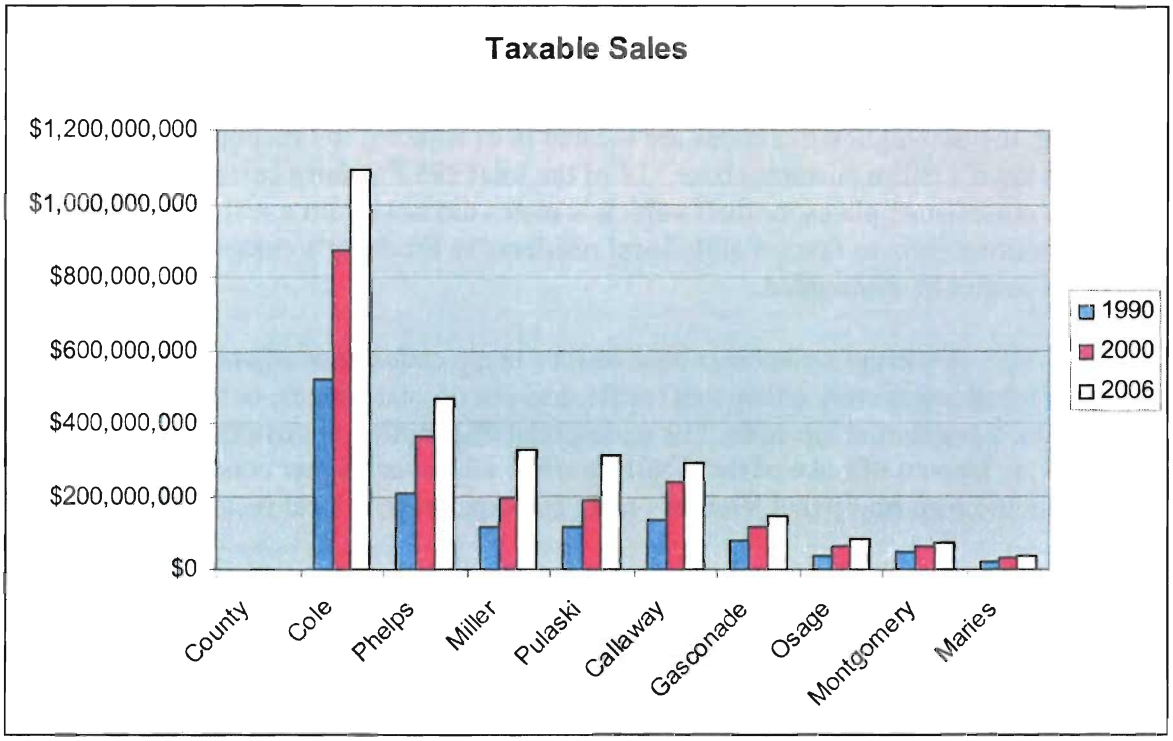
- 1
- 2 - 49
- 50 or more



MERIC — MORE WITH TIMELY TARGETED INTELLIGENT

MoDOT

Taxable Sales[7]



This chart displays the taxable sales of the region's counties at three points over the past 16 years: 1990, 2000, and 2006. All of the counties contain at least one length of four lane highway except for Maries, Osage, and Gasconade counties. Montgomery County contains a segment of I-70, but no large towns for travelers to stop at. In general, counties with improved road systems are more likely to have larger taxable sales.

Local Traffic Analysis

From July 20 to August 16 of 2008, MoDOT personnel collected license plate information from vehicles at cooperating local businesses. The data was collected on both weekdays and weekends, during commuting hours, weekend travel hours, and normal traffic hours.

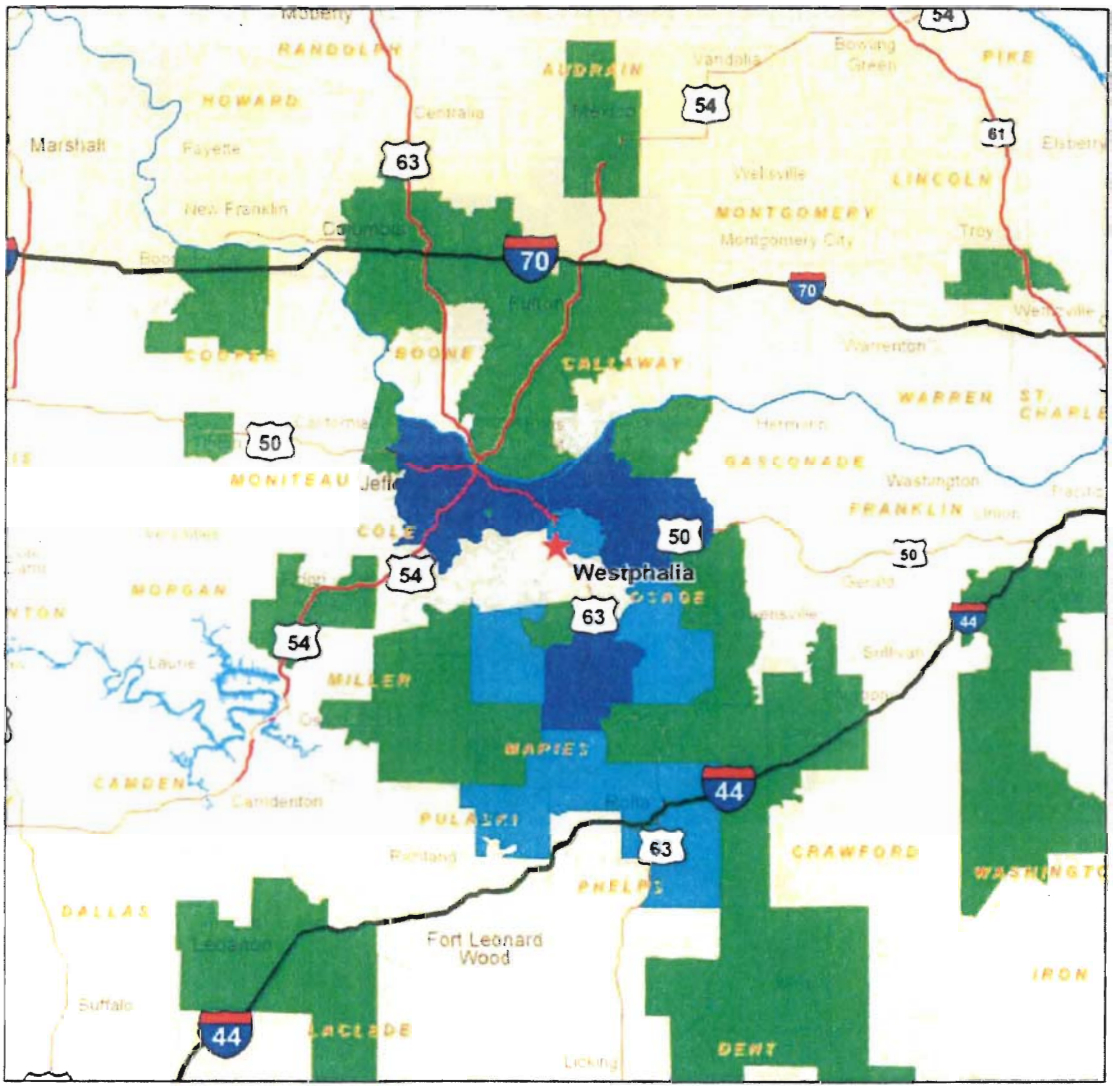
In Westphalia, data was collected from the businesses. The two zip codes with the highest concentrations of customers account for 45% of Westphalia's entire customer base and are located in or adjacent to the town. 15 out of the total 452 customers that visited one of the locations were either foot traffic, had out-of-state plates, or their vehicle's plates did not return a residential zip code. Distributions on the map seem to support local residents and commuters as Westphalia's main customer base.

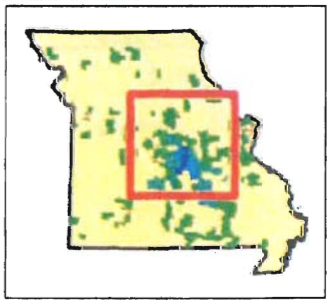
In Freeburg, the two highest zip codes are located in or adjacent to Freeburg and account for 64% of the town's entire customer base. 14 of the total 295 Freeburg customers were either foot traffic, had out-of-state plates, or their vehicle's plates did not return a residential zip code. These map distributions seem to favor mainly local residents as Freeburg's customer base, but commuters cannot be discounted.

