

The Economics of Land Use



Final Report

San Juan County Economic Base Analysis

Prepared for:

E>P Committee

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E>P FORWARD

A small group of San Juan County community leaders formed a think tank called E>P (pronounced "E Greater than P") to research the economic sustainability solutions for the region. E>P refers to an economic development strategy of growing jobs in pace with or faster than population. The Farmington E>P group has taken this challenge on for the San Juan region.

Challenges

San Juan County is a resource based economy with a major concentration of jobs and income in the energy and the Mining/Extractives sectors. Local Mining/Extractives and oil and gas industry experts believe the San Juan Basin is likely to be past its peak production capacity and that a long-term contraction of oil and gas and Mining/Extractives activity is imminent. The recently announced planned closure of three of the five Arizona Public Service (APS) coal fired power plant units near Shiprock further reinforces this concern. The loss of these economic base jobs is expected to ripple through the economy resulting in additional job losses in the industries that support the extractive industries, as well as in the service sectors. Unemployment in San Juan County is currently approximately 10 percent and could potentially go much higher if these economic base jobs are not replaced.

E>P is developing a data driven understanding of the County's economy and developing an economic development strategy to diversify the economy, attract new employers, and retain firms that are at risk of closing or re-locating. E>P has associated itself with San Juan Economic Development Services (SJEDS) to develop a strategy and plan for the region's economic transformation and survival. E>P has engaged the services of Lautman Economic Architecture (LEA) to provide process guidance and strategic counsel. Under the direction of LEA, E>P contracted with Economic & Planning Systems (EPS) to conduct an economic base analysis, evaluate the characteristics of the economic base, and measure the impacts of these changing conditions on the local and regional economy.

Scope of this Study

This Economic Base Analysis uses publicly available data sources to describe San Juan County's economic base and the contributions of each industry to the economic base, and the "multiplier effect" of economic base jobs. The study then presents two scenarios in which one-third and one-half of the energy and extractive industry jobs are lost over a 15 year period. The total job losses throughout the economy are estimated and the resulting decline in population and rise in unemployment are also shown. These are not intended to be predictive forecasts; they illustrate the relationships between the economic base jobs and the rest of the economy, demonstrating the importance of keeping the existing and attracting new economic base jobs to sustain the economy.

Following this study, the E>P has identified a process for focusing economic development efforts in San Juan County, described below.

Economic Transformation Process

Phase 1 - Leadership, Process Agreement and Predicament

During this phase, the E>P group will identify the community's core leadership. Included will be a briefing on changes in the economic development game and the current status of economic conditions in New Mexico and the region. A demographic and economic assessment will be completed and the economic predicament of the region will be defined (the scope of this study). Concurrently the group will engage in a series of charrettes with selected thought leaders to explain the process and explore new approaches to economic development.

Phase 2 - Destination, Target Analysis, Competitive Validation and Goal Setting

The E>P group will research candidate industry sectors the region could endeavor to attract to offset projected economic base job losses and provide for net growth. They will start with development of a criteria and process for selecting target economic base sectors. An outside contractor(s) will be employed to help develop a list of candidate target industry sectors, validate the community's competitive market advantage and ability to gain market share. The number of potential jobs and project new firms required to meet the community needs will be estimated for each target. Destination work will culminate with a retreat with the leadership group and expanded group of stakeholders from institutions such as the Chamber, SJEDS, San Juan County, San Juan College, and local government.

In this phase the group will develop two lists of potential opportunities:

Phase 3 - The Plan

In this phase the group develops an operational plan with five components:

- Convert job creation and transaction goals to a time line
- Develop an infrastructure and inventory plan
- Produce a Workforce Development Plan
- Develop a finance strategy & Business Climate Improvement Agenda
- Create a marketing and sales plan.

This phase culminates with a retreat where the E>P group and the contractor briefs community stakeholders and organizations on the elements the draft plan and begin the process of ratifying a final plan.

Phase 4 - Organization, Delegation and Finance

In this step, the group and contractors will work with a broad array of community leaders to design an overarching management model needed to execute the plan. The organizational model includes designing an approach for various local and regional institutions to take management responsibility, project funding, project oversight, staffing, etc. for the specific program areas called for in the plan. The Contractor will assist the community's leadership in defining organizational roles, and fundraising.

1. EXECUTIVE SUMMARY

Introduction

The purpose of this economic base study is to document the economic base of San Juan County and evaluate the potential impacts of a contraction of employment in economic base sectors. Intuitively, San Juan County residents understand that Mining/Extractives, oil and gas exploration and extraction, and electric power generation (utilities) employ a large number of people and are part of the economic base. There is growing acknowledgment that oil and gas production in the San Juan Basin has likely peaked and is on the decline. As production declines, there will be fewer jobs in the oil and gas sectors, and fewer jobs in the businesses that support oil and gas extraction and exploration and extraction. The recently announced closure of three Arizona Public Service (APS) power generating units also indicates that the power generating and coal mining sectors are likely to decline. The purpose of this report is to provide objective data and analysis to:

- Document the economic base of San Juan County;
- Quantify the contribution of key industries including Mining/Extractive industries which includes oil and gas, Utilities, and Retail to the San Juan County economy;
- Estimate the impacts of a contraction in economic base employment on the overall economy and City of Farmington and San Juan County gross receipts tax (GRT).

Report Organization

This report contains five chapters including this Executive Summary. Chapter 2 provides baseline population. Chapter 3 reviews employment trends from 2000 to 2009. Chapter 4 quantifies the economic base and looks in more detail at the composition of employment by industry. In Chapter 5 retail sales flows are quantified and the amount of sales originating outside the County are estimated. Chapter 6 defines and analyzes the impacts of two economic scenarios that assume a contraction in Mining/Extractives and oil and gas and Utilities employment.

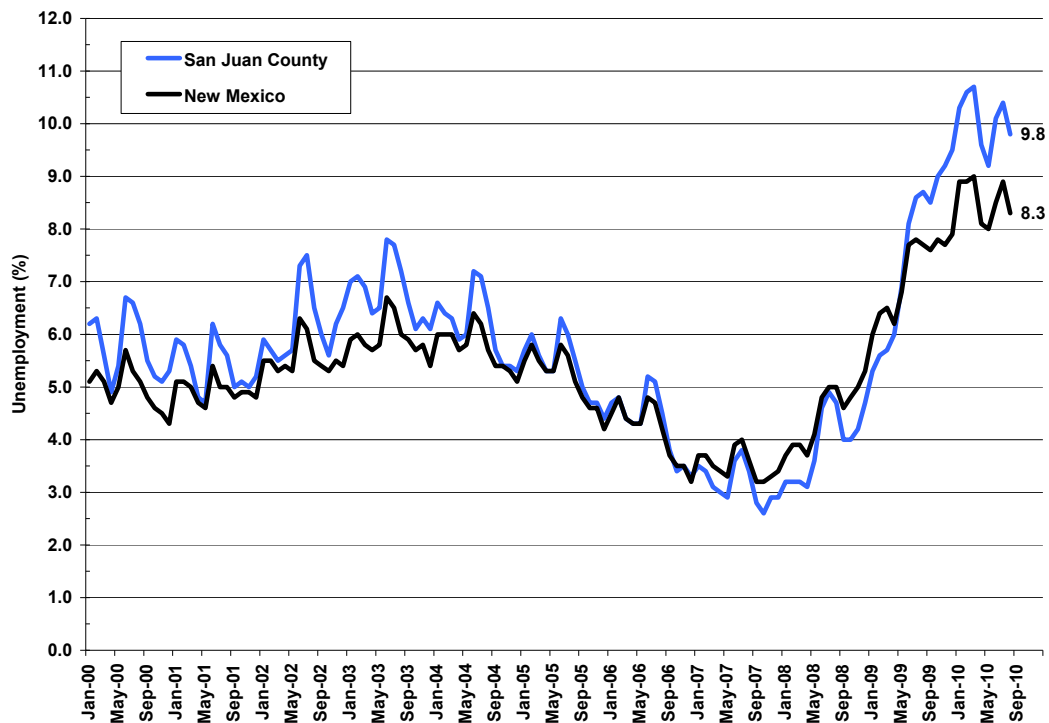
Summary of Findings

1. San Juan County experienced stable population and job growth from 2001 to 2008, but is now in a serious economic recession along with much of the U.S.

The population of San Juan County is approximately 124,000. Population grew by 10,000 people at 0.9 percent per year from 2000 to 2009. From 2001 to 2008, San Juan County also added 7,700 wage and salary jobs and employment peaked in 2008 at 52,900 wage and salary jobs. However, from 2008 to 2009 the County lost nearly 3,000 jobs, a 5.4 percent decline in employment. Job losses continued in January 2010 with an additional 2,400 jobs lost. There were minor gains in employment in the spring and fall of 2010, but these were offset by another 1,000 job decline in June. As of September 2010, San Juan County experienced a net loss of 4,900 jobs since the beginning of 2009, erasing most of the job gains achieved from 2001 to 2009. Employment is currently at approximately 49,900 wage and salary jobs.

The unemployment rate in San Juan County is nearly 10 percent, compared to 8.3 percent in the State of New Mexico. The rise in unemployment is due to large job losses in Mining/Extractives, Construction, and Retail, as well as smaller losses throughout the economy.

Figure ES-1
San Juan County Unemployment Rate
San Juan County Economic Base Analysis



2. There are signs of job growth returning, but the gains have been small compared to the number of jobs lost over the past two years.

Since 2008, San Juan County has lost over 4,900 wage and salary jobs. The most recent employment figures from August and September 2010 show an increase of 600 jobs, replacing 12 percent of the jobs lost. In the coming months and years there will need to be much more substantial job growth in economic base industries to replace the jobs that have been lost.

