Pettis County Baseline: 1998-2009

by
Kathleen K. Miller

Contributions:
Anna M. Cox
Thomas G. Johnson

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Community Policy Analysis Center
University of Missouri-Columbia
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Acknowledgements

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Pettis County Baseline Advisory Panel

Tammy Brownlow (chair) Sedalia-Pettis County Development Corporation
Debbie Biermann, Chamber of Commerce
Jim Ellis, Eastern County Commissioner
Kyle Herrick, Chamber of Commerce
Gary Hieronymus, former Superintendent
Grant Jones, Waterloo Industries
Mark Mason, Union Savings Bank
Harlan McGinnis, Workforce Development Board
Bob Merriman, University Outreach & Extension
Tony Monsees, Monsees Realty
Stephen Poort, State Fair Community College
Jim Rank, Bothwell Regional Health Center
John Simmons, Sedalia Downtown Development
Carrie Smith, Sedalia-Pettis County Development Corporation
Todd Smith, Presiding Commissioner
Sarah Spence, Interim Superintendent
Irl Tessendorf, Sedalia City Administrator
Don Utlaut, University Outreach & Extension
Larry Wilson, Western County Commissioner
Executive Summary

This report describes a set of annual baseline projections on demographic, economic, and fiscal conditions through 2009 for Pettis County, Missouri. Findings are based on a comprehensive statistical analysis of the most recent secondary data available, as well as important input provided by the Pettis County Baseline Advisory Panel. The Advisory Panel, using their personal knowledge of economic conditions in the region, came to a consensus on likely key growth rates for variables that guide the projections in the statistical model. The projections in this report are based on the following projected annual growth rates:

- Employment growth rate in Pettis County: 1.2%
- Real Per Capita Income growth rate in Pettis County: 2.0%
- Employment growth rate in surrounding counties: 1.7%
- Labor Force growth rate in surrounding counties: 1.0%

The Advisory Panel selected these growth rates after a careful study of trends in these variables over the past 10 years.

Key Findings

- Over the next ten years, Pettis County's population is expected to increase from 37,069 to 43,807, an annual growth rate of 1.7 percent. Population and employment growth will increase school enrollment and the demand for housing.
- Population growth is spurred in part by a net increase of over 3,000 jobs locating in Pettis County. Job growth is also expected to increase the available labor force in the county.
- Commuting plays an important role in the labor market of Pettis County. By 2009, almost 5,000 people will commute to Pettis County jobs from outside the county.
- Out-commuting will also increase, reaching 3,600 people by 2009. This growth in both in- and out-commuting represents the growing regionalization of the local economy.
- Per capita income (before inflation) is projected to grow 2.2 percent annually through 2009. Total personal income is expected to grow over $360 million (in 1998 dollars), representing an annual growth rate of 4.3 percent.
• Increased county income and employment will fuel growth in taxable retail sales. The projected growth in retail sales is 2.8 percent per year.

• Both county revenues and demand for expenditures are expected to grow during the baseline period. Demand for expenditures is expected to grow faster than revenues, suggesting that Pettis County will be challenged in the future to deliver public services more efficiently.

Issues for the Future
Regional economic growth brings both opportunities and challenges. The current economic expansion in the US has led to the lowest level of unemployment in our history. That is good news for everyone, provided local businesses can continue to find qualified workers to fill their jobs. Today, most jobs require successful applicants to have more training and more skills than they did just two years before. To assure an adequate labor supply, local business and educational leaders must understand more about the demand for semi- and high-skilled jobs in the area, and work more closely together to meet those demands.
### Pettis County Baseline: Summary Table