In Vienna, 54% of Vienna's customer base resides in zip codes in or adjacent to the town. 30 of the total 875 customers were either foot traffic, had out of- state plates, or their vehicle's plates did not return a residential zip code. The widespread distribution of customers in Vienna's map suggests a fair amount of Lake of the Ozarks traffic. However, higher concentrations of customers in the map imply that Vienna's main customer base is local residents and commuters.

The following maps contain customer percentages based only on the license plate data that was collected. These statistics do not include every existing customer for these businesses.

Westphalia Customers, July 20 - August 16





Legend

★ Westphalia

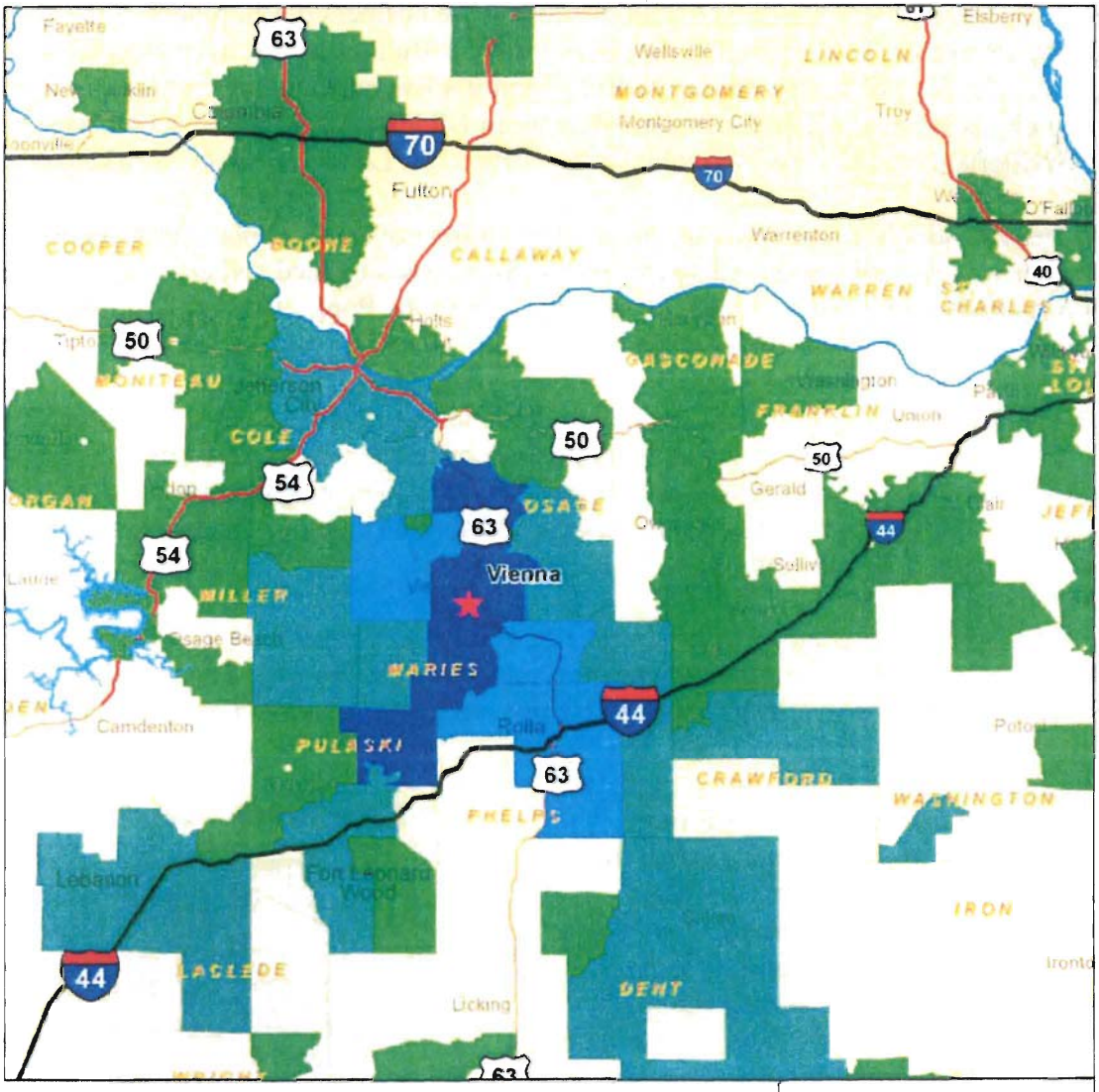
License Plates by Zipcode

Total Number

- 11 - 48
- 5 - 10
- 1 - 4

Freeburg Customers, July 20 - August 15

Vienna Customers, July 20 - August 15



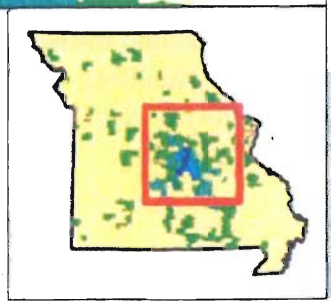
Legend

★ Vienna

License Plates by Zipcode

Total Number

- 1 - 4
- 5 - 19
- 20 - 39
- 40 or more



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MoDOT

Summary Review of Relevant Economic Studies

Poplar Bluff

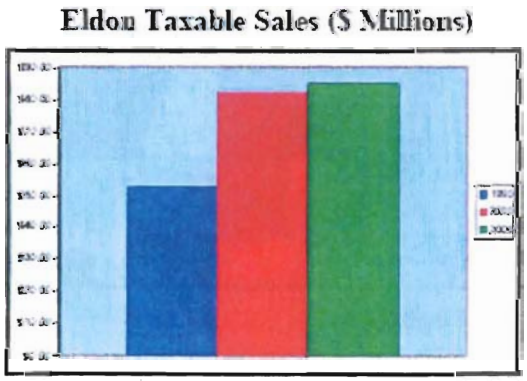
US Hwy 67 was relocated to bypass Poplar Bluff in June of 2001. The Missouri Department of Economic Development was tasked with evaluating the business development of the city following its bypass. Poplar Bluff is the county seat for Butler County, as well as the work destination for 32% of the employees of Butler and it's five surrounding counties. In addition to this, the city is located at a major crossroad between US Hwy 60, which runs east-west from I-55 to Springfield, and US Hwy 67, which runs north to St. Louis and south to Arkansas.

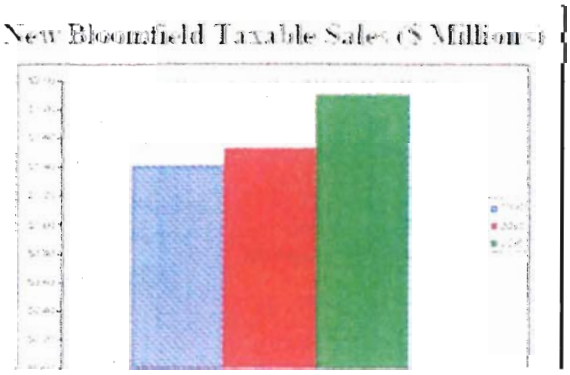
From the relocation's completion in June of 2001 to June of 2006, Poplar Bluff did not experience any profound reactions to the bypass. Businesses opened and closed primarily in the already-established business district. Despite the new route, Poplar Bluff still profited from an increase in taxable sales over the course of the years.

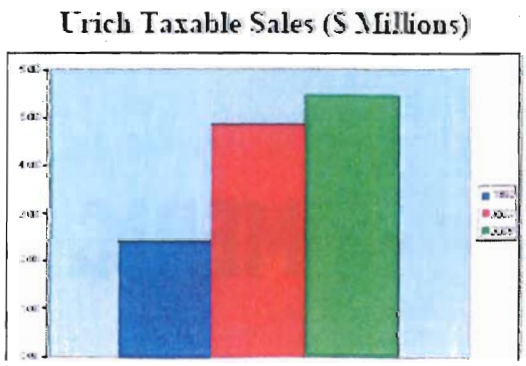
When the Department of Economic Development made a site visit to Poplar Bluff in May of 2007, the circumstances had changed. Not only was there more real estate offerings beginning to be offered nearer the new route, but new businesses were also being opened closer to it. Under favorable conditions, a town will grow and expand. Naturally, one of the directions of this expansion would bring the town closer to the bypass.