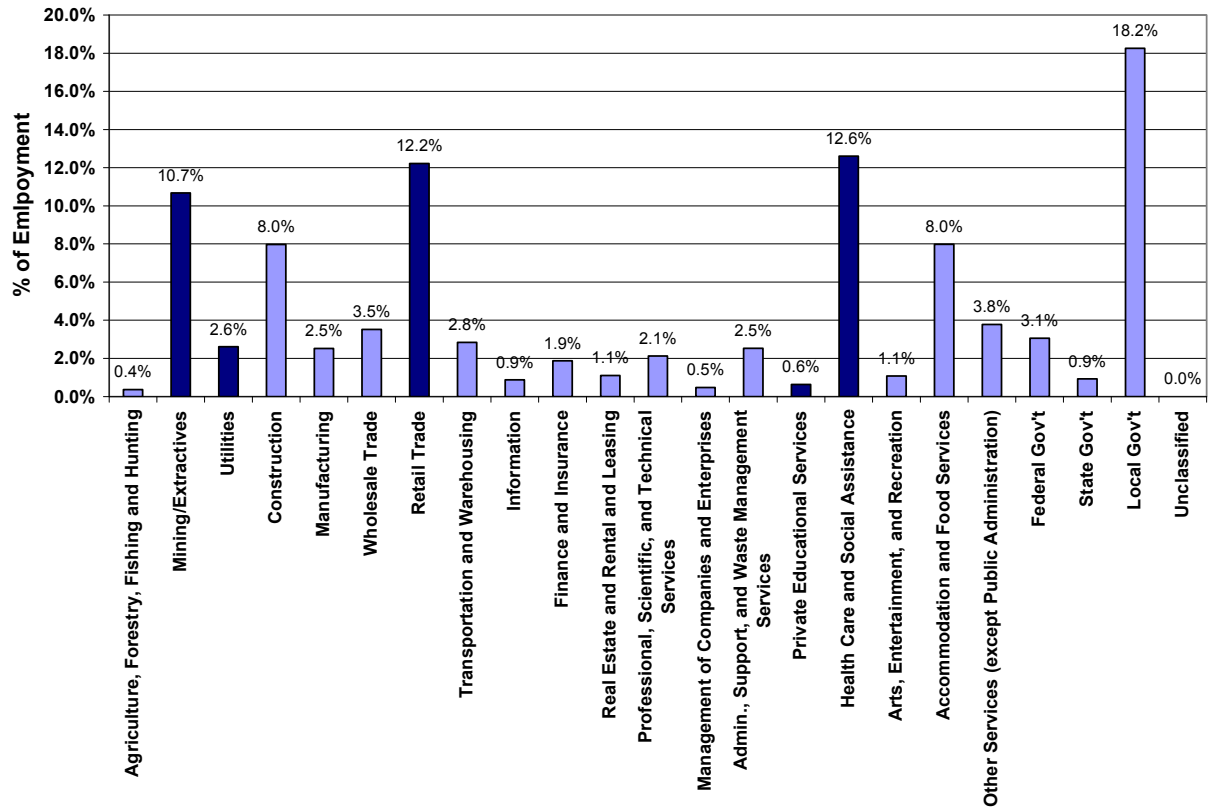
3. San Juan County has a high birth rate resulting in a growing young population; this can be an asset if the new labor force can be educated and trained for the employment needs of the region.

There is concern over a labor force shortage in some parts of the U.S due to baby boomers aging out of the labor force and a declining birth rate. San Juan County does not have this problem, as the birth rate is 1.3 times the national average and the population is younger. As long as these new entrants to the labor force can be educated and trained with skills that are in demand, San Juan County with a growing labor pool that will be attractive to new industries. On the other hand, the high birth rate is a threat to local government and health and social services if the new population cannot be effectively educated and trained.

4. The largest industries in San Juan are Government, Health Care, Retail Trade, and Mining/Extractives.

Government or "Public Administration" is the largest industry sector in terms of jobs, accounting for 22 percent of employment in San Juan County, with Local Government accounting for 18 percent of employment. Health care contains 13 percent of the County's jobs primarily in San Juan Regional Medical Center, Basin Home Health, Presbyterian Medical Services, and the Northern Navajo Medical Center. Retail trade supports 12 percent of the County's jobs. Mining/Extractives account for 11 percent of all jobs and Utilities account for 3 percent.

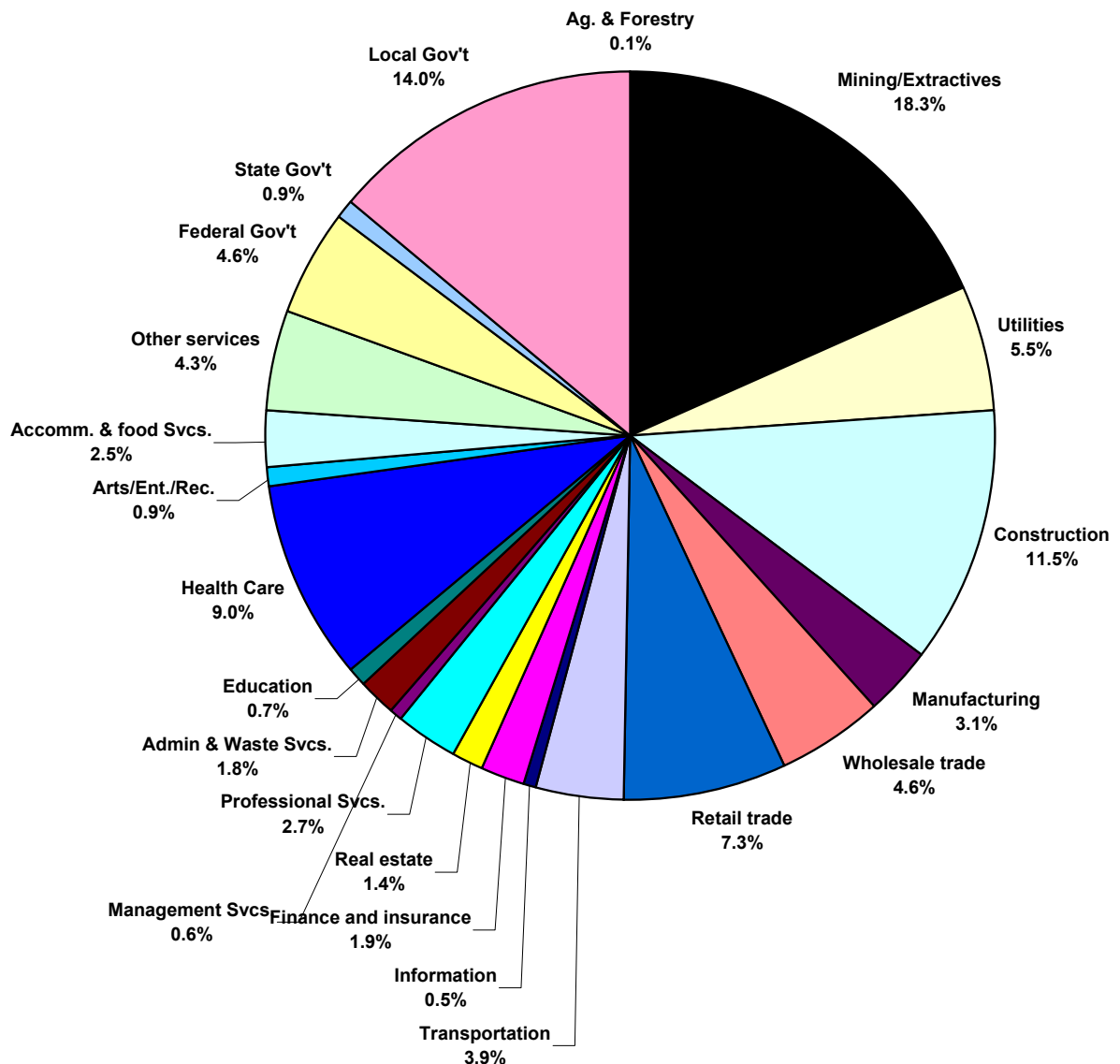
Figure ES-2
Percent of Employment by Industry, San Juan County, 2009
San Juan County Economic Base Analysis



5. The largest sources of personal income (wages and benefits) in San Juan County are Mining/Extractives and Government; however, the Mining/Extractives sector has a larger economic impact.

Personal income is the total compensation received by an employee, including wages and benefits such as health insurance and employer contributions to retirement plans. Mining/Extractives account for 11 just percent of employment but generate 18 percent of the County’s personal income, indicating that it is a key economic base industry. Government generates 19 percent of all personal income with 22 percent of all jobs, indicating that it has a much lower economic impact than Mining/Extractives. The Health Care industry contributes 9 percent of personal income, with 13 percent of total employment. Retail accounts for 7 percent of personal income and 12 percent of employment.

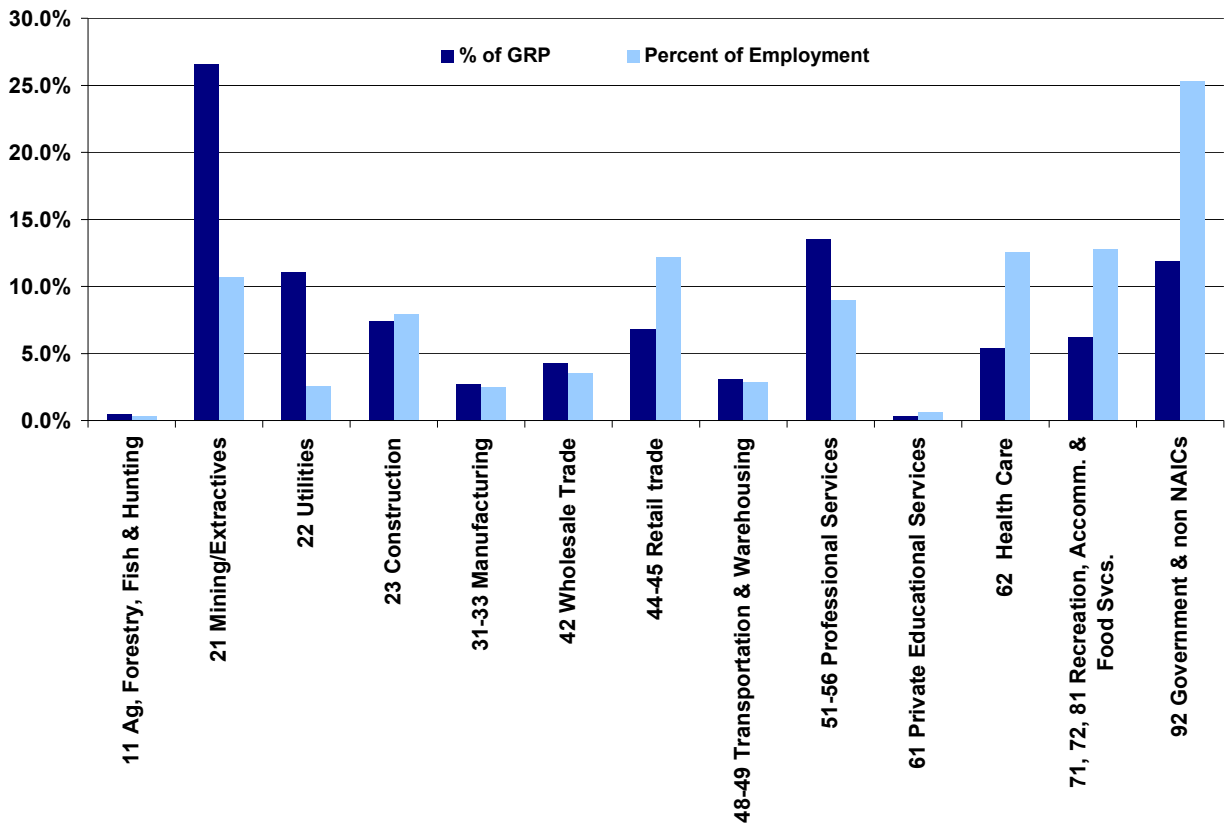
**Figure ES-3
Personal Income by Industry, San Juan County, 2008
San Juan County Economic Base Analysis**



6. Mining/Extractives are the largest economic drivers, accounting for 27 percent of gross regional product and \$1.4 billion of economic activity.