**Baseline Summary Table, 1998-2009**

**Pettis County**

(Reported in 1998 dollars)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Base Year 1998</th>
<th>2009</th>
<th>Absolute Change</th>
<th>Annual Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td>37,069</td>
<td>43,807</td>
<td>6,738</td>
<td>1.7%</td>
</tr>
<tr>
<td>Over 65 years old</td>
<td>5,857</td>
<td>6,921</td>
<td>1,065</td>
<td>1.7%</td>
</tr>
<tr>
<td>Under 16 years old</td>
<td>9,171</td>
<td>10,838</td>
<td>1,667</td>
<td>1.7%</td>
</tr>
<tr>
<td>School Enrollment</td>
<td>6,339</td>
<td>7,491</td>
<td>1,152</td>
<td>1.7%</td>
</tr>
<tr>
<td><strong>Workforce Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor force</td>
<td>21,720</td>
<td>25,408</td>
<td>3,688</td>
<td>1.5%</td>
</tr>
<tr>
<td>Employment by Workplace</td>
<td>24,709</td>
<td>28,174</td>
<td>3,465</td>
<td>1.3%</td>
</tr>
<tr>
<td>Employment by Residence</td>
<td>20,106</td>
<td>23,332</td>
<td>3,226</td>
<td>1.5%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>966</td>
<td>1,171</td>
<td>205</td>
<td>1.9%</td>
</tr>
<tr>
<td>Incommuters</td>
<td>4,201</td>
<td>4,789</td>
<td>589</td>
<td>1.3%</td>
</tr>
<tr>
<td>Outcommuters</td>
<td>2,719</td>
<td>3,622</td>
<td>903</td>
<td>3.0%</td>
</tr>
<tr>
<td><strong>Demand for Housing</strong></td>
<td>14,828</td>
<td>17,523</td>
<td>2,695</td>
<td>1.7%</td>
</tr>
<tr>
<td><strong>Economics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real Per Capita Income ($)</td>
<td>$21,052</td>
<td>$26,176</td>
<td>$5,124</td>
<td>2.2%</td>
</tr>
<tr>
<td>Real Total Personal Income ($1,000)</td>
<td>$780,384</td>
<td>$1,146,675</td>
<td>$366,291</td>
<td>4.3%</td>
</tr>
<tr>
<td>Assessed Property Value ($1,000)</td>
<td>$337,887</td>
<td>$451,303</td>
<td>$113,416</td>
<td>3.1%</td>
</tr>
<tr>
<td>Taxable Retail Sales ($1,000)</td>
<td>$414,765</td>
<td>$544,708</td>
<td>$129,943</td>
<td>2.8%</td>
</tr>
<tr>
<td><strong>Revenue Sources ($1,000)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>County Sales Tax Receipts</td>
<td>$2,126</td>
<td>$2,724</td>
<td>$597</td>
<td>2.6%</td>
</tr>
<tr>
<td>County Property Tax Receipts</td>
<td>$1,044</td>
<td>$1,309</td>
<td>$265</td>
<td>2.3%</td>
</tr>
<tr>
<td>Intergovernmental Revenues</td>
<td>$1,716</td>
<td>$2,881</td>
<td>$1,165</td>
<td>6.2%</td>
</tr>
<tr>
<td>Other Revenues</td>
<td>$930</td>
<td>$1,229</td>
<td>$299</td>
<td>2.9%</td>
</tr>
<tr>
<td><strong>Total Revenue ($1,000)</strong></td>
<td>$5,816</td>
<td>$8,142</td>
<td>$2,326</td>
<td>3.6%</td>
</tr>
<tr>
<td><strong>Total Demand for Expenditures ($1,000)</strong></td>
<td>$6,367</td>
<td>$10,563</td>
<td>$4,196</td>
<td>6.0%</td>
</tr>
<tr>
<td>Revenues minus Expenditures ($1,000)</td>
<td>-$551</td>
<td>-$2,421</td>
<td>-$1,870</td>
<td>-</td>
</tr>
</tbody>
</table>

1 Excludes Operating Transfers

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Community Policy Analysis Center  4  Pettis County Baseline
Introduction

The Community Policy Analysis Center (CPAC) is based at the University of Missouri-Columbia. CPAC’s mission is to provide research, outreach and training that support improved policy decisions in Missouri communities.

Project Overview

The Pettis County Baseline Project has been a collaborative effort between the community and the Community Policy Analysis Center. An eighteen-member advisory panel met monthly from January through June to form background information and basic assumptions for this baseline model. The Show-Me Model and the baseline projections described in this report will assist public officials and community residents in addressing economic changes.

This baseline does not represent a forecast of local economic performance. Rather, it is a tool designed to help decision-makers see local economic activity as a comprehensive system that is both logically consistent and statistically valid. The baseline can then be used as a tool to estimate the direct and total effects of numerous expected changes. The model does not account for changes due to the national business cycle or other macroeconomic effects.

About the Show-Me Model

The Show-Me Model uses statistically estimated relationships to project changes in economic, social, and fiscal conditions for Missouri Counties under alternative economic conditions or scenarios. The baseline shows 10-year projections that assume no changes in policy or economic trends in the community. By employing the Show-Me Model, alternative scenarios can be compared to baseline projections.