Although Poplar Bluff is larger than Westphalia, Freeburg, Vienna, and Vichy, some of the same results might be expected for these towns from relocating US Hwy 63. The towns along Highway 63 have experienced increases in taxable sales and population, which gradually leads to expansion and growth.

Eldon, New Bloomfield, and Urich were communities bypassed many years ago. A short review of their statistics shows that their economies are still thriving despite the relocations of the highways around them. Each town maintains a positive growth change in population and consistently increases the amount of taxable sales earned each year. Over the years, Eldon has expanded farther and faster than the other two communities, but that can be attributed to its proximity to the Lake of the Ozarks.







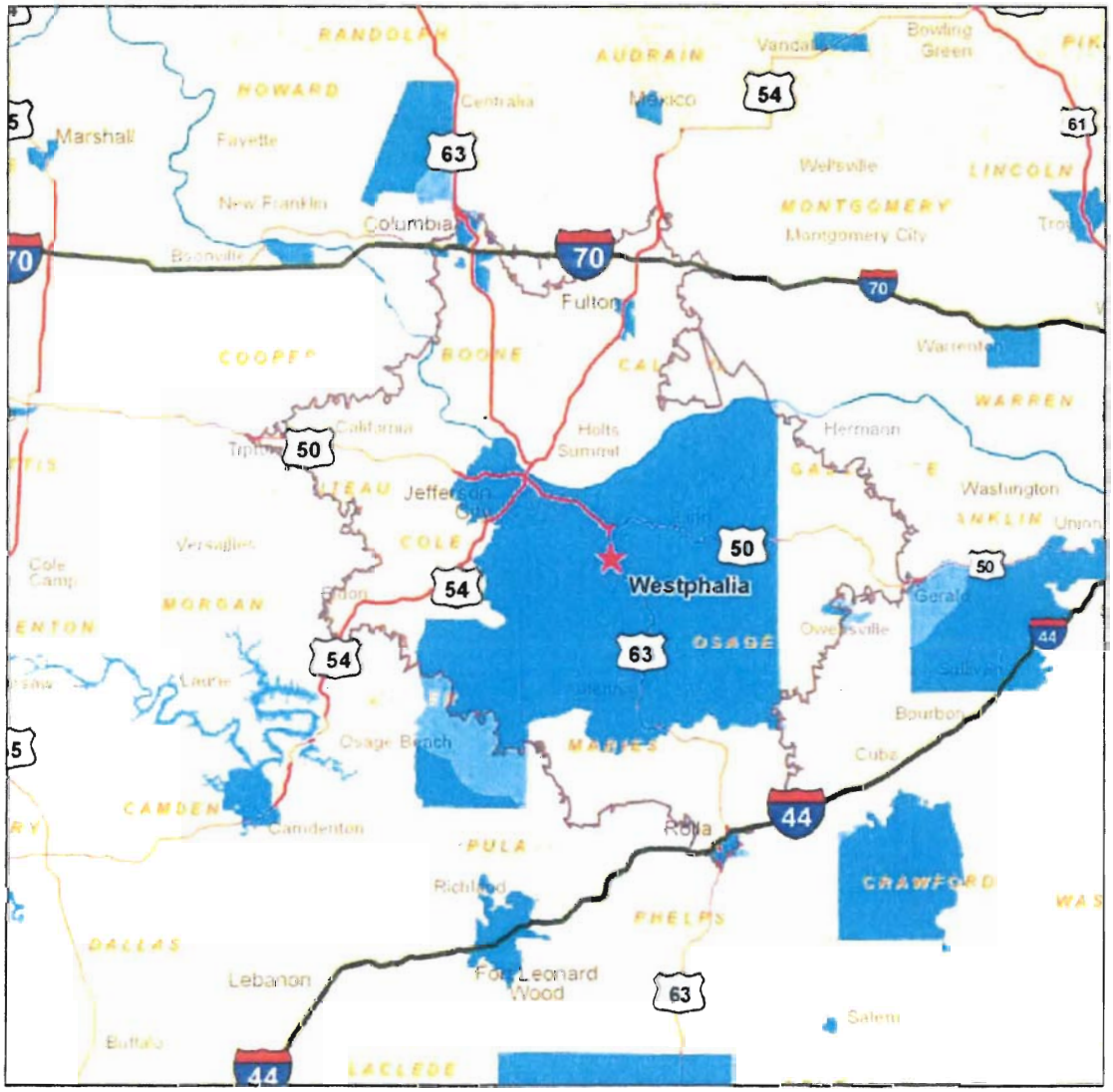
Other Studies

Many studies have been published from areas around the nation on the effects of relief routes and relocations on small and medium size communities. A summary of the results reveals several contributing factors to the economic growth in a community following route relocation. Increased traffic flow, short distance from the interchange (typically within 10 miles), growing community population, nearness to major urban centers, prior economic development, and nearness to the next interchange are all important attributes correlating with economic growth.

Economic Opportunities and Concerns

At first glance, the relocation may be a concern for all local businesses because it may allow potential customers to bypass their stores. However, the study done by the Missouri Department of Transportation previously discussed shows that the majority of customers are local residents. In addition to this, a safer highway with faster average speeds will likely draw new businesses to these communities. The following maps show an hour's worth of driving for each community, the areas that residents are currently commuting to, and an assumption on how far they may be able to travel in an hour after completion of the new highway. This area, displayed in gray, will open new employment opportunities for local residents.

