



**A DEMOGRAPHIC
AND ECONOMIC
COMPARISON OF
SELECTED
COUNTIES IN
MISSOURI.**

April 2002



RESEARCH, DEVELOPMENT AND TECHNOLOGY



Missouri Department of Transportation

Research, Development and Technology
P.O. Box 270
1617 Missouri Blvd.
Jefferson City, MO 65109
(573) 751-3002

Report Number: RDT02-006

<http://www.modot.state.mo.us/>

April, 2002

**A DEMOGRAPHIC AND ECONOMIC COMPARISON OF
SELECTED TWO-LANE
AND FOUR-LANE COUNTIES IN MISSOURI.**

MoDOT

Research, Development and Technology Transfer

Prepared by Ernie Perry

April 2002

Introduction

This report compares selected demographic and economic variables for fourteen counties in Missouri. The variables and counties included in this analysis were selected at the request of Duane S. Michie, Commissioner, Missouri Highways and Transportation Commission. This report is intended to illustrate the economic and demographic characteristics prevalent in the selected counties over a 10-year period of 1990 to 2000.

The following variables were included in this report:

- 1) Population Growth for each county, 1990 and 2000ⁱ
- 2) Per Capita Income for each county, 1990 and 2000ⁱⁱ
- 3) Unemployment Rate for each county, 1992 and 2000ⁱⁱⁱ
- 4) County Sales Tax collections, 1990 and 2000^{iv}
- 5) Number of New Businesses and Industries, 1993 and 1999^v
- 6) Real Estate Assessed Valuations, 1990 and 2000^{vi}

The counties included in the analysis were selected by Commissioner Michie and categorized as those counties that include interstates and four-lane facilities, and those counties that have two-lane corridors. These are referred to as four-lane and two-lane counties.

The counties included in this report are:

Four-Lane Counties

- 1) Cape Girardeau County
- 2) St. Francis County
- 3) Howell County
- 4) Laclede County
- 5) Phelps County
- 6) Lincoln County
- 7) Harrison County

Two-Lane Counties

- 1) Nodaway County
- 2) Shannon County
- 3) Carter County
- 4) Shelby County
- 5) Linn County
- 6) Lewis County
- 7) Clark County

The number of statewide traffic fatalities on two-lane and four-lane corridors was also requested for this analysis. This information is provided for two-lane facilities and four-

lane facilities for the years 1998 through 2000. The four-lane facilities are broken down by expressway and freeway designation.

For comparison, the following variables are included:

- 1) Daily Vehicle Miles of Travel per year, and three-year average
- 2) Number of Fatal Accidents per year, and three-year average
- 3) Fatal Accident Rates per year, and three-year average

Also included are the traffic safety operational performance measures for March 2002. This data includes the number and rate of vehicle crashes by severity, and the rate of vehicle crashes by roadway type.

Summary of Demographic, Economic and Fatal Accident Variables

In all cases, the counties classified as four-lane counties demonstrated greater population and economic growth than those counties identified as two-lane counties. Four-lane counties as a whole had over seven times the population growth in the 10-year period analyzed. Differences between the counties in per capita income growth and decreased unemployment are less dramatic. Per capita income grew 52.3% (four-lane) versus 50.6% (two-lane) and unemployment decreases were at a rate of 2.8% for four-lane counties and 1.5% for two-lane counties. Sales tax revenue in the four-lane counties increased over 200% while two-lane counties experienced an increase of 148%. There was an 11% increase in businesses and industries in the four-lane counties and only a 1.5% increase in two-lane counties. Finally, four-lane counties accrued a 75% increase in real estate valuations while two-lane counties increased at a rate of 43%.

For these groupings of counties, there is a clear difference in economic and population growth rates for counties characterized as four-lane versus two-lane counties. Less clear are the causal factors related to these differences in growth rates.

In terms of fatal accidents, four-lane roadways have fewer fatalities while servicing higher volumes of traffic. The limited and controlled access typical on four-lane roads reduces conflict points when compared to typical two-lane roads in Missouri.