The model considers the effects of changes in employment, labor force, property tax base, personal income, retail sales, and demographics. The Show-Me Model makes projections of changes in population, commuting patterns, unemployment, tax revenues and county expenditures. The heart of the model is a series of labor market relationships – the demand for workers (local and nearby jobs) and the supply of workers (local and surrounding labor
The labor market model allocates all members of this available labor force between local jobs, jobs in surrounding counties, and unemployment.

The fiscal relationships in the model are based on cross-sectional data from county governments. The model measures (1) the cost of providing public services, (2) the demand for public services, and (3) the size of the local tax base. Together these estimates of public costs and revenues lead to predictions of changes in fiscal deficits or surpluses. The Show-Me Model, based on statistical relationships, generates 10 years of annual projections for a multitude of economic, fiscal, and demographic indicators. The projections are shown in a series of charts and graphs for ease of interpretations.

Report Outline

Findings in this report are discussed in five sections. The first two sections describe recent trends and projections in demographic and workforce characteristics in Pettis County, assuming no major changes in policy or economic conditions. The third section describes and discusses the economic base of Pettis County, as compared to surrounding counties and the state as a whole. The fourth section focuses on Pettis County income and the fifth section on the fiscal conditions of the county.
Population Characteristics

The following population figures can help citizens understand trends in their community. These trends can be used to analyze future service needs for the entire population or particular age groups.

Population in Pettis County is projected to grow at a rate of 1.7 percent per year during the next ten years. Because this appears to be a faster growth rate than during the past ten years, a closer examination of the recent population trends is important. The population data through the 1990s are estimates from the US Census Bureau. Based on the Census estimates, the population in Pettis County grew by almost 1,600 people between 1990 and 1998. However, the Census estimates do not account for any change in the percent of population that is Hispanic, a trend that the Advisory Panel knows to have occurred. An adjustment of the official population estimates by 3,000 (an estimate of the Hispanic population in the county) results in an annual population growth of 1.6 percent during the 1990s. Therefore, the projections above represent a continuation of existing population trends. These calculations are summarized in Table 1.
Table 1. Pettis County Population Calculations

<table>
<thead>
<tr>
<th></th>
<th>1990 Population</th>
<th>1998 Population</th>
<th>Total Number Change</th>
<th>Total Percent Change</th>
<th>Average Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Official Census Estimates</td>
<td>35,492</td>
<td>37,069</td>
<td>1,577</td>
<td>4.4%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Official Estimates plus 3,000</td>
<td>35,492</td>
<td>40,069</td>
<td>4,577</td>
<td>12.9%</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

The following figure compares the population changes in Pettis and surrounding counties based on official Census data for the 1990s. According to this data, Pettis County population growth was slower than most surrounding counties. However, without accurate estimates of growth in Hispanic and other sub-sets of the population, it is difficult to make a true comparison.

Figure 2. Total Percent Change in Population, 1990-1998
Pettis and Surrounding Counties

Source: US Census Bureau
Analysis by CPAC
Missouri as a whole experienced a population growth rate of 0.76 percent per year during 1990-1998, slower than the US growth rate of 1.04 percent. Many counties in Northern Missouri experienced population decline during this period, although the decline in actual numbers was small. The city of St. Louis lost population, contributing to much of the population increase in the suburban St. Louis metropolitan areas. Highest rates of growth were in the Branson and Table Rock Lake region. Other areas of growth include the Lake of the Ozarks and Truman Reservoir Regions.
Figure 3 shows Pettis County’s population in 1990 and 1998 by age categories, in five-year increments. There have been increases in many of the younger ages, representing school-aged children. The decline in the 20-24 and 25-29 categories is often seen in rural areas as people of this age tend to leave their hometowns to attend college, join military services, and find employment. Pettis County has seen significant growth in the population aged 35 through 59, reflecting much of the working age population.
Figure 4 shows the projected growth in school enrollment, corresponding to the population trends in school age children. The projected growth rate in school enrollment is 1.7 percent per year.
Workforce Characteristics

Workforce characteristics include the labor force, employment and unemployment levels, and commuting patterns.