US 63 Relocation Study - Westphalia

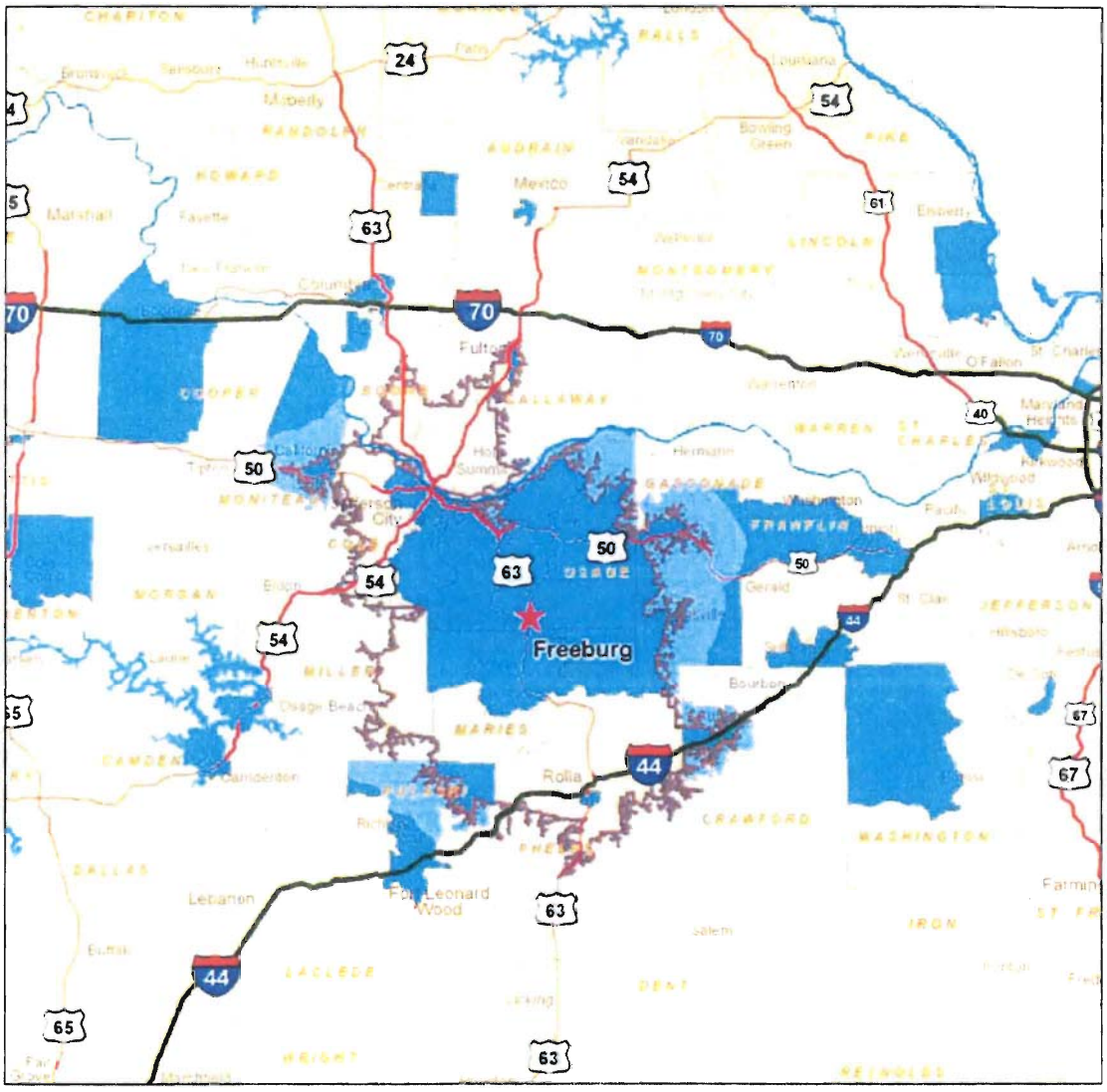


Legend

- ★ Westphalia
- Commuters from Westphalia
- 1 Hour Travel Distance
- ~Travel Distance After US 63 Relocation*

*Assuming an approximate increase in average speed of 5 mph after highway is finished.

US 63 Relocation Study - Freeburg



Legend

- ★ Freeburg
- Commuters from Freeburg
- 1 Hour Travel Distance
- ~Travel Distance After US 63 Relocation*

*Assuming an approximate increase in average speed of 5 mph after highway is finished.

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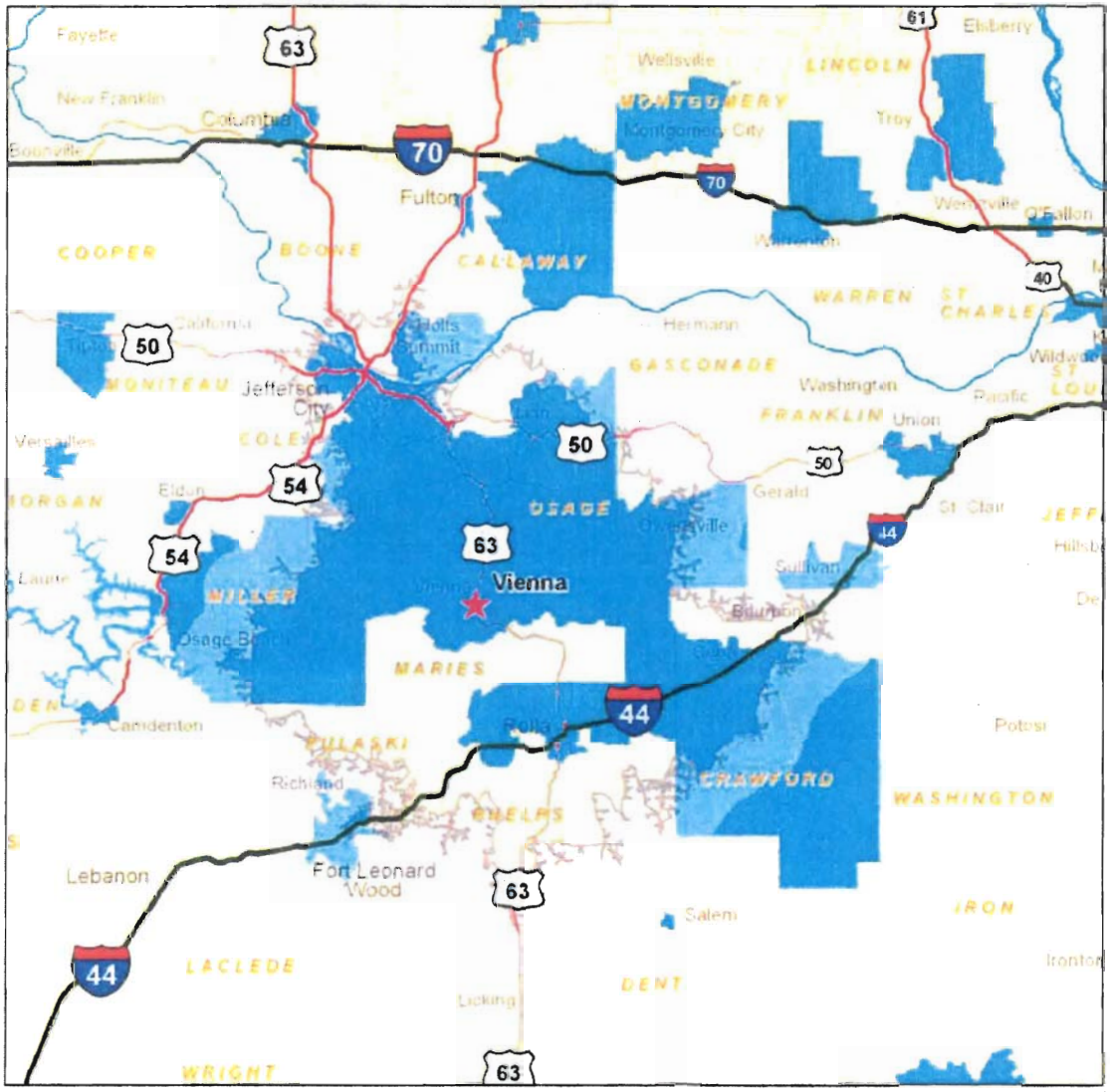
US 63 Relocation Study - Vienna



Legend

- Vienna
- Commuters from Vienna
- 1 Hour Travel Distance
- ~Travel Distance After US 63 Relocation*

*Assuming an approximate increase in average speed of 5 mph after highway is finished.

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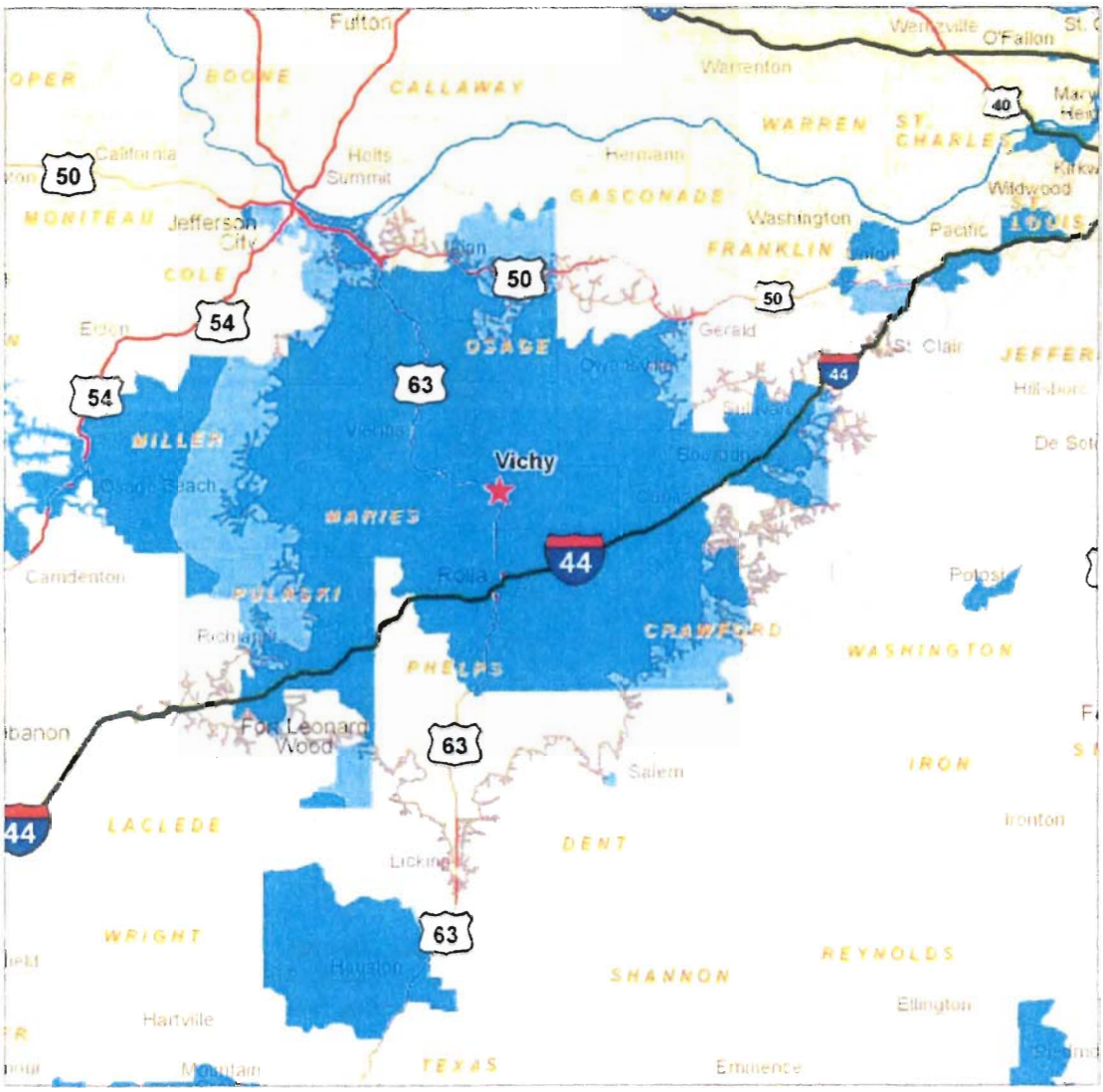
US 63 Relocation Study - Vichy