Summary of Demographic and Economic Changes: Two-Lane and Four-Lane Counties

| | Four-Lane Counties | Two-Lane Counties |
|---|---------------------------|--------------------------|
| Mean Percent Population Change 1990-2000 | +16.5% | +2.3% |
| Mean Percent Change Per Capita Income 1990-2000 | +52.3% | +50.6% |
| Mean Decrease in Unemployment Rate | -2.8 | -1.5 |
| Mean Change in Sales Tax Revenue | +209% | +148% |
| Mean Percent Increase in Industries | +11% | +1.5% |
| Mean Percent Increase in Real Estate Valuations | +75% | +43% |

Selected Demographic and Economic Characteristics by County Designation

Four-Lane Counties

| | Cape Girardeau | St. Francis | Howell | Laclede | Phelps | Lincoln | Harrison |
|----------------------------------|----------------|-------------|-------------|-------------|-------------|-------------|------------|
| Population growth, 1990 | 61,663 | 48,904 | 31,447 | 27,158 | 35,248 | 28,892 | 8,469 |
| 2000 | 68,693 | 55,641 | 37,238 | 32,513 | 39,825 | 38,944 | 8,850 |
| % change | +11.5% | +13.8% | +18.4% | +19.7 | +13% | +34.8 | +4.5 |
| Per Capita Income 1990 | \$15,941 | \$12,261 | \$11,670 | \$12,678 | \$13,854 | \$14,491 | \$13,236 |
| 1999 | \$24,886 | \$18,215 | \$18,420 | \$19,473 | \$21,041 | \$21,685 | \$19,502 |
| % change | +56% | +49% | +58% | +54% | +52% | +50% | +47% |
| Unemployment Rate 1992 | 5.2 | 9.7 | 6.5 | 8.6 | 5.5 | 7.1 | 3.9 |
| 2000 | 3.0 | 6.6 | 3.9 | 4.1 | 2.8 | 3.4 | 2.9 |
| change | -2.2 | -3.1 | -2.6 | -4.5 | -2.7 | -3.7 | -1.0 |
| Sales Tax Revenue(x 000) 1990 | 8,518 | 3,867 | 2,410 | 2,928 | 3,432 | 3,209 | 544 |
| 2000 | 22,859 | 12,889 | 7,066 | 8,692 | 12,231 | 9,039 | 1,827 |
| % change | +168% | +233% | +193% | +197% | +256% | +182% | +235% |
| Number New Industries 1993 | 2,161 | 1,085 | 879 | 784 | 990 | 605 | 251 |
| 1999 | 2,321 | 1,285 | 1,024 | 814 | 1,079 | 739 | 250 |
| % change | +7.4% | +18.4% | +16.4% | +3.8% | +8.9% | +22% | -0.3% |
| Real Estate Valuations 1990 | 312,101,676 | 129,476,400 | 89,951,780 | 95,353,303 | 124,005,450 | 114,609,023 | 37,694,730 |
| 2000 | 551,244,903 | 247,175,915 | 169,856,190 | 181,731,480 | 191,320,729 | 224,889,604 | 48,905,700 |
| % change | +76% | +91% | +89% | +91% | +54% | +96% | +29% |