San Juan County has a total GRP of \$5.3 billion. Mining/Extractives contributes \$1.4 billion to San Juan County's economy, making it the largest single industry driver in the County, comprising 27 percent of total GRP. The next largest industry in terms of GRP or value added is Professional Services, generating 13.6 percent of GRP with only 2 percent of total jobs. Due to the wide ranges of wages and profitability levels in Health Care, it generates 5.4 percent of the GRP but accounts for 12.6 of employment. Health care is, however, still considered a critical economic base sector for Farmington. The contributions of other industries are shown as well, but are generally less than 10 percent of the economy.

**Figure ES-4
Gross Regional Product and Percent of Total Employment, San Juan County
San Juan County Economic Base Analysis**



7. Approximately 40 percent of the Farmington area's retail sales originate outside the County.

In total, Farmington area retail businesses receive 40 percent of their sales from outside San Juan County. This is achieved by the presence of a concentration of national retailers around the Animas Valley Mall and an agglomeration of auto dealers that serve the four corners region. In total, there are approximately 1.5 million square feet of comparison shoppers' goods regional retail space, including the 462,000 square foot Animas Valley Mall. The Motor Vehicles and Parts category is the largest importer of sales, with nearly 60 percent of its sales estimated to come from outside San Juan County.

Approximately 40 percent of retail employment can be considered economic base jobs. While retail has a smaller economic impact than Mining/Extractives, professional services, or manufacturing, retail is a critical generator of local government Gross Receipts Tax, which funds public services.

The Farmington area retail market is believed to be close to or at its peak with little opportunity for significant expansion, as most major national retailers in the comparative shoppers goods categories are present. The continued viability of Farmington area retail will be based on continued job stability and job growth, and the economic performance of the Mall. Job growth supports resident spending which in turn drives retail sales. If the Mall begins to decline in performance and loses its anchor tenants, there are likely to be impacts to the many retailers in the mall and clustered around the mall.

8. The San Juan Basin is believed to have passed its peak production capacity. This will lead to a long-term decline in oil and gas exploration and production, and in associated revenues and jobs.

Local oil and gas industry experts believe that peak oil and gas production in the San Juan Basin occurred in the late 1990s. This means that future exploration and extraction will be more costly and less efficient per barrel of oil and per cubic foot of natural gas. The long term outlook (15 to 30 years and beyond) is therefore a slow overall decline in production volume, revenues, and employment. Over shorter timeframes, the Basin will continue to experience temporary spikes in exploration and production as oil and gas commodity prices change with global demand and economic cycles, consistent with the history of the Basin over the past 20 years. Changes in technology may also allow for temporary production increases as horizontal drilling and hydrofracturing did in the late 1990s and early 2000s. However, despite any temporary increases in production, the remaining resources in the Basin are limited and the efficiency of production is likely to continue to decline. This will make the Basin less competitive to new oil and gas discoveries such as the Barnett Shale in Texas and the Marcellus Shale in the Appalachians. The San Juan Basin is already judged to be more costly for natural gas than other competing basins in the U.S.

Due to the complex relationships between national and international demand, prices, production, and extractive industry employment, it would be difficult and likely inaccurate to forecast with any accuracy the decline of the San Juan Basin oil and gas resources and associated jobs. Therefore this study has assumed two simple scenarios: a 2.5 percent per year decline in mining and extractive employment and a 5.0 percent annual decline. The 2.5 percent annual decline is equivalent to a loss of 2,000 jobs, or one-third of mining and extractive employment over 15 years. A 5.0 percent annual decline would be equivalent to a loss of 3,300 jobs or half of mining and extractive employment over 15 years. The purpose of this study is not to predict when these impacts will occur, but to illustrate the impacts of losing portions of major economic base industries.

9. The recently announced closure of three of five generating units at the APS point to a likely decline in coal mining and power generation employment.

Nearly all of the coal production in San Juan County is consumed by the PNM San Juan Generating Station and the APS Four Corners Power Plant. Due to a changing regulatory and technological environment in power generation, APS recently announced that it will close three of the older less efficient generating units and install new pollution control on the two remaining units. This is expected to result in net job losses after the plants have been decommissioned. There are also local concerns that new legislation or policies may reduce the demand for coal-generated power, which could further affect the viability of existing plants and employment in power generation. The same two scenarios have been assumed for power generation: a 2.5 percent and 5.0 percent annual decline in employment over 15 years.

10. A contraction in employment in Mining/Extractives and Utilities will have major economic impacts on San Juan County.

Two economic scenarios were analyzed to estimate the impacts of losing portions of the Mining/Extractives and Utilities industries over a 15 year period from 2010 to 2025. These are not forecasts per se, but provide a way to frame and isolate the potential impacts and "ripple effects" of a contraction of the economic base. **Scenario 1** is defined as a 2.5 percent per year decline in Mining/Extractives and Utilities over 15 years. This equates to a loss of about one-third of those industries employment, or a loss of 1,980 direct jobs in Mining/Extractives and 440 direct jobs in Utilities. **Scenario 2** assumes a 5.0 percent annual decline in Mining/Extractives and Utilities over 15 years, resulting in a loss of 3,360 direct jobs in Mining/Extractives and 750 direct jobs in Utilities.

The loss of 1,980 direct Mining/Extractives jobs and 440 Utilities jobs under **Scenario 1** results in the loss of an additional 2,020 jobs in supporting industries and services through the multiplier effects of the direct economic base job losses. The total jobs losses are approximately 4,400, equivalent to a 7.5 percent decline in employment. The resulting unemployment would be 15 percent. A decline in population can also be expected as the affected labor force moves out of San Juan County in search of employment if these economic base jobs are not replaced. The workers most likely to leave first will be the skilled workers that can find opportunities elsewhere. The population is estimated to decline by 7.1 percent, a loss of 8,800 people.

Table ES-1
Summary of Employment and Population Impacts
San Juan County Economic Base Analysis

Scenario Summary	2.5%/Yr Decline	5.0%/Yr Decline
EMPLOYMENT IMPACTS		
2010 Jobs	59,410	59,410
Aug 2010 Unemployment Rate	9.8%	9.8%
Mining Jobs Lost	-1,980	-3,360
Utilities/Power Jobs Lost	-440	-750
Job Losses, All Other Sectors	<u>-2,020</u>	<u>-3,430</u>
Total Jobs Lost 2025	-4,440	-7,540
2025 Jobs	54,970	51,870
Percent Change	-7.5%	-12.7%
Unemployment Rate 2025	15.3%	18.5%
POPULATION IMPACTS		
Current Population	124,000	124,000
2010-2025 Population Change	<u>-8,835</u>	<u>-15,659</u>
2025 Population	115,165	108,341
Percent Change	-7.1%	-12.6%

Source: Economic & Planning Systems

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A 5.0 percent annual decline in Mining/Extractives and Utilities in **Scenario 2** is estimated to result in a loss of 3,360 direct Mining/Extractives jobs and 750 direct Utilities jobs. Through the multiplier effects, an additional 3,430 jobs lost in other sectors. This is a 12.7 percent decline in employment, with an estimated unemployment rate of 18.5 percent by 2025 if these jobs are not replaced. The County would lose 15,600 people.

GRT Impacts

The declines in employment and population will also affect local government tax revenues. The City of Farmington is estimated to experience an 8.4 percent loss in GRT by 2025 under **Scenario 1** and a 14.4 percent decline in **Scenario 2**. San Juan County is estimated to experience larger GRT impacts as it receives more of its GRT from the Mining/Extractives industries than the City of Farmington. San Juan County is estimated to lose 12.4 percent of its GRT in **Scenario 1** and 21.2 percent in **Scenario 2**. Other revenues such as property tax will also be affected but are not estimated in this analysis.

Table ES-2
Summary of GRT Impacts
San Juan County Economic Base Analysis

Gross Receipts Tax	2009 GRT	2.5%/Yr Decline		5.0%/Yr Decline	
		2025 GRT	% Change	2025 GRT	% Change
City of Farmington					
Retail	\$19,110,000	\$17,537,663	-8.2%	\$16,323,127	-14.6%
Mining/Oil & Gas	4,040,000	2,722,175	-32.6%	1,803,690	-55.4%
All Other Sectors	<u>28,660,000</u>	<u>27,220,358</u>	<u>-5.0%</u>	<u>26,226,664</u>	<u>-8.5%</u>
Total GRT	\$51,810,000	\$47,480,196	-8.4%	\$44,353,482	-14.4%
San Juan County					
Retail	\$9,326,445	\$8,559,081	-8.2%	\$7,966,339	-14.6%
Mining/Oil & Gas	10,218,547	6,885,314	-32.6%	4,562,152	-55.4%
All Other Sectors	<u>24,352,677</u>	<u>22,992,352</u>	<u>-5.6%</u>	<u>22,054,029</u>	<u>-9.4%</u>
Total GRT	\$43,897,669	\$38,436,748	-12.4%	\$34,582,521	-21.2%

Source: Economic & Planning Systems

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Figure ES-5
Summary of Job Losses Under Scenario 1
San Juan County Economic Base Analysis