Legend

- Vichy
- Commuters from Vichy
- 1 Hour Travel Distance
- ~Travel Distance After US 63 Relocation*

*Assuming an approximate increase in average speed of 5 mph after highway is finished

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Route Relocations and Communities

Expectations and Strategies for Growth

Knowing what to expect prior to route relocations is essential to the community and policymakers in terms of strategy development. Based on an evaluation of the communities below, the following are potential community concerns, benefits, and applied strategies.

Business and Community Benefits

- Increase in Safety
- Reduction in Travel Times/Cost
- Elimination of Truck Traffic Through City
- Noise Reduction
- Continued Community and Economic Development
- Increase in Population
- Increase in Market Area
- Reduction in Shipping Costs

Common Route Relocation Concerns

- Impact to Downtown Businesses
- Access Roads to the City
- Property Division Along New Route
- Decreased Business Exposure
- City Infrastructure Expansion to New Route
- Ability to Relocate to New Route
- Distance from the New Route to the City

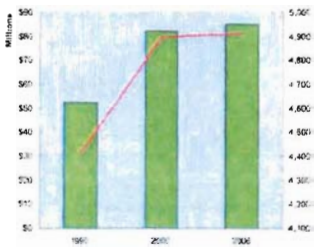
Community Strategies

- Participation in Highway Planning
- Signage Along Route for City Businesses
- Advertising Campaigns for Businesses
- Marketing Campaigns for City Tourism
- Business Recruitment
- Commercial Zoning Near New Route
- Tax Incentives

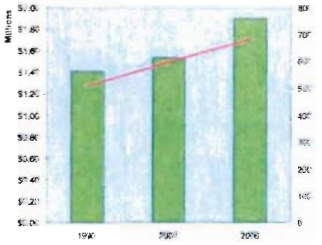
Population and Taxable Sales Growth for Missouri Communities with Route Relocations

Each of these communities has experienced a route relocation. A review of community statistics shows that their economics are thriving with the relocations of the highways around them. Each community maintains positive growth in population and consistently increases the amount of taxable sales earned each year.

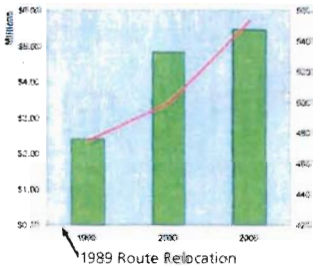
Eldon Taxable Sales & Population



New Bloomfield Taxable Sales & Population



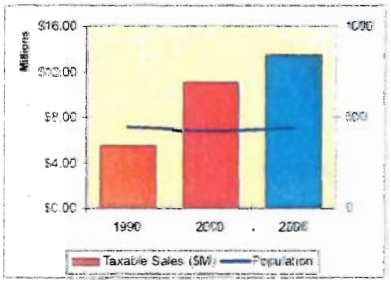
Urich Taxable Sales & Population



Note: Taxable sales data not available prior to 1990.

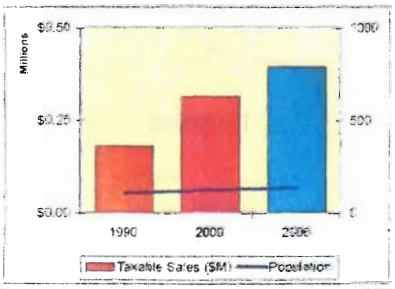
Population and Taxable Sales Growth for Communities in the Route 63 Study Area

Freeburg Taxable Sales & Population



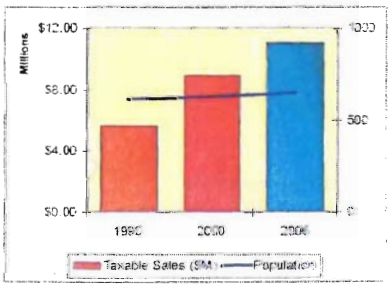
Tax Rates: State – 4.225, Osage Co. – 5.225, Freeburg – 6.725

Vichy Taxable Sales & Population



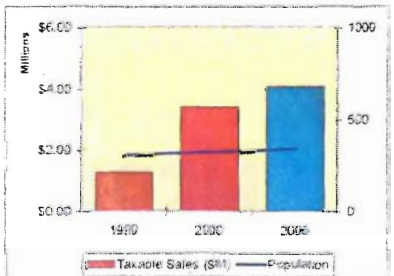
Tax Rates: State – 4.225, Maries Co. – 5.725, Vichy – 5.725

Vienna Taxable Sales & Population



Tax Rates: State – 4.225, Maries Co. – 5.725, Vienna – 7.725

Westphalia Taxable Sales & Population



Tax Rates: State – 4.225, Osage Co. – 5.225, Westphalia – 6.225

Summary

Vienna

The relocation of Hwy 63 is expected to be no more than a mile away from where it currently exists. Drive times will improve access to the cities of Rolla, Linn, and Jefferson City. Access to Interstate 44 and Highways 50 and 54 will also be improved. An hour drive time distance would expand to include Fort Leonard Wood, Sullivan, and nearly reach the boundary of Fulton.

While 29.2% of Vienna's residents work in Vienna, a majority of residents commute to the surrounding cities for work. Over 15% of the Vienna residents are employed by federal, state, or local government entities. The supply of these jobs in Vienna is lower than what exists, so it is most likely that those residents are commuting to cities such as Jefferson City and Fort Leonard Wood where the concentration of this type of employment is higher. Commuting pattern data does indeed show some individuals do work in those areas.

Although nearly 70% of Vienna residents leave the city to work elsewhere, it should be noted that the day population, in terms of workers, changes very little. Commuters outside the Vienna area also travel to Vienna for work. The predominant employing industries are involved in manufacturing, wholesale, healthcare, and education. Shortening the drive time between area cities will make it more attractive for residents to continue to live in Vienna and will make it easier for others to visit and work in Vienna.

Current economic activity is primarily regional with regard to customer base. Vienna area residents make up 60% of overall retail customers, 50% of overall healthcare patients, and 30% of all lodging and food services customers. The customer base within a 30-mile radius accounts for 91% of retail, 75% of healthcare, and 68% of lodging and food service customers. With access roads being less than a mile from Vienna from the Hwy 63 interchange, the current local market can continue to be served as drive times to the city will increase by less than a minute. Road improvements however will lessen the drive time on Hwy 63, which in most cases will offset any increase caused by the relocation away from the city of Vienna.