Selected Demographic and Economic Characteristics by County Designations

| Two-Lane Counties | | | | | | | |
|--------------------------|-------------|------------|------------|------------|------------|------------|------------|
| | Nodaway | Shannon | Carter | Shelby | Linn | Lewis | Clark |
| Population growth, | | | | | | | |
| 1990 | 21,709 | 7,613 | 5,515 | 6,942 | 13,885 | 10,33 | 7,547 |
| 2000 | 21,912 | 8,324 | 5,941 | 6,799 | 13,754 | 10,494 | 7,416 |
| % change | +0.9% | +9.3% | +7.7% | -2.1% | -0.9% | +2.6 | -1.7 |
| Per Capita Income | | | | | | | |
| 1990 | \$13,342 | \$9,605 | \$10,864 | \$14,546 | \$13,994 | \$12,276 | \$11,018 |
| 1999 | \$19,958 | \$14,898 | \$15,652 | \$19,397 | \$20,038 | \$16,965 | \$16,306 |
| % change | +50% | +55% | +44% | +33% | +43% | +38% | +48% |
| Unemployment Rate | | | | | | | |
| 1992 | 2.1 | 8.5 | 9.3 | 4.7 | 8.5 | 5.6 | 5.5 |
| 2000 | 1.3 | 5.3 | 5.4 | 6.3 | 7.4 | 2.9 | 4.8 |
| change | -0.8 | -3.2 | -3.9 | +1.6 | -1.1 | -2.7 | -0.7 |
| Sales Tax Revenue(x 000) | | | | | | | |
| 1990 | 1,292 | 199 | 251 | 457 | 1,223 | 446 | 359 |
| 2000 | 3,991 | 443 | 543 | 1,063 | 2,407 | 1,132 | 958 |
| % change | +211% | +123% | +116% | +133% | +97% | +154% | +167% |
| Number New Industries | | | | | | | |
| 1993 | 487 | 138 | 140 | 194 | 367 | 237 | 148 |
| 1999 | 533 | 147 | 140 | 194 | 340 | 238 | 151 |
| % change | +9.4% | +6.5% | 0.0% | 0.0% | -7.3% | +0.4 | +2.0% |
| Real Estate Valuations | | | | | | | |
| 1990 | 88,855,150 | 21,667,670 | 14,986,298 | 31,086,170 | 38,297,260 | 34,795,105 | 27,412,090 |
| 2000 | 136,419,240 | 31,109,750 | 22,444,212 | 43,146,724 | 55,479,930 | 42,968,271 | 40,007,150 |
| % change | +54% | +42% | +50% | +39% | +45% | +23% | +46% |

Traffic Fatality Rates for Two-Lane and Four-Lane Facilities

| <u>Two-Lane</u> | | | | <u>Four –Lane</u> | | | | | |
|-----------------|------------------------|------------|------------------|------------------------|------------|---------------|------------------------|------------|---------------|
| | | | | <u>Expressway(1)</u> | | | <u>Freeway(2)</u> | | |
| | Vehicle Miles Traveled | Fatalities | Fatality Rate(3) | Vehicle Miles Traveled | Fatalities | Fatality Rate | Vehicle Miles Traveled | Fatalities | Fatality Rate |
| 1998 | 44.3 million | 429 | 2.62 | 16.2 million | 94 | 1.40 | 54.2 million | 210 | 1.05 |
| 1999 | 44.6 million | 433 | 2.43 | 16.7 million | 91 | 1.42 | 54.7 million | 174 | 0.88 |
| 2000 | 45.0 million | 429 | 2.55 | 17.2 million | 70 | 1.13 | 55.2 million | 179 | 0.94 |

Three Year Summary of Fatality Data

| | Mean Vehicle Miles | Mean Fatalities | Mean Fatality Rate |
|------------|--------------------|-----------------|--------------------|
| Two-Lane | 44.6 million | 430.3 | 2.53 |
| Expressway | 16.7 million | 85.0 | 1.32 |
| Freeway | 54.7 million | 177.7 | 0.94 |

(1) Expressway defined as a travelway with limited/partial control of access and two or more lanes for through traffic in each direction. Intersections are normally at-grade, although isolated interchanges are possible.

(2) Freeway defined as divided travelway with full control of access and two or more lanes for through traffic in each direction. All intersections are grade separated (interchanges).

(3) Fatal accident rate represents the number of fatal accidents per hundred million vehicle miles traveled.

ⁱ http://mcde2.missouri.edu/cgi-bin/broker? PROGRAM=websas.dp1_2k.sas& SERVICE=sasapp&st=29&co=031

ⁱⁱ http://oseda.missouri.edu/MOSTATS/Missouri/Counties/beainc.Cape_Girardeau_MO.html,

ⁱⁱⁱ http://mo.works.state.mo.us/lmi/owa/adb.area2?x_area=04000031

^{iv} <http://econ.missouri.edu/eparc/rcip/busecc/mo-map.asp>

^v <http://www.census.gov/epcd/cbp/map/99data/29/031.txt>

^{vi} <http://econ.missouri.edu/eparc/dbase.html>