Job Losses with a 2.5% Annual Decline in Mining/Extractives and Utilities

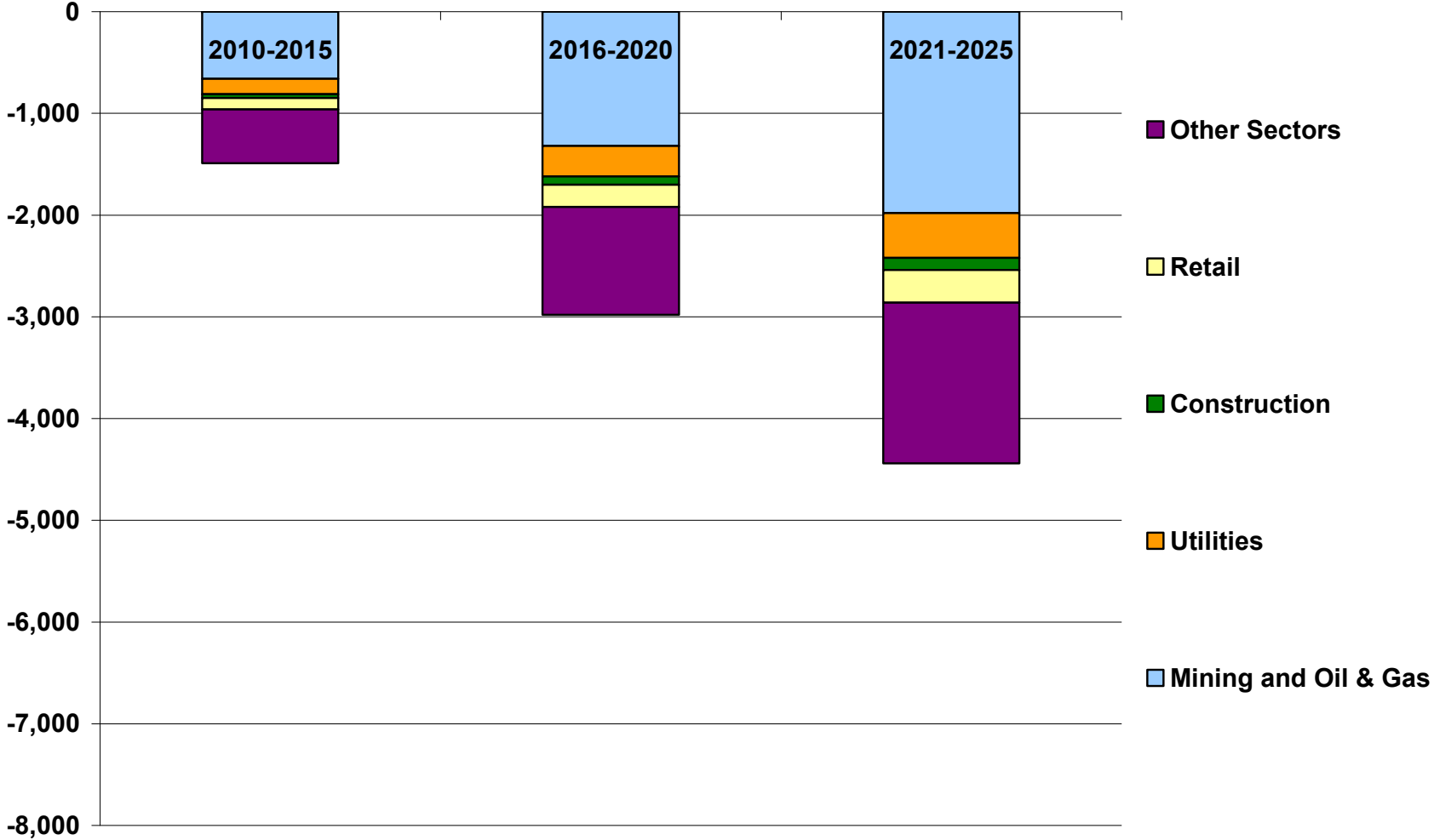
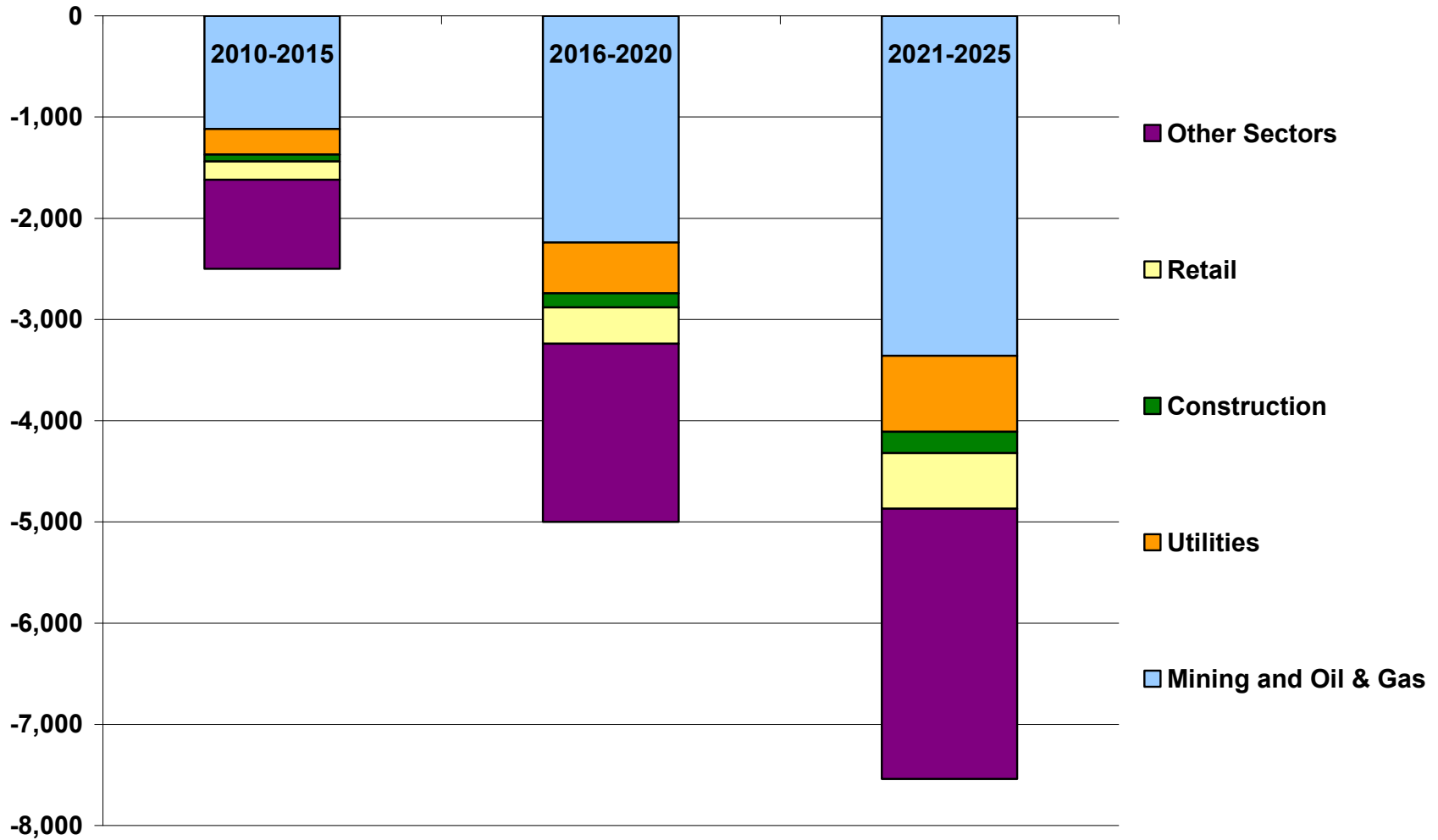


Figure ES-6
Summary of Job Losses Under Scenario 2
San Juan County Economic Base Analysis

Job Losses with a 5.0% Annual Decline in Mining/Extractives and Utilities



11. San Juan County should replace economic base jobs as they are lost or threatened. The E>P model provides a framework for understanding the problem and creating a strategy to sustain the economy.

E>P is based on the premise that to be healthy, a region's population and economy should grow at a sustainable rate that does not stress municipal and social services or quality of life. The goal of E>P is to grow jobs faster than population in order to minimize the number of unemployed people and people dependent on social services. The E>P framework shows the number of economic base jobs that are needed to sustain a healthy population growth rate.

To sustain a 1.5 percent annual population growth rate over the next 15 years, San Juan County would need to add approximately 4,300 to 5,000 jobs every five years. Since economic base jobs have a multiplier of approximately 2.0, only half of the new jobs would need to be economic base jobs, and the multiplier effects of the new economic base jobs would spin off additional supporting service jobs to meet the needs of the growing labor force. San Juan County would therefore need to attract 2,100 to 2,500 new economic base jobs every five years to sustain 1.5 percent per year population and labor force growth.

These projections can be used as the basis for a job creation/recruitment strategy. Assuming 50 new hires per firm, San Juan County would need to attract approximately 86 firms by 2015 to address current unemployment plus five-year growth, and 45 to 50 firms every five years thereafter. This is equivalent to four to five new firms per year.

**Table ES-3
San Juan County E>P Model
San Juan County Economic Base Analysis**

Description	Factor					2010-2025 Change / Totals
		2010	2015	2020	2025	
E > P Forecast						
Population	1.5%	124,000	133,583	143,907	155,029	31,029
			<u>2011-2015</u>	<u>2016-2020</u>	<u>2021-2025</u>	
Population Change			9,583	10,324	11,122	31,029
New Labor Force	43.2%		4,143	4,463	4,808	13,414
Employed People at Natural Unemployment Rate	5.0%		3,936	4,240	4,567	12,743
New Jobs Needed [1]	1.1		4,329	4,664	5,024	14,017
Economic Base Jobs Needed [2]	2.0		2,165	2,332	2,512	7,009
Unemployment Gap [3]		2,150				
Total Jobs Needed			4,315	2,332	2,512	9,159
New Firms Needed			<u>2011-2015</u>	<u>2016-2020</u>	<u>2021-2025</u>	
Total New Firms, 50 new hires per firm	50		86	47	50	183

[1] Upward adjustment to convert employees to jobs to account for multiple job holders. An estimate of an average of 1.1 jobs per employee is used.

[2] Economic base jobs in San Juan County generally have a multiplier of approximately 2.0.

[3] 1/2 of current 10% unemployed people.

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2. POPULATION TRENDS

This Chapter provides an overview of population and employment trends in San Juan County from 2000 to 2009. It is divided into two sections covering population trends, followed by employment and unemployment trends.

Population

As of 2009, San Juan County had a population of 124,000. The majority of the County's population lives in unincorporated San Juan County, with 66,400 residents, as shown in **Table 1**. Farmington is the largest incorporated jurisdiction with 43,400 people. The County seat of Bloomfield has a population of 7,300. Aztec has approximately 7,000 residents.

From 2000 to 2009, the County's population grew by 10,100 residents at an annual rate of 0.9 percent. San Juan County grew at approximately the same rate as the State of New Mexico, which was by 1.1 percent per year, adding 189,000 residents. Most of the County's population growth occurred in Farmington, which saw an increase of nearly 5,000 residents from 2000 to 2009. The unincorporated area population increased by 4,100 residents. Bloomfield added 565 residents and Aztec added 490 residents.

Natural population increase (births minus deaths) accounted for nearly all of the County's population growth of 10,100 people. From 2000 to 2009, there were just over 11,000 births, as shown in **Table 2**. Approximately 1,200 residents moved to San Juan County from foreign countries. The majority of these new residents are assumed to have moved to the area to work in construction, oil and gas, and agricultural jobs. At the same time, 1,700 people left the County for other locations in the U.S. and New Mexico. Due to the methods used by the U.S. Census, there is a margin of error with these estimates of approximately 566 people, or 5.6 percent.