Based on previous relocation studies, Vienna exhibits all the characteristics that can contribute to further economic growth in a community following relocation. Traffic flows are expected to increase to over 9800 vehicles by 2035. The roadway will offer access to the city and be a short distance away from local businesses. The community population is expected to continue to increase over the next 5 years by .41%. Current regional tourism is also strong with regard to community picnics and weekly cattle auctions. All of these factors are positive aspects for this community.

Certain strategies can encourage growth in the community and keep existing businesses from relocating. Vienna could benefit from signage along the new Hwy 63, marketing campaigns for tourism and local businesses, recruitment of new firms due to improved drive times to the interstate and metro areas. Other opportunities may include the conversion of farmland near the roadway to commercial real estate or promoting residential development in the area.

Westphalia

The relocation of Hwy 63 is expected to be no more than a mile away from where it currently exists. Drive times will improve access to the cities of Linn, Columbia, Fulton, and Jefferson City. Access to Interstates 44 and 70 and Highways 50 and 54 will also be improved. An hour drive time distance would expand to include Rolla, North Columbia, Gerald, Hermann, and nearly extend to the Lake of the Ozarks.

While 13.4% of Westphalia's residents work in Westphalia, a majority of residents commute to the surrounding cities for work. Over 17% of the Westphalia residents are employed by federal, state, or local government entities. The supply of these jobs in Westphalia is very much lower than what exists, so it is most likely that those residents are commuting to cities such as Jefferson City and Columbia where the concentration of this type of employment is higher. Commuting pattern data does show some individuals do work in those areas. Other area of commuting concentration include northeast Boone County, Licking, Mexico, Union, and as far out as Potosi, Troy, and Kirkwood.

The worker day population of Westphalia falls to 69.3% of the total residential worker population. Commuters outside the Westphalia area also travel to Westphalia for work. The predominant employing industries are involved in education, healthcare and social assistance, and manufacturing. Shortening the drive time between area cities will make it more attractive for residents to continue to live in Westphalia and will make it easier for others to visit and work in Westphalia.

Current economic activity is primarily regional with regard to customer base. Westphalia area residents make up 70% of overall retail customers, 62% of gas station customers, 55% of dental care, and 79% of banking customers. The customer base within a 30-mile radius accounts for 84% retail, 80% gas station, 94% dental care, and 89% banking. With access roads being less than a mile from Westphalia from Hwy 63 and close to five miles from Hwy 50, the current local market can continue to be served as drive times to the city will increase by less than a minute. Road improvements however will lessen the drive time on Hwy 63, which in most cases will offset any increase caused by the relocation away from the city of Westphalia.

Based on previous relocation studies, Westphalia exhibits all the characteristics that can contribute to further economic growth in a community following relocation. Traffic flows are expected to increase to nearly 11,900 vehicles by 2035. The interchange will offer access to the city and be a short distance away from local businesses. The community population is expected to continue to increase over the next 5 years by 76%. Drive times will be shorter for major highways and Jefferson City will be less than 15 minutes away. Current regional tourism is also strong with regard to community picnics and tractor pulls. Also, amenities such as the soccer fields can be a draw for several local areas. All of these factors are positive aspects for this community.

Certain strategies can encourage growth in the community and keep existing businesses from relocating. Westphalia could benefit from signage along the new Hwy 63, marketing campaigns for tourism and local businesses, recruitment of new firms due to improved drive times to the

interstates, highways, and metro areas; particularly Jefferson City. As Jefferson City grows to the east, opportunities may exist for Westphalia to increase its tax base. Ashland, which is roughly the same distance from Jefferson City, is a good example of a town that has seen tremendous growth from close proximity to an urban area. Ashland differs from Westphalia, in that it neighbors two larger cities, however, similar strategies of commercial zoning and residential development could be successfully utilized

Freeburg

The relocation of Hwy 63 is expected to be no more than a mile away from where it currently exists. Drive times will improve access to the cities of Linn, Rolla, and Jefferson City. Access to Interstate 44 and Highways 50 and 54 will also be improved. An hour drive time distance would expand to include Fulton, California, Ashland, Bourbon, and nearly extend to Fort Leonard Wood.

While 18.2% of Freeburg's residents work in Freeburg, a majority of residents commute to the surrounding cities for work. Nearly 15% of the Freeburg residents are employed by federal, state, or local government entities. The supply of these jobs in Freeburg is limited compared with what exists, so it is most likely that those residents are commuting to cities such as Jefferson City and Fort Leonard Wood where the concentration of this type of employment is higher. Commuting pattern data does show many individuals do work in those areas. Commuters are also traveling outside of Freeburg to jobs involving education and health care. Other area of commuting concentration include Washington, Owensville, Fulton, and as far out as Kirkwood.

The working day population of Freeburg increases to nearly double the size of the total residential working population. Commuters outside the Freeburg area make up a substantial portion of employment in Freeburg. The predominant employing industries are involved in manufacturing, retail, and wholesale. Shortening the drive time between area cities will make it more attractive for residents to continue to live in Freeburg and will make it easier for others to visit and work in Freeburg.

Current economic activity is primarily regional with regard to customer base. Freeburg and Vienna area residents make up 74% of overall retail customers, 49% of gas station customers, 69% of manufacturing traffic, and 100% of banking customers. The customer base within a 30-mile radius accounts for 88% retail, 69% gas station, 96% manufacturing traffic, and 100% banking. With access roads being less than a mile to Freeburg from highway 63, the current local market can continue to be served as drive times to the city will increase by less than a minute. Road improvements however will lessen the drive time on Hwy 63, which in most cases will offset any increase caused by the relocation away from the city of Freeburg.

Based on previous relocation studies, Freeburg exhibits all the characteristics that can contribute to further economic growth in a community following relocation. Traffic flows are expected to increase to over 7,800 vehicles by 2035. The new roadway will offer access to the city and be a short distance away from local businesses. The community population is expected to continue to increase over the next 5 years by .89%. Drive times will be shorter for major highway interchanges, Jefferson City, and Rolla. Current regional tourism is also strong with regard to the

community Labor Day picnic and nearby river float trips. All of these factors are positive aspects for this community.

Certain strategies can encourage growth in the community and keep existing businesses from relocating. Freeburg could benefit from signage along the new Hwy 63, marketing campaigns for tourism and local businesses, recruitment of new firms due to improved drive times to the interstate, highways, and metro areas. Freeburg's doubling daytime population is unique to this region. Strategies of commercial zoning and residential development could be successfully utilized in Freeburg to attract and convert more of the daytime working population into residential population.

Vichy

The relocation of Hwy 63 is expected to be at most 1.5 miles away from where it currently exists. Drive times will improve access to the cities of Rolla, Licking, Sullivan, and Fort Leonard Wood. Access to Interstate 44 and Highways 50 will also be improved. An hour drive time distance would expand to include Linn, Jefferson City, Lebanon, Salem, Union, and nearly extend to St. Charles County.

Only 1.7% of Vichy's residents work in Vichy, so nearly all of the residents commute to the surrounding cities for work. Commuters are traveling outside of Vichy to jobs involving manufacturing, retail, education, and health care. Areas of commuting concentration are spread mainly throughout the local region including cities of Linn, Vienna, Rolla, Fort Leonard Wood, Jefferson City, Owensville, Salem, Potosi, Piedmont, and Pacific.

The working day population of Vichy decreases to 12.9% of the total residential working population. Commuters outside the Vichy area make up a substantial portion of employment in Vichy. The predominant employing industries are involved in transportation, warehousing, and construction. Shortening the drive time between area cities will make it more attractive for residents to continue to live in Vichy and will make it easier for others to visit and work in Vichy.

With access roads being less than a mile and a half from Vichy from, the current local market can continue to be served as drive times to the city will increase by less than two minutes. Road improvements however will lessen the drive time on Hwy 63, which in most cases will offset any increase caused by the relocation away from the Vichy community.

Based on previous relocation studies, Vichy exhibits all the characteristics that can contribute to further economic growth in a community following relocation. Traffic flows are expected to increase to over 9,400 vehicles by 2035. The interchange will offer access to the city and be a short distance away from local businesses. The community population is the fastest growing in the area and is expected to increase over the next 5 years by 1.03%. Drive times will be shorter for major highways and cities such as Rolla and Fort Leonard Wood. The local airport can also play a role in future economic growth. All of these factors are positive aspects for this community.

