

## 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

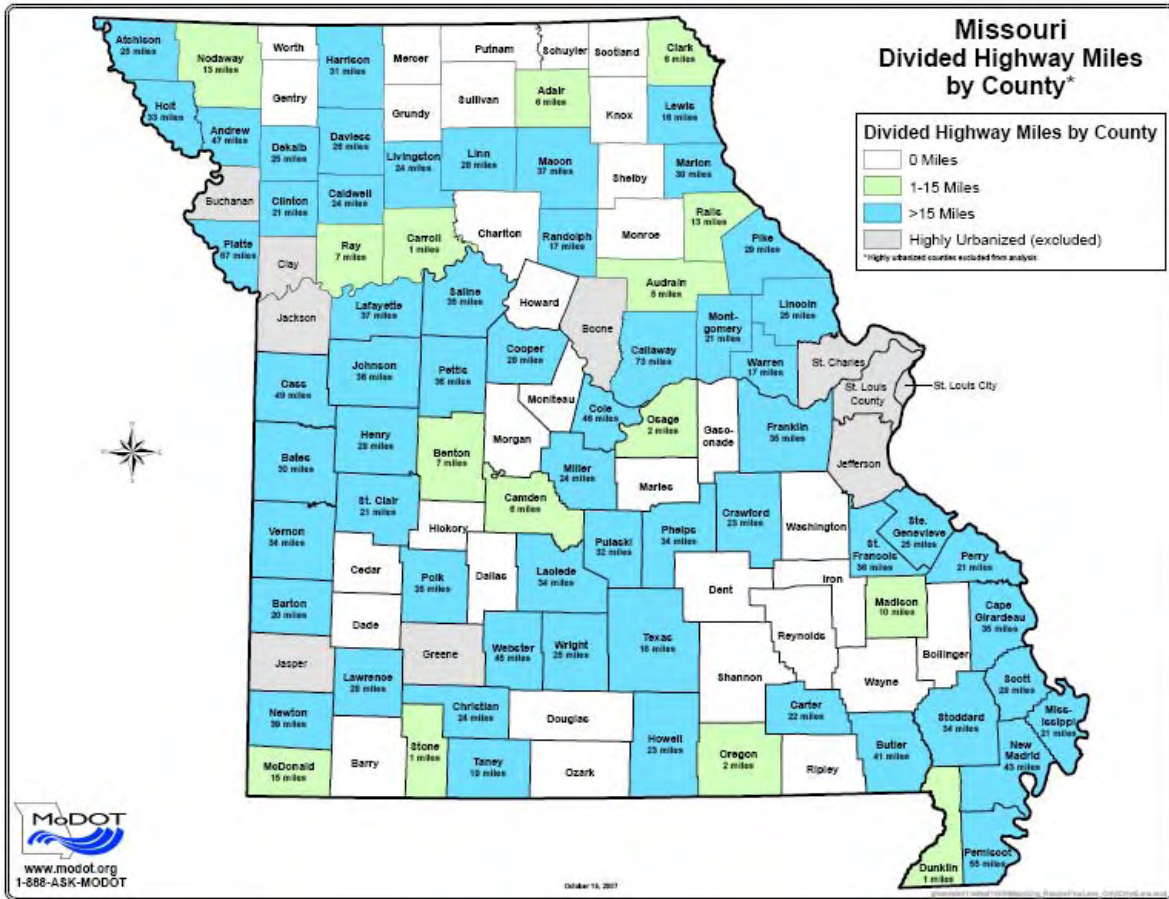
This analysis examines Missouri's non-urbanized counties based on the level of four-lane highway miles in the county and the economic development of the county based on seven economic indicators. The selected economic indicators included in this analysis include: 2005 county population, 2006 annual wage, 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 than 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 excluded 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**

<i>Economic Development Indicator*</i>	<i>46 Counties with <b>LESSTHAN</b> 15 miles of four-lane highway</i>	<i>59 Counties with <b>MORE THAN</b> 15 miles of four-lane Highway **</i>	<i>Difference between county groups</i>	<i>Percent difference between county groups</i>	<i>Percent change from original 2003 report</i>
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](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/infrastructure/tran\\_prosp.stm](http://www.missourieconomy.org/community/infrastructure/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.

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