Table 1
Population and Households, San Juan County, 2000-2008
San Juan County Economic Base Analysis

Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Change 2000-2000			
											Total #	Ann. #	Ann. %	
Population														
New Mexico	1,820,813	1,828,809	1,850,035	1,869,683	1,891,829	1,916,538	1,942,608	1,968,731	1,986,763	2,009,671	188,858	20,984	1.1%	
San Juan County	114,035	115,133	118,277	119,780	120,863	121,912	121,613	122,289	122,407	124,131	10,096	1,122	0.9%	
Aztec	6,495	6,541	6,709	6,785	6,821	6,853	6,894	6,928	6,923	6,985	490	54	0.8%	
Bloomfield	6,734	6,827	7,014	7,086	7,186	7,248	7,211	7,237	7,231	7,299	565	63	0.9%	
Farmington	38,445	38,794	39,914	40,646	41,166	41,771	41,918	42,365	42,602	43,412	4,967	552	1.4%	
Balance of San Juan Co.	62,361	62,971	64,640	65,263	65,690	66,040	65,590	65,759	65,651	66,435	4,074	453	0.7%	

Source: BBER, Economic & Planning Systems

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Table 2
Components of Population Change
San Juan County Economic Base Analysis

Components of Population Change	
Population Change, 2000-2009	10,096
Births	18,383
Deaths	<u>-7,241</u>
Natural Increase	11,142
Net International Migration	1,247
Net Domestic Migration	<u>-1,727</u>
Total Migration	-480
Residual/Error	-566
Total Population Change	10,096

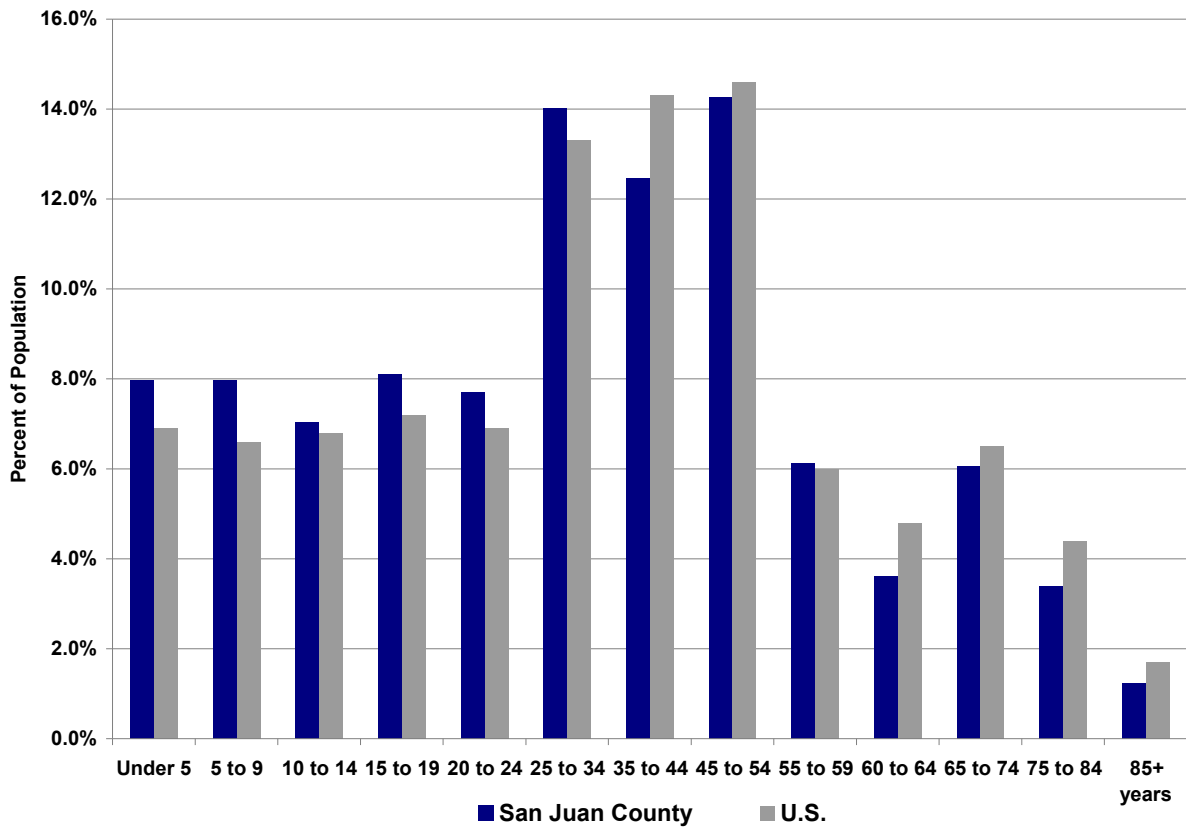
Source: US Census, Adjusted to BBER Totals by Economic & Planning Systems

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Age Structure

San Juan County is somewhat unusual for a rural county as its young population (generally under 34 years) is proportionally larger than that of the U.S. In many rural counties, there are larger proportions of elderly people aging in place, as the younger generations have moved away for college or employment opportunities. As illustrated in **Figure 1**, the percent of the population younger than 34 is higher in San Juan County than in the U.S. as a whole.

Figure 1
Population by Age, San Juan County and U.S.
San Juan County Economic Base Analysis



Implications of High Birth Rates

The large natural increase in population (births minus deaths) is the result of high fertility rates compared to the U.S. Of women who had a birth in the past 12 months, in San Juan County 45 percent were unmarried women compared to 34 percent in the U.S, as shown in **Table 3**. The fertility rate for unmarried women is 1.70 times the national average. For women 15 to 50 years old, the fertility rate is 1.34 times the national average.

Table 3
San Juan County and U.S. Fertility Rates
San Juan County Economic Base Analysis

Fertility	San Juan County		United States	
Women 15 to 50 years old, birth in the past 12 months	2,315		4,260,731	
Unmarried women	1,042	45%	1,427,673	34%
Fertility Rates per 1,000 Women		vs. U.S.		
Unmarried women	63	1.70	37	
15 to 50 years old	75	1.34	56	
15 to 19 years old	47	1.74	27	
20 to 34 years old	140	1.33	105	
35 to 50 years old	21	0.91	23	

Source: US Census; Economic & Planning Systems

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The large number of births and high fertility rates can be an asset to San Juan County if these people can be trained as they enter the labor force. In the U.S. and many metro areas, a large part of the labor force is aging and retiring out of the labor force, potentially resulting in some labor shortages. If these new workers are not adequately trained, they will continue to stress the social services in San Juan County.

3. EMPLOYMENT TRENDS

This section describes trends in job growth and decline, using three sources of data. A challenge in conducting economic analysis and monitoring a region's economy is that complete and up-to-the-minute data is not available from published sources. The U.S. Bureau of Labor Statistics (BLS) provides funds to state agencies such as the NM Department of Workforce Security to track wage and salary jobs (jobs covered by unemployment insurance). BLS data does not include sole proprietors (self-employed) or agricultural jobs and therefore accounts for only 75 to 85 percent of total jobs. BLS data provides more detail on individual industries than other sources. The U.S. Bureau of Economic Analysis (BEA) compiles data on total jobs, but must assemble these estimates from multiple sources of employment data including the BLS, U.S. Census, and IRS. As a result BEA, job estimates lag 18 to 24 months from the current time period. BLS data is more current, lagging 12 months, but does not include agricultural and sole proprietor employment and therefore does not account for all jobs. BLS publishes a more current series called the Current Employment Statistics (CES), which lags one to two months at the county level. However, the CES only tracks private sector jobs covered by unemployment insurance and provides no detail by industry; it does not include the public sector of the self-employed.

While these differences in data sources may seem like substantial challenge, these sources still provide a wealth of data to describe a local economy. Nevertheless, one should be aware of the differences in them. Also, these are publicly available for free and can be used by any local agency to track economic conditions.

Total Employment Trends

The most current figures from BEA show 67,500 total jobs in San Juan County, as shown in **Table 3**. Total employment grew by 11,500 jobs at 2.7 percent per year from 2001 to 2008. Farm employment, which includes the Navajo Agricultural Products Industry (NAPI) farm, is approximately 1,900 and increased by 735 jobs over this time period. Wage and salary jobs accounted for 7,700 of the 11,500 new jobs during this time, with a growth rate of 2.3 percent per year. Non-farm proprietors' (self-employed) jobs increased by 2,300, with farm proprietors jobs increasing by 780 jobs.

In 2008, total employment was comprised of 79.2 percent wage and salary jobs, 2.8 percent farm jobs, and 18.0 percent non-farm and farm proprietors' jobs. Non-farm proprietors comprised 15.5 percent of total jobs. There was a small 1.8 percent increase in proprietor's employment from 16.2 percent in 2001 to 18.0 percent in 2008. There was a corresponding decrease in wage and salary employment from 81.7 to 79.2 percent.

Employment Trends by Industry

BLS data on wage and salary employment is used to analyze employment trends by industry because it provides the highest level of detail publicly available for individual industries. Wage and salary jobs had a net increase of 4,800 from 2001 to 2009, as shown in **Table 4**. Health Care had the largest growth in jobs, adding nearly 2,000 jobs from 2001 to 2009 at an annual

rate of 4.7 percent. Mining/Extractives, which includes oil and gas exploration and production jobs as well as coal mining, had a net increase of 950 jobs over this time period which equates to a 2.4 percent annual change. Other Services, which includes a variety of automotive and industrial machinery repair and maintenance services and personal services (e.g., beauty salons) added nearly 600 jobs at 4.8 percent per year.

The Other Services sector, which includes a variety of automotive and industrial machinery repair and maintenance services which are related to the Mining/Extractives and Utilities industries, added nearly 600 jobs at 4.8 percent per year. However, of the 600 jobs added in Other Services, 300 were added in Personal and Laundry Services (NAICS 817)¹ and 186 were added in Private Households (NAICS 814), a category that includes maids and other housekeeping services. This reflects a national trend of growth in personal services industries. In repair and maintenance services (NAICS 811) only 113 jobs were added from 2001 to 2009. Other notable sectors with growth were Retail and Wholesale Trade, adding 400 and 487 jobs, respectively.

Industries that saw job losses over this time period include Transportation and Warehousing (-106), Administrative and Support and Waste Management Services (-144), Arts and Entertainment (-145), and Accommodations and Food Services (-111). San Juan County saw a loss of 2,900 jobs from 2008 to 2009. The biggest losses were in Mining/Extractives (-591) and Construction (-1,262).

The BLS Current Employment Statistics (CES) series shows continuing job losses again in January 2010, with an additional 2,400 jobs lost by January 2010, as shown in **Table 5**. This data series provides the most current employment data, but only contains private sector wage and salary employment and does not provide any detail by industry. There were some small job gains in the spring of 2010 followed by another 1,000 job decline in June 2010. In August and September, there were reported to be small gains of 600 jobs.

¹ The National Industrial Classification System (NAICS) assigns numeric codes to each industry. The definition of these industries can be viewed at <http://www.census.gov/eos/www/naics/>.