Certain strategies can encourage growth in the community and keep existing businesses from relocating. Vichy could benefit from signage along the new Hwy 63, marketing campaigns for local businesses, and recruitment of new firms due to improved drive times to the interstate, highways, and metro areas.

Edgar Springs

Population: 186

A roadway construction project near the city of Edgar Springs, located in Phelps County, was completed in the early 1980's. The project involved straightening existing Highway 63 and relocating the highway approximately nine tenths of a mile west of Edgar Springs.

Sales and Employment Trends

Since 1990, taxable sales have increased 337% in the city. Employment levels have decreased marginally from 116 in 2003 to 110 in 2008, a 5% decrease. However, average annual wages within the city limits have risen from $20,700 in 2003 to $23,700 in 2008. Total wages in 2008 of $2.6 million represents a gain of 9% over 2003.

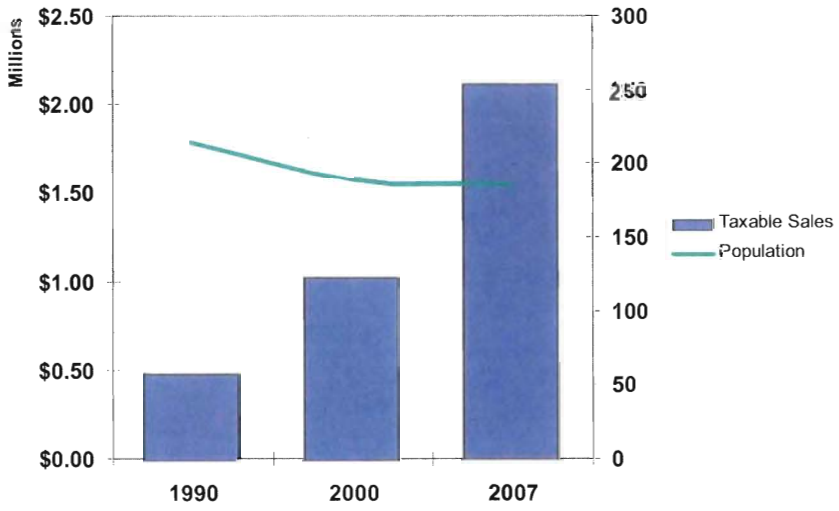
Commuting Trends

Edgar Springs residents predominantly work in Rolla (32.4%), Newburg (5.9%), Fort Leonard Wood (5.9%), Waynesville (2.9%), and St. Robert (2.9%). Since 2002, the percentage share of cities where Edgar Springs residents work has not changed substantially.

Those who work in Edgar Springs mainly reside in Edgar Springs (4.5%), Steele (4.5%), St. Robert (4.5%), Mansfield (4.5%), and Dixon (4.5%). A substantial number (72.7%) live in the surrounding rural community. Since 2002, Edgar Springs has expanded its labor pool to the cities of Steele, Mansfield, Dixon, and Caruthersville.

Sources: U.S. Census Bureau, U.S. Bureau of Labor Statistics, Missouri Department of Revenue

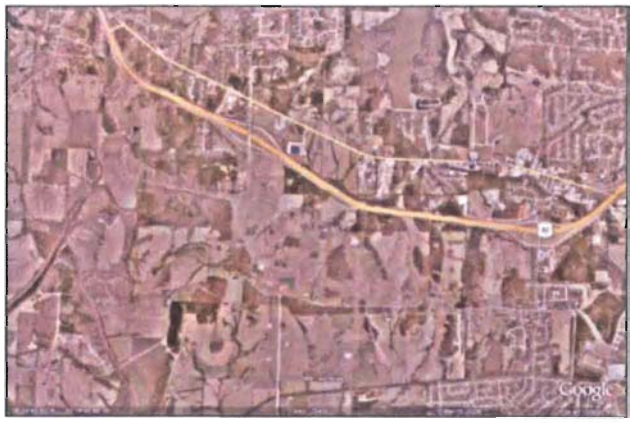
Edgar Springs Taxable Sales and Population 1990-2007



St. Martins

Population: 1,116

A roadway construction project in Cole and Moniteau Counties, near St. Martins, began in the late 1980's and was completed in 2008. The project involved adding additional lanes to Highway 50 to create a divided highway and relocating the road roughly a half mile south of St. Martins.



Sales and Employment Trends

Since 1990, taxable sales have increased 211% in the city. Employment levels within the city limits have increased from 31 in 2003 to 95 in 2008, a 206% increase. Average annual wages within the city limits have declined slightly from $29,000 in 2003 to $27,300 in 2008 with the addition of more service industry jobs. However, total wages in 2008 of $2.6 million represents a gain of 188% over 2003.

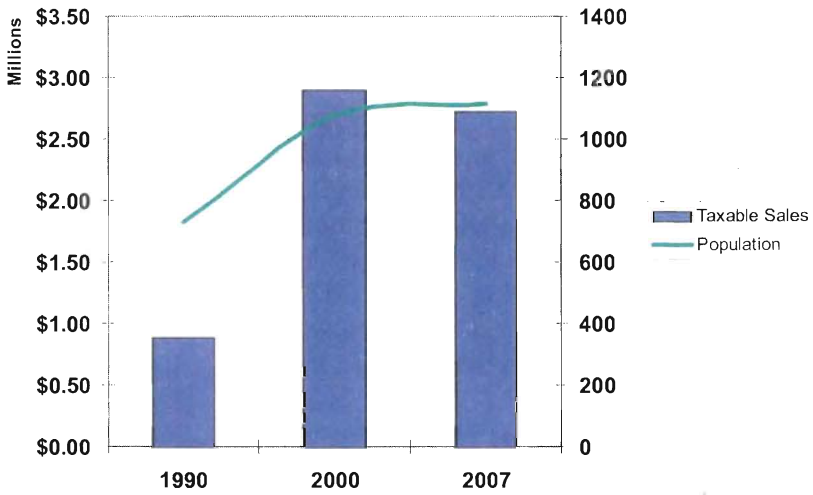
Commuting Trends

St. Martins residents predominantly work in Jefferson City (62.2%), Columbia (4.7%), Fulton (2.7%), and St. Martins (1.2%). Since 2002, the percentage share of cities where St. Martins residents work has not changed substantially.

Those who work in St. Martins mainly reside in Jefferson City (15.2%), St. Martins (4.8%), California (3.8%), Russellville (2.9%), and Sedalia (1.9%). A substantial number (62.9%) live in the surrounding rural community. Since 2002, St. Martins has expanded its labor pool to the cities of Sedalia and Wardsville.

Sources: U.S. Census Bureau, U.S. Bureau of Labor Statistics, Missouri Department of Revenue

St. Martins Taxable Sales and Population 1990-2007



Willow Springs

Population: 2,147

A five year roadway construction project near the city of Willow Springs, located in Howell County, was completed in 2003. The project involved grading, bridges, interchanges, and paving to add lanes for a dual divided highway along Routes 60 and 63. The resulting construction diverted highway traffic south, a half mile away from Business Route 63.

Sales and Employment Trends

Since 2003, taxable sales have increased by more than 18% in the city. Employment levels have risen from 1,393 to 1,564, a 12% gain. Average annual wages within the city limits have also risen from $22,000 in 2003 to $27,500 in 2008. Total wages in 2008 of $43 million represents a gain of 40% over 2003.

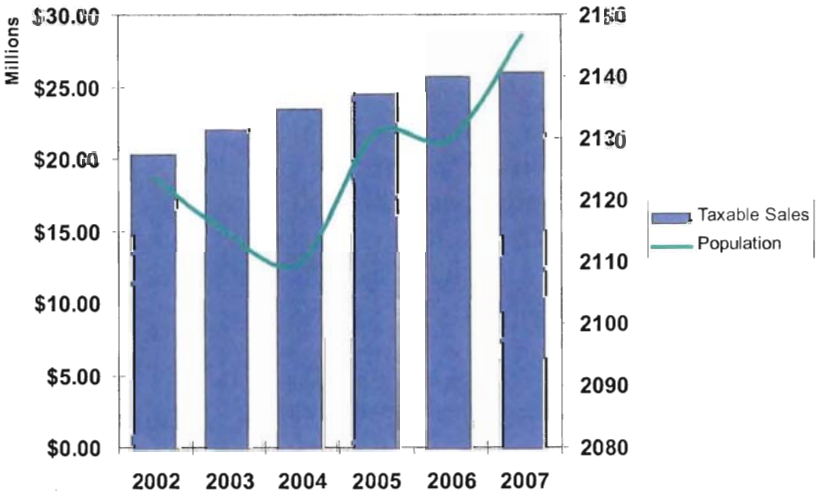
Commuting Trends

Willow Springs residents predominantly work in Willow Springs (22.6%), West Plains (17.5%), Springfield (7.9%), Cabool (5.1%), and Mountain View (4.3%). Since 2002, the percentage of total residents working in West Plains and other locations has increased as new residents have moved into the city.