Figure 5 illustrates the expected growth in the civilian labor force – the number of adults who live in Pettis County and are now gainfully employed or actively seeking work. During the 1990s, labor force in Pettis County grew substantially, following national trends of increased labor force participation. During the baseline period, labor force is expected to grow at an annual rate of 1.5 percent.
Map 2 shows how the labor force has changed in Missouri counties during the 1990s. The labor force in the counties along the I-70 corridor has, with few exceptions, shown ten to thirty percent growth in the labor force. Counties in the Bootheel and in Northwestern Missouri, on the other hand, have seen little growth in the labor force.
Figure 6 shows the employment projections for Pettis County through 2009. Pettis County experienced tremendous employment growth during the mid-1990s, averaging 2.3 percent per year during the 1990s. However, after examination of these trends and discussion of likely scenarios, the advisory panel decided that this high level of employment growth was not likely to continue, given such tight labor markets in the region. Therefore, the advisory panel selected a more modest growth rate for employment in the baseline period.
Figure 7 compares the average annual employment growth over the past ten years for Pettis and surrounding counties. As shown, employment growth has been highest in Pettis County. Pettis County had a net gain in employment every year between 1987 and 1998, with the exception of 1990-1991, when 93 jobs were lost. The largest job gains occurred between 1994 and 1995, when over 1,000 jobs were added in Pettis County.
Figure 8 shows the number of unemployed persons in Pettis County. Unemployment has dropped significantly from the 1993 number. High unemployment during that time was occurring throughout the state. The drop that occurred between 1993 and 1994 mirrored the statewide decrease in unemployment levels. The unemployment rate in Pettis County (3.9 percent in 1999) was slightly higher than that of the State (3.4 percent in 1999).
Figure 9 represents the expected changes in the number of commuters in Pettis County. In-commuters are those people who live outside Pettis County but whose place of employment is within the county. Out-commuters are residents of Pettis County who work in another county. Data and projections for commuting in the Show-Me model are based on the 1990 Census. However, the Sedalia-Pettis County Development Corporation conducted an employee residence survey of 37 manufacturing companies representing 6,815 employees. Based on those survey results, roughly 30 percent of manufacturing employees commute to Pettis County. Weighting this with respect to in-commuting rate of 13 percent for all employment, the model was adjusted to represent an in-commuting rate of 17 percent for total employment.
Pettis County Economic Base

A more specific analysis of employment by industry can provide a basis for comparison or for future planning and decision-making. Economic base is typically measured with specialization ratios. A specialization ratio is the ratio of each sector’s local share of employment to the same sector’s share of state employment. A specialization ratio of 1.0 indicates that the sector is equally specialized at the local and state levels. A ratio greater than one indicates that the county is relatively more specialized than the state as a whole in that industry sector. A ratio of less than one indicates that the county is relatively less specialized in that sector than the state.

Figure 10 shows the specialization ratios by major sector for Pettis County in 1998. The county has a very high specialization in manufacturing, being almost twice as specialized in manufacturing as the state. Pettis County is also relatively more specialized than the state in agriculture and mining. Pettis County is about equally specialized as the state in retail trade, construction, and government, and relatively less specialized than the state in the other sectors shown in the figure.
Figure 11 shows the distribution of employment in Pettis County across major industry sectors\(^1\). Manufacturing makes up about one-quarter of total employment in Pettis County. Figure 12 (below) shows this same chart for the state as a whole. Services make up the largest proportion of employment statewide, and manufacturing accounts for a much smaller portion statewide than in Pettis County.

\(^1\) Note: percentages do not add up to 100% because non-farm proprietors are not classified into industry sectors.
Another source of employment data is the County Business Patterns data set, which offers some more detailed employment figures. Figure 13 illustrates the diversity of manufacturing employment in Pettis County using this data set. One quarter of manufacturing employment is in the Food and Kindred Products sector, but substantial proportions of manufacturing employment are in the Transportation Equipment and Fabricated Metal Products Sector as well.
Income Characteristics

Income measures are an important part of a community’s profile. Changes in income can give important indications about the well being of the community. All figures are standardized to 1998 dollars to discount any changes in income caused by inflation.