Table 4
Total Employment and Employment by Type, San Juan County, 2001-2008
San Juan County Economic Base Analysis

Type of Employment	2001	2002	2003	2004	2005	2006	2007	2008	Change 2000-2008	
									Total #	Ann. %
Total Employment										
Wage and salary employment	45,764	46,062	45,946	47,804	49,384	51,217	52,241	53,490	7,726	2.3%
Farm Employment	1,145	959	1,234	1,346	1,486	1,559	1,931	1,880	735	7.3%
Proprietors employment	9,096	8,977	9,603	10,045	10,599	10,810	11,443	12,159	3,063	4.2%
Farm proprietors employment	931	767	1,034	1,148	1,277	1,360	1,738	1,711	780	9.1%
Nonfarm proprietors employment	<u>8,165</u>	<u>8,210</u>	<u>8,569</u>	<u>8,897</u>	<u>9,322</u>	<u>9,450</u>	<u>9,705</u>	<u>10,448</u>	<u>2,283</u>	<u>3.6%</u>
Total Employment	56,005	55,998	56,783	59,195	61,469	63,586	65,615	67,529	11,524	2.7%
Percent of Total										
Wage and salary employment	81.7%	82.3%	80.9%	80.8%	80.3%	80.5%	79.6%	79.2%	-2.5%	
Farm Employment	2.0%	1.7%	2.2%	2.3%	2.4%	2.5%	2.9%	2.8%	0.7%	
Proprietors employment	16.2%	16.0%	16.9%	17.0%	17.2%	17.0%	17.4%	18.0%	1.8%	
Farm proprietors employment	1.7%	1.4%	1.8%	1.9%	2.1%	2.1%	2.6%	2.5%	0.9%	
Nonfarm proprietors employment	<u>14.6%</u>	<u>14.7%</u>	<u>15.1%</u>	<u>15.0%</u>	<u>15.2%</u>	<u>14.9%</u>	<u>14.8%</u>	<u>15.5%</u>	0.9%	
Total Employment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

Source: US BEA; US BLS; Economic & Planning Systems

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Table 5
Covered Wage and Salary Employment by Industry, San Juan County, 2001-2009
San Juan County Economic Base Analysis

NAICS	Industry	2001	2002	2003	2004	2005	2006	2007	2008	2009	Change	
											#	Ann. %
11	Agriculture, Forestry, Fishing and Hunting	167	253	179	235	142	146	152	178	184	17	1.2%
21	Mining/Extractives	4,447	4,232	4,351	4,766	5,076	5,582	5,787	5,988	5,397	950	2.4%
22	Utilities	1,257	1,264	1,288	1,274	1,289	1,275	1,294	1,299	1,319	62	0.6%
23	Construction	3,858	3,648	3,522	3,821	3,902	4,410	4,824	5,295	4,033	175	0.6%
31-33	Manufacturing	1,226	1,211	1,216	1,372	1,587	1,503	1,557	1,554	1,272	46	0.5%
42	Wholesale Trade	1,294	1,366	1,425	1,487	1,674	1,788	1,901	1,989	1,781	487	4.1%
44-45	Retail Trade	5,778	5,895	5,885	6,013	6,106	6,326	6,387	6,432	6,178	400	0.8%
48-49	Transportation and Warehousing	1,545	1,365	1,355	1,488	1,478	1,441	1,549	1,607	1,439	-106	-0.9%
51	Information	472	504	462	429	435	465	450	442	445	-27	-0.7%
52	Finance and Insurance	686	795	805	818	856	898	943	941	946	260	4.1%
53	Real Estate and Rental and Leasing	592	449	480	539	555	568	642	679	556	-36	-0.8%
54	Professional, Scientific, and Technical Services	1,022	1,044	1,079	1,173	1,145	1,069	1,156	1,150	1,079	57	0.7%
55	Management of Companies and Enterprises	231	253	252	268	262	260	260	243	241	10	0.5%
56	Admin., Support, and Waste Management Services	1,424	1,273	1,030	1,062	1,230	1,394	1,435	1,430	1,280	-144	-1.3%
61	Private Educational Services	302	294	299	331	352	383	380	329	318	16	0.6%
62	Health Care and Social Assistance	4,405	4,747	5,231	5,465	5,605	5,806	5,922	6,131	6,379	1,974	4.7%
71	Arts, Entertainment, and Recreation	690	466	460	458	446	488	497	502	545	-145	-2.9%
72	Accommodation and Food Services	4,149	4,584	4,414	4,496	4,588	4,587	4,110	4,189	4,038	-111	-0.3%
81	Other Services (except Public Administration)	1,314	1,351	1,478	1,541	1,689	1,713	1,975	2,008	1,912	598	4.8%
92	Government	10,905	11,068	10,735	10,768	10,967	11,115	11,020	11,104	11,252	347	0.4%
	Federal	1,618	1,620	1,630	1,664	1,618	1,544	1,480	1,462	1,545	-73	-0.6%
	State	387	398	404	411	418	429	464	475	473	86	2.5%
	Local	8,897	9,042	8,696	8,686	8,923	9,134	9,074	9,166	9,233	336	0.5%
99	Unclassified	3	8	5	7	8	8	2	1	1	-2	-12.8%
	Total	45,764	46,062	45,946	47,804	49,384	51,217	52,241	53,490	50,594	4,830	1.3%
	Ann. % Change		0.7%	-0.3%	4.0%	3.3%	3.7%	2.0%	2.4%	-5.4%		

Source: U.S. Bureau of Labor Statistics; Economic & Planning Systems

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Table 6
Change in Private Sector Wage and Salary Employment, 2010 Year to Date
San Juan County Economic Base Analysis

Year and Month	Private Sector Employment	Change	% Change
2001	45,700	---	---
2002	45,800	100	0.2%
2003	46,000	200	0.4%
2004	47,600	1,600	3.5%
2005	49,200	1,600	3.4%
2006	50,800	1,600	3.3%
2007	51,800	1,000	2.0%
2008	52,900	1,100	2.1%
2009	49,900	-3,000	-5.7%
2010			
Jan	47,500	-2,400	-4.8%
Feb	47,600	100	0.2%
Mar	47,800	200	0.4%
Apr	48,100	300	0.6%
May	48,600	500	1.0%
Jun	47,600	-1,000	-2.1%
Jul	47,400	-200	-0.4%
Aug	47,600	200	0.4%
Sep	48,000	400	0.8%

Source: U.S. Bureau of Labor Statistics; Economic & Planning Systems

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Through at least 2008, the number of oil and gas drilling rigs active in San Juan County was steady and helped to support the 1,541 jobs that were added in Mining/Extractives from 2001 to 2008. However, in 2009 and 2010 there were large drops in the number of exploration and completion rigs, with exploration rigs dropping from 32 to 11 and completion rigs declining from 120 to 65, as shown in **Table 7**. This contributed to the loss of 451 jobs from 2008 to 2009 and a presumption of continued job losses into 2010. Several local oil and gas and drilling companies have recently experienced significant layoffs.

Table 7
Drilling Rig Activity, San Juan County, 2005-Summer 2010
San Juan County Economic Base Analysis

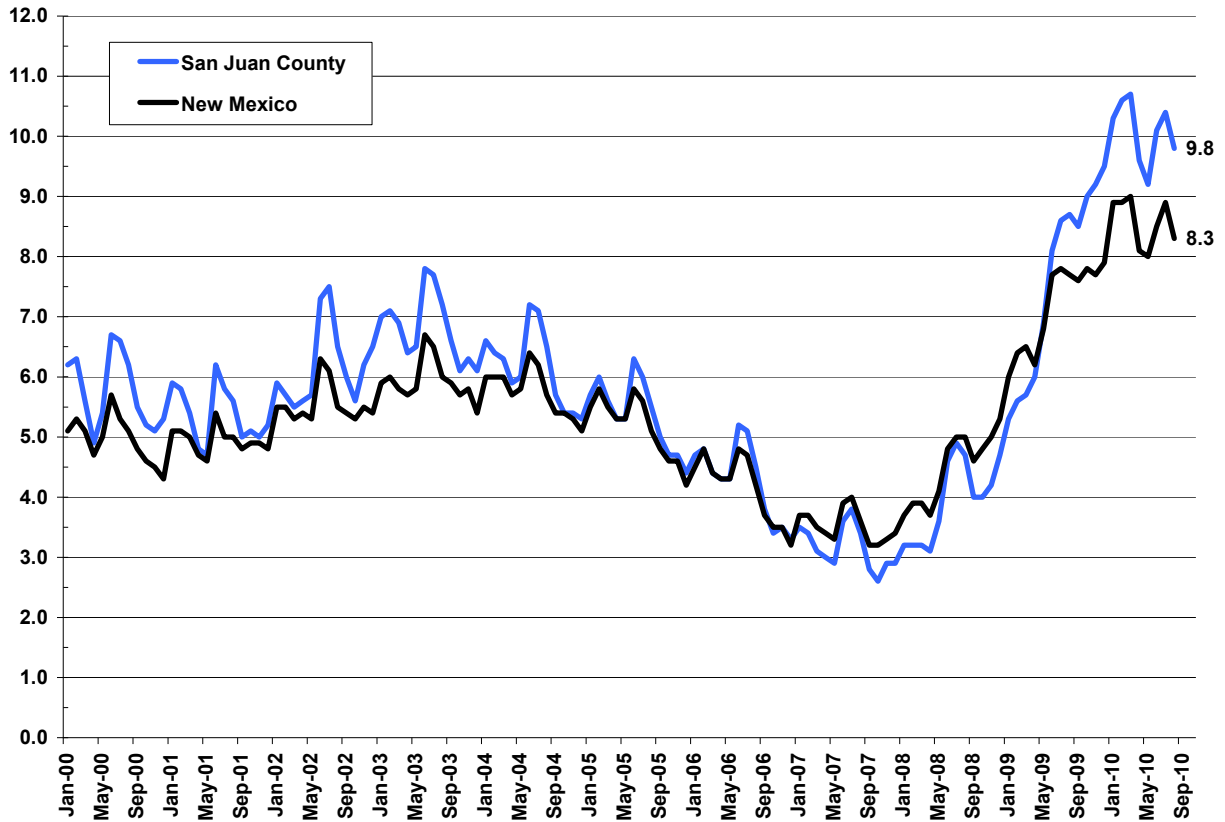
Year	Exploration Rigs	Completion Rigs
2005	34	116
2006	38	130
2007	37	122
2008	32	120
2009	14	82
2010	11	65

Source: Merrion Oil and Gas Corp. ; Economic & Planning Systems

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The unemployment rate in San Juan County is 9.8 percent as of August 2010 compared to 8.3 percent in the State of New Mexico. As illustrated in **Figure 1**, San Juan County typically experiences larger fluctuations in unemployment than the State as a whole. This is common in smaller, more isolated regions and in regions heavily dependent on natural resource extraction and construction. Before the current recession, the highest unemployment rate seen in San Juan County since 2000 was 8.0 percent in September 2003.