Those who work in Willow Springs mainly reside in Willow Springs (19.6%), West Plains (8.3%), Mountain View (4.2%), Cabool (1.7%), and Springfield (1.3%). A substantial number (63.1%) live in the surrounding rural community. Since 2002, the number of workers traveling from West Plains has more than tripled.

Sources: U.S. Census Bureau, U.S. Bureau of Labor Statistics, Missouri Department of Revenue

Willow Springs Taxable Sales and Population 2002-2007



Staff summary

Prepared by
Organizational Results
Missouri Department of Transportation

November 2007
For more information, contact:
Emma Jones or Dr. Ernie Perry

Benefits of Highway Improvements on Rural Communities in Missouri: 2007 Update

An in-house study by Organizational Results

MoDOT Summary Statement

For non-urbanized counties in Missouri, the highest rates of economic and community growth tend to occur in counties with more miles of four-lane highway. This increase in connectivity and access, reflected in more miles of four-lanes highway, demonstrates that the transportation system strongly supports economic development in Missouri. While a variety of factors are involved in economic and community development, a well planned transportation system, based on citizen and business partnerships and founded in a robust planning process provides for culture of growth and development that benefits rural residents, communities, and Missouri as a whole.

Background

Besides the three major metropolitan areas in the state, Missouri is a state of small towns with over 900 incorporated places. These population and development patterns mean that statewide connectivity is increasingly important and that all areas of the state desire more and better transportation in order to increase their role in the State's economy. In addition, it is apparent that four-lane highway facilities have a positive impact on economic growth. In order to assess this relationship, the economic and community development status of counties with more miles of four-lane highway systems were compared to those counties with fewer miles of four-lane highway.

MoDOT Project Overview

This analysis examines Missouri's non-urbanized counties based on the level of four-lane highway miles in the county and the economic development of the county based on seven economic indicators. The selected economic indicators included in this analysis include: 2005 county population, 2006 annual wage, 2004 household income, 2006 number of business firms, 2006 gross sales tax, 2006 real estate valuations and 2005 per capita income.

These variables were compared across counties based on whether the county had less than 15, or more then 15 miles of four-lane highway. As noted in table one, in 2007 there are 46 counties with less than 15 miles of four-lane highway mileage and 59 counties with greater than 15 miles of four-lane highway. In order to avoid skewing the results, all of the more urbanized counties in Missouri's Metropolitan Planning Organizations (MPOs) were eliminated. Counties exclude are: Boone, Buchanan, Green, Jackson, Jasper, St Charles, St Louis City and County along with Clay and Jefferson, which are categorized as highly urbanized.

MoDOT Project Overview *(cont'd.)*

The map below illustrates the spatial distribution of the four-lane highways in rural counties. This analysis replicates a previous study completed in 2003.

Table 1. Distribution of Four Lane Mileage For Missouri Rural Counties (as of October, 2007)

Counties with LESS THAN 15 miles of four-lane highway (N=46)	**Counties with MORE THAN 15 miles of four-lane highway (N=59)**
Adair, Audrain, Barry, Benton, Bollinger, Camden, Cedar, Chariton, Clark, Dade, Dallas, Dent, Douglas, Dunklin, Gasconade, Gentry, Grundy, Hickory, Howard, Iron, Knox, Madison, Maries, Mercer, Moniteau, Monroe, Morgan, Nodaway, Oregon, Osage, Ozark, Putnam, Ralls, Ray, Reynolds, Ripley, Schuyler, Scotland, Shannon, Shelby, St.Clair, Stone, Sullivan, Washington, Wayne, Worth,	Andrew, Atchison, Barton, Bates, Butler, Caldwell, Callaway, Cape Girardeau, Carter, Carroll, Cass, Christian, Clinton, Cole, Cooper, Crawford, Davies, DeKalb, Franklin, Harrison, Henry, Holt, Howell, Johnson, Laclede, Lafayette, Lawrence, Lewis, Lincoln, Linn, Livingston, Macon, Marion, McDonald, Miller, Mississippi, Montgomery, Newton, New Madrid, Pemiscot, Perry, Pettis, Phelps, Pike, Platte, Polk, Pulaski, Randolph, Saline, Scott, St. Francois, Ste. Genevieve, Stoddard, Taney, Texas, Vernon, Warren, Webster and Wright

MoDOT Staff Findings

In 2007, an analysis of Missouri counties found that counties with more than 15 miles of four-lane highway scored higher on all seven economic indicators included in the study. The counties with 15 or more miles of four-lane highway scored from 9 to 183 percent higher on these measures than did counties with less than 15 miles. Counties with more than 15 miles of four-lane highways had over a 124 percent greater population level, 11 percent greater annual wage, nearly 14 percent greater household income, 118 percent greater number of business firms, 182 percent greater gross sales tax, 125 percent greater real estate valuations and over 9 percent greater per capita income.

Five of these measures also show continued increase over the original data analysis completed in 2003. In the 2003 analysis of counties with greater than 15 miles of four-lane highway there was a population difference of 117 percent over those counties with less than 15 miles of four-lane highway. Using the 2005 available population data, these same counties show a difference of 124.06 percent or a percent change of 7 percent from the original analysis. The number of business firms in counties with more than 15 miles of four-lane highway showed the largest improvement since the 2003 analysis with an over 12 percent increase in the number of firms between the two analysis periods.

Table 2. Comparison of Economic Development Indicators for Rural Missouri Counties Based on Four-Lane Highway Mileage

*Economic Development Indicator**	*46 Counties with **LESSTHAN** 15 miles of four-lane highway*	*59 Counties with **MORE THAN** 15 miles of four-lane Highway ** *	*Difference between county groups*	*Percent difference between county groups*	*Percent change from original 2003 report*
2005 Population	13,766	30,843	17,077	124.06 percent	7.06 percent
2006 Annual Wage	$23,431	$26,034	2,603	11.11 percent	1.11 percent
2004 Household Income	$31,425	$35,822	4,397	13.99 percent	0.99 percent
2006 Number of Firms	329	717	388	118.07 percent	12.93 percent
2006 Gross Sales Tax (thousands)	$2,631	$7,445	4,814	182.98 percent	3.02 percent
2006 Real Estate Valuations	$163,517,015	$368,293,113	204,776,098	125.23 percent	-5.77 percent
2005 Per Capita Income	$22,597	$24,741	2,144	9.49 percent	N/A

**Average per county*
*** Excludes MPO and highly urbanized counties*

References

The following links provide reference to additional information regarding transportation and economic development:

MoDOT Tracker – Leverage Transportation for Economic Development Measures -
http://www.modot.mo.gov/about/documents/Tracker_PDF_Oct07/Leverage 7.pdf

Six-Mile Corridor Economic Impact Study – I44 and I70 Corridor Impact Study -
http://168.166.124.22/RDT/reports/Ri05057/or07010.pdf

Highway 67 Route Relocation Report –
http://168.166.124.22/RDT/reports/Ri05057/or07012.pdf

Pavement Smoothness and Fuel Efficiency –
http://168.166.124.22/RDT/reports/Ri05040/ss06003.pdf

Transportation and Economic Development – Which Comes First?
http://168.166.124.22/RDT/reports/Ri00058/hndout04.pdf

Transportation and Economic Prosperity – Missouri Department of Economic Development
http://www.missourieconomy.org/community/infastructure/tran_prosp.stm

Data sources:
The data was gathered from the Bureau of Economic Analysis (BEA), Missouri Economic Research and Information Center (MERIC), the Bureau of Labor Statistics (BLS) and the US Census.

Special thanks to: Thomas Wilkerson, Transportation Planning, MoDOT