Figure 14 shows the projected real per capita income for Pettis County through 2009. Per capita income in the county has growth substantially during the mid to late 1990s. From 1993 through 1998, per capita income grew 2.7 percent per year, and from 1995 through 1997 the growth was 3.6 percent per year. Per capita income (minus inflation) is expected to grow at an annual rate of 2.3 percent per year, following the advisory panels notion that employment and income growth would not continue at the same high levels as have been occurring.
Map 3 shows the per capita income ranges for each county in Missouri in 1997. The State per capita income was $24,670 and the Pettis County per capita income was $20,476. Much of northern Missouri show relatively high levels of per capita income, most falling in the $18,000 to $23,000 range. All of the highest category per capita income counties are found in the metropolitan areas, reflecting the higher pay (and high cost of living) that can be found there.
Figure 15 shows earnings by source for Pettis County and for the State for 1997. The percent of income from labor earnings is slightly smaller in Pettis County than the State, and the percent of earnings from transfer payments and dividends, interest and rent is slightly higher in Pettis County. Transfer payments are made up of state and federal government payments to individuals, such as social security and unemployment payments.
Figure 16 shows the projections for total personal income in Pettis County, representing an annual growth rate of 4.3 percent per year. This growth rate is a result of growing population and per capita income in the county. This growth represents a continuation of recent trends in the county.
Fiscal Characteristics

County services are funded primarily through property tax, sales tax, and intergovernmental revenues. Because of the direct link to the county financial statement, knowing the total assessed property value and retail sales levels in the county can play an important role in the planning process.

Figure 17 represents the values of assessed real and personal property in Pettis County. The increase in assessed property values from 1996 to 1999 represents re-assessments in the county. Assessed property value is expected to grow at a rate of 3.1 percent per year over the next ten years. Earlier estimations of the model for Pettis County projected assessed property values to grow at a much slower rate. After consideration by the advisory panel, the parameters were re-estimated, and a more likely projection for assessed property values was reached, shown above.
Figure 18 represents the actual and anticipated levels of taxable retail sales in Pettis County. Taxable retail sales grew significantly between 1992 and 1997 in the county, growing 35 percent during that time. However, the growth in retail sales leveled off between 1997 and 1999, only growing one percent.

As with assessed property values (figure 17), the advisory panel felt the initial projections under-estimated growth in retail sales. Again, these parameters were re-estimated, and the figure above represents a likely growth rate of 2.8 percent per year for the next ten years.
Figure 19 represents the expected growth in both total revenue and total demand for expenditures for Pettis County. Total revenue (from county sales tax, property tax, fees, and intergovernmental transfers) is expected to grow at an annual rate of 3.6 percent. The increase in revenues from 1999 to 2000 and subsequent drop from 1994 to 2005 represents the five-year one-half cent sales tax increase recently passed by voters in Pettis County. Total demand for expenditures are expected to grow at an annual rate of 6.0 percent per year.

As demonstrated by the chart, total county revenues are less than expenditures in the projection years. By Missouri law, the county is not authorized to spend more than in takes in over time. The rapid growth in demand for services suggests that the county government will be challenged in the future to deliver public services even more efficiently, and generate new sources of government revenues as well. It is important to note that many of the investments needed to serve a growing population base, such as expansion for schools and water and sewer infrastructure, are managed by other local government jurisdictions.
Scenario Development

By employing the Show Me Model, alternative scenarios can be compared to baseline projections. Baselines are ten-year projections that assume no changes in policy or economic trends in the community. Scenarios are also developed collaboratively with residents of the community. Scenarios can be created to model and changes that may be occurring in the local economy. Questions such as: “Something just happened or is about to happen in our community…what does it mean?” is the most common question answered with the creation of a scenario.

Scenarios are commonly generated from sources outside the Show Me Model. Input-output models such as IMPLAN are frequently used to generate estimates of total employment and income changes associated with certain scenarios. Other information sources are used to provide context for the scenario being created. Once a scenario is created, the employment and income impacts are input into the baseline model, creating new projections for the economic, demographic, and fiscal variables included in the model. Two lines would exist for each variable – one representing the level of the variable with the change and one without. This method of analyzing the consequences (by comparing what would happen with and without the change) helps inform local government leaders, business people, and citizens about the consequences of decisions.
The Community Policy Analysis Center provides objective analysis and policy decision support for Missouri Communities. Located at the University of Missouri-Columbia, CPAC is part of the Social Sciences Unit of MU’s College of Agriculture, Food and Natural Resources. Major funding for the Center is provided by University of Missouri Outreach and Extension.

CPAC scientists work closely with state and local government leaders, local businesses and community groups to provide research and educational programs that will inform key decisions, and assist them in understanding how policy decisions at all levels of government affect their community’s quality of life.

For further information, please contact Professor Thomas G. Johnson, Ph.D., Director, Community Policy Analysis Center, by phone (573) 882-2157, by fax (573) 882-2504, or by mail:

Community Policy Analysis Center
365 McReynolds Hall
University of Missouri-Columbia
Columbia, Missouri 65211-6200

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