Figure 1
Unemployment Rate
San Juan County Economic Base Analysis



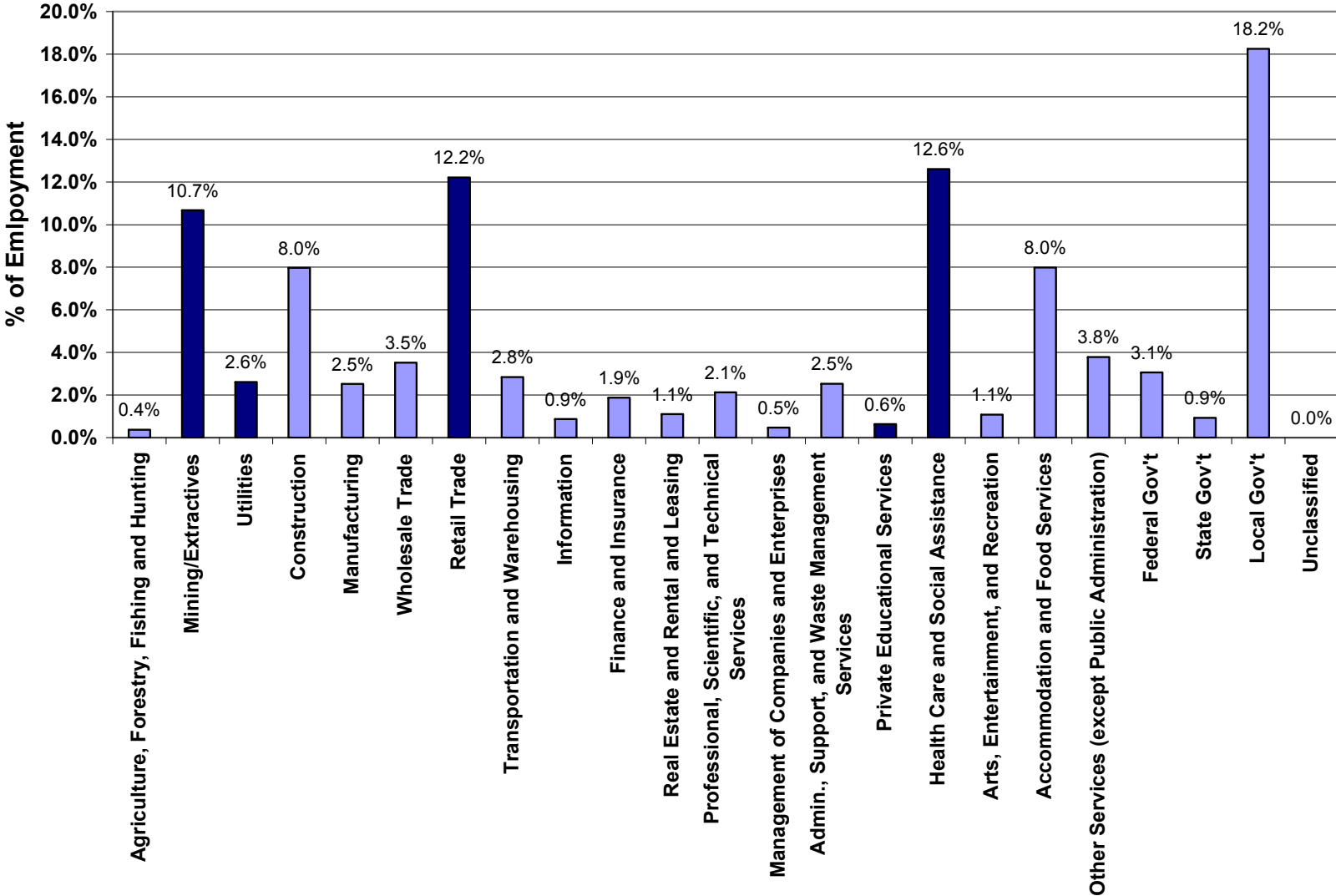
4. ECONOMIC BASE

The previous Chapter presented broad trends in employment in San Juan County. This Chapter will discuss at a higher level of detail the economic base of San Juan County. The economic base of a region or City is the collection of industries or jobs that bring in outside dollars to the economy. Bringing in outside dollars means that some good or service in the region is exported or purchased by people or businesses outside of San Juan County. There are a variety of ways to determine the economic base of a region; this chapter will describe the largest industries in terms of employment, concentrations of industries compared to the State and Four Corners region, sources of earnings and personal income by industry, export activity, and gross regional product which is the regional equivalent of gross domestic product (GDP).

Employment & Wages by Industry

The number of percent of jobs by industry provides a good characterization of socioeconomic conditions, as it shows the largest industries and the number of jobs at various wage levels. Government or Public Administration is the largest industry sector in terms of jobs, accounting for 22 percent of employment in San Juan County, as shown in **Figure 2**. Included in Government employment, 18 percent of employment is in Local Government, 3.1 percent in State Government, and 0.9 percent in Federal Government. Health care contains 13 percent of the County's jobs, stemming from the San Juan Regional Medical Center and the Northern Navajo Medical Center, as well as a number of senior living facilities. Retail trade supports 12 percent of the County's jobs. Mining/Extractives accounts for 11 percent of all jobs and Utilities accounts for 3 percent. As will be discussed later in this Chapter, Mining/Extractives and Utilities contribute a much larger amount of economic activity compared to the number of jobs in these industries.

Figure 2
Percent of Employment by Industry
San Juan County Economic Base Analysis



The average wage in San Juan County is approximately \$40,000 per year (not including benefits). The highest annual wages are in Mining/Extractives (\$70,000 per year), and in Management of Companies and Enterprises (\$60,000), as shown in **Table 8**. Most other industries have annual wages in the \$30,000 to \$45,000 range. Accommodation and Food Services wages reported at \$7,000 per year do not include compensation through gratuities.

Table 8
Average Annual Wage by Industry, San Juan County
San Juan County Economic Base Analysis

NAICS	Industry	Avg. Ann. Wage
11	Agriculture, Forestry, Fishing and Hunting	\$13,000
21	Mining/Extractives	\$70,000
22	Utilities	\$46,000
23	Construction	\$15,000
31-33	Manufacturing	\$42,000
42	Wholesale Trade	\$49,000
44-45	Retail Trade	\$26,000
48-49	Transportation and Warehousing	\$32,000
51	Information	\$31,000
52	Finance and Insurance	\$44,000
53	Real Estate and Rental and Leasing	\$32,000
54	Professional, Scientific, and Technical Services	\$22,000
55	Management of Companies and Enterprises	\$60,000
56	Admin., Support, and Waste Management Services	\$10,000
61	Private Educational Services	\$22,000
62	Health Care and Social Assistance	\$35,000
71	Arts, Entertainment, and Recreation	\$16,000
72	Accommodation and Food Services	\$7,000
81	Other Services (except Public Administration)	\$35,000
92	Public Administration	\$45,000
99	Unclassified	\$34,000
	Overall Average	\$40,000

Source: U.S. Bureau of Labor Statistics; Economic & Planning Systems

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Major Employers

The largest employers in San Juan County, compiled by San Juan County Economic Development Services (SJEDS), are listed in **Table 9**. Companies that directly and indirectly serve the Mining/Extractives, oil and gas, and power industries total nearly 5,000 jobs. BHP Billiton, which operates the San Juan Coal Mine, employs 1,000 people. Aztec Well Servicing employs 300 people. ConocoPhillips (oil and gas exploration and production) employs about 600 people. There are several other businesses serving Mining/Extractives, oil and gas, and power that employ more than 200 people. In total, these companies comprise 9.9 percent of wage and salary employment in the County.

Public education employs a large number of people, with 3,800 people employed by the 5 public institutions listed. San Juan College employs 532 people with enrollment of approximately 8,349 students. Local government employs approximately 1,500. San Juan County Regional Medical Center is the largest health care employer, with approximately 1,600 staff. Basin Home Health, which provides in-home health and hospice care, employs 400 people. Presbyterian Medical Services operates two Head Start facilities, and the Farmington Community Health and Dental Centers, employing a total of 300 people.

The largest manufacturing and fabrication/equipment maintenance employers are Raytheon, Turbo Care, and Riley Industrial Service. Raytheon manufactures military weapons systems. Turbo care repairs and rebuilds power plant turbine components from facilities throughout North America, employing 270 people. Riley is a commercial/industrial construction and maintenance contracting company, employing 230.

Table 9
San Juan County Major Employers as of 2007
San Juan County Economic Base Analysis

Major Employers	Product/Service	Full Time Employees	% of County Total
Mining/Extractives			
BHP Billiton	Mining/Coal	1,035	
Aztec Well Servicing	Oil & Gas	300	
Conoco Phillips	Oil & Gas	600	
Arizona Public Service	Power Plant	599	
PNM San Juan Generating Station	Power Plant	380	
Western Refining	Retail	333	
Enterprise Products Operating L.P.	Natural Gas	275	
Dawn Trucking	Oil & Gas	270	
Exterran	Oil & Gas	260	
Williams Energy	Oil & Gas	243	
Halliburton	Oil & Gas	239	
Flint Energy Service	Oil & Gas	230	
Process Equipment and Service Company	Oil & Gas	<u>230</u>	
Subtotal		4,994	9.9%
Education			
Farmington Public Schools	Education	1,197	
Central Consolidated Schools	Education	1,157	
San Juan College	Higher Education	532	
Bloomfield Schools	Education	486	
Aztec Schools	Education	<u>420</u>	
Subtotal		3,792	7.5%
Government			
City of Farmington	Government	821	
San Juan County	Government	<u>685</u>	
Subtotal		1,506	3.0%
Health Care			
San Juan Regional Medical Center	Health Care	1,600	
Basin Home Health/ Basin Coordinated	Home Health	405	
Presbyterian Medical Services	Health Services	300	
Subtotal		2,305	4.6%
Manufacturing and Fabrication			
Raytheon Missile Systems	Electronics & Weapons Systems	320	
TurboCare Generator Services (was Wood Group previously)	Mfg: Coil Rewinding	270	
Riley Industrial Service Inc.	Industrial Fabrication	<u>231</u>	
Subtotal		821	1.6%
Total Major Employers		13,418	26.5%
Total San Juan County Wage & Salary Employment		50,594	

Source: SJEDS; Economic & Planning Systems

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Location Quotients

A traditional and simple way of determining a region's economic base is to compare the concentration of employment by industry to larger state regions and the nation. If an area has a higher concentration of employment in a certain industry, it is likely because that area has some competitive advantage for that industry. Location quotients are a simple way of measuring the concentration of industries in San Juan County. The advantage to using location quotients is that they can be calculated easily from free publicly available data. A location quotient is:

$$\frac{\% \text{ of San Juan County Employment in Industry "A"}}{\% \text{ of State or National Employment in Industry "A"}}$$

If the location quotient for an industry in San Juan County is 1.0 or less, then it has the same concentration as the State or national economy and is not a basic industry. A location quotient greater than 1.0 shows that the industry is "concentrated" in San Juan County compared to the State or the U.S. and is likely a basic industry.

By examining the change in location quotients for an industry over time, one can identify "big winners" and "big losers." If a location quotient goes up, it suggests that Industry "A" performed better in San Juan County than it did nationally, making it a "big winner." A "big loser" is an industry that performed worse in San Juan County than nationally, with decline in the location quotient.

Concentrated Industries

Using the data on wage and salary employment in **Appendix Table 1**, the location quotients for key industries in San Juan County are compared to the State of New Mexico and the U.S in **Table 10**. Compared to New Mexico in 2009, San Juan County has a higher concentration of employment in Mining/Extractives, Utilities, and Other Services, which is largely maintenance and repair services. Mining/Extractives in San Juan County is present at 4.86 times the level of the State as a whole, and utilities are 3.23 times more concentrated in San Juan County than the State. This indicates that these are key industries in the County's economic base. Retail and Transportation are present at about the same level as the state, while Health Care is less prevalent in San Juan County than at the state level.

The concentration of Mining/Extractives and Utilities is even higher in San Juan County when compared to the Four Corners Region which is defined as New Mexico, Arizona, Utah, and Colorado; the U.S. Mining/Extractives is 11.43 times more concentrated in San Juan County than the Four Corners Region, and 22.48 times more prevalent than in the U.S. as a whole. Utilities employment is 3.53 to 4.29 times more concentrated in San Juan County than the Four Corners Region and U.S., respectively.

Winners and Losers

Mining/Extractives' location quotient in San Juan County declined by 4 to 5 points compared to the Four Corners Region and the U.S, dropping from 27.48 in 2001 to 22.48 in 2009 compared to the U.S, thus suggesting that it falls in the "big loser" category. However, it is still present in San Juan County at 22.48 times the national average. While Mining/Extractives is still comparatively strong in San Juan County, the 4 to 5 point decline in the location quotient indicates that other areas of the U.S. experience stronger growth in Mining/Extractives and oil and gas employment than San Juan County. At the three digit NAICS level, Support Activities for Mining/Extractives declined even more, losing 11 to 13 points. This is due to numerous factors such as new resources being tapped including the Barnett Shale in Texas and the Marcellus Shale in the Appalachians, and potentially due to the regulatory climate in New Mexico compared to other locations. Utilities and all other industries shown stayed relatively constant in terms of their competitiveness compared to the Four Corners Region and the U.S. No industries with significant gains ("big winners") were identified in San Juan County.

Less Concentrated Industries

Location quotients can also be used to show industries that are less prevalent in San Juan County, suggesting either a lack of demand for a particular service or a competitive disadvantage compared to other regions. San Juan County has lower concentrations of employment in Professional Services, Manufacturing, Information, and Arts and Entertainment, as shown in **Table 11**. This is partially a function of the small size and isolation of the County. Professional Services, for example, is a higher order service industry that serves large trade areas and often requires a highly educated labor force. These highly educated workers often seek locations with more career mobility options and high wages, which are most often larger metropolitan areas.

Table 10
San Juan County Industry Concentrations
San Juan County Economic Base Analysis

NAICS	Industry	2001			2009			Change 2001-2009		
		San Juan vs. NM	vs. 4-State Region	vs. U.S.	San Juan vs. NM	vs. 4-State Region	vs. U.S.	San Juan vs. NM	vs. 4-State Region	vs. U.S.
21	Mining/Extractives	5.10	15.58	27.48	4.86	11.43	22.48	-0.24	-4.15	-5.00
211	Oil and Gas Extraction	---	---	---	5.33	14.14	23.47	---	---	---
212	Mining (except Oil and Gas)	---	---	---	3.99	5.57	13.36	---	---	---
213	Support Activities for Mining	5.39	27.00	42.02	5.00	15.67	28.54	-0.39	-11.32	-13.47
22	Utilities	3.63	4.31	4.94	3.23	3.53	4.29	-0.40	-0.77	-0.65
31-33	Manufacturing	0.53	0.35	0.25	0.67	0.40	0.29	0.14	0.05	0.04
324	Petroleum and Coal Products Manufacturing	---	---	---	1.93	4.52	2.47	---	---	---
332	Fabricated Metal Product Manufacturing	1.78	0.93	0.59	2.61	1.30	0.81	0.84	0.36	0.21
333	Machinery Manufacturing	1.68	0.86	0.37	2.13	0.93	0.41	0.45	0.06	0.04
44-45	Retail Trade	1.13	1.23	1.25	1.06	1.08	1.13	-0.08	-0.16	-0.12
441	Motor Vehicle and Parts Dealers	1.28	1.33	1.55	1.31	1.41	1.58	0.03	0.08	0.02
48-49	Transportation and Warehousing	1.17	1.05	0.96	1.03	0.86	0.77	-0.15	-0.19	-0.19
484	Truck Transportation	3.06	2.95	2.66	2.68	2.57	2.43	-0.38	-0.38	-0.23
62	Health Care and Social Assistance	0.89	1.19	0.99	0.84	1.08	0.96	-0.05	-0.11	-0.03
623	Nursing and Residential Care Facilities	0.73	0.96	0.68	2.46	2.62	1.88	1.73	1.66	1.21
81	Other Services (except Public Administration)	1.15	1.13	1.03	1.38	1.36	1.16	0.24	0.22	0.12
811	Repair and Maintenance	1.95	1.93	2.25	1.94	2.04	2.25	0.00	0.11	-0.01

Source: U.S. Bureau of Labor Statistics; Economic & Planning Systems

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Table 11
Less Concentrated or Weaker San Juan County Industries
San Juan County Economic Base Analysis

NAICS Industry	2001			2009			Change 2001-2009		
	San Juan vs. NM	vs. 4-State Region	vs. U.S.	San Juan vs. NM	vs. 4-State Region	vs. U.S.	San Juan vs. NM	vs. 4-State Region	vs. U.S.
	3	4	8	11	15	16	18	22	23
31-33 Manufacturing	0.53	0.35	0.25	0.67	0.40	0.29	0.14	0.05	0.04
51 Information	0.46	0.34	0.42	0.44	0.37	0.40	-0.02	0.02	-0.02
52 Finance and Insurance	0.55	0.38	0.40	0.67	0.43	0.45	0.12	0.04	0.05
54 Professional, Scientific, and Technical Services	0.45	0.46	0.49	0.30	0.35	0.38	-0.15	-0.11	-0.11
55 Management of Companies and Enterprises	0.71	0.56	0.45	0.75	0.42	0.35	0.04	-0.15	-0.10
71 Arts, Entertainment, and Recreation	0.73	0.91	1.07	0.50	0.56	0.63	-0.23	-0.35	-0.44

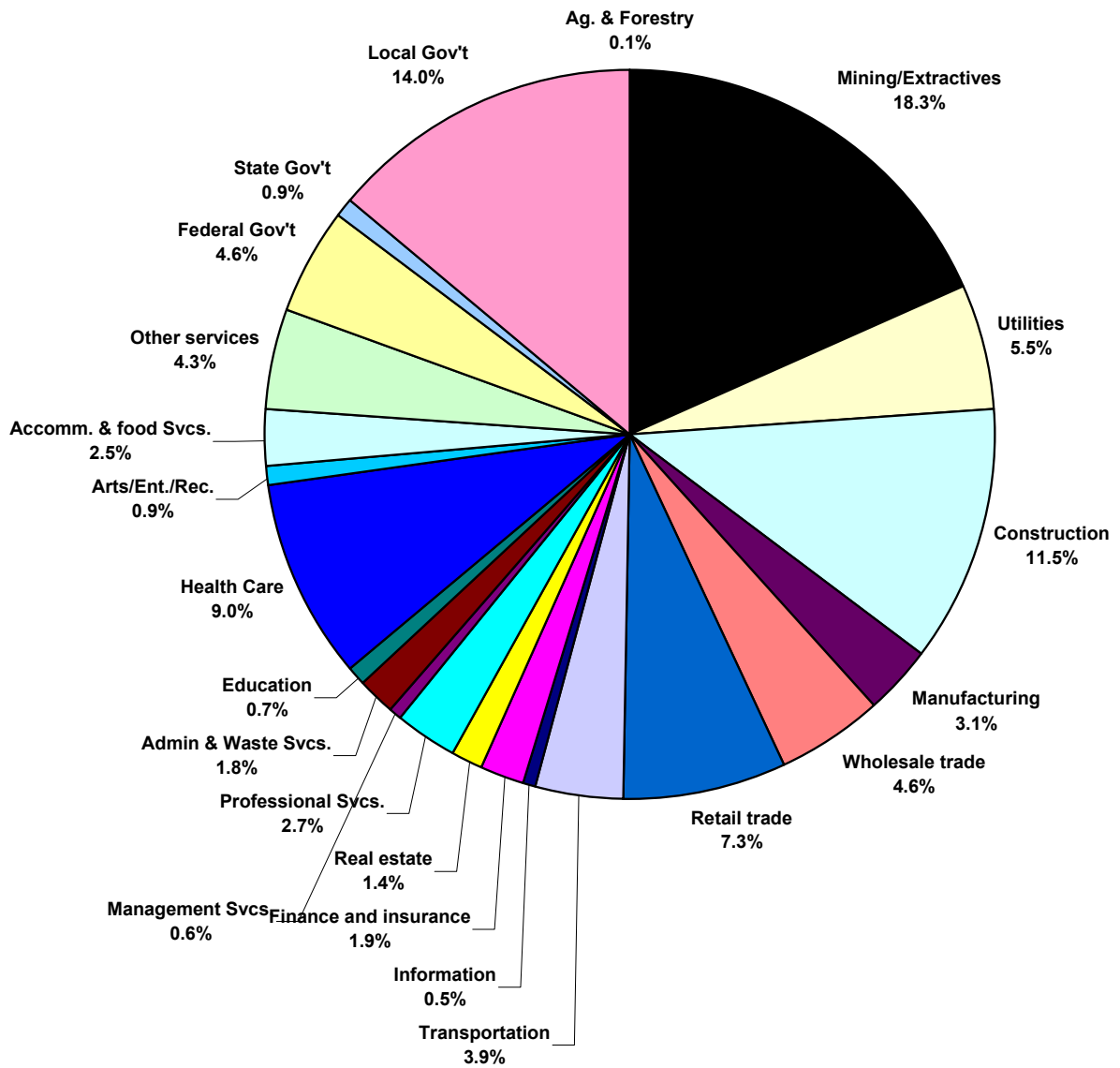
Source: U.S. Bureau of Labor Statistics; Economic & Planning Systems

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Sources of Personal Income

Personal income is defined as wages, benefits, proprietors' income, and investment income. Due to varying wage levels, some industries contribute more personal income to an economy than others, generating a larger economic impact. Mining/Extractives is the largest source of private sector personal income in San Juan County, comprising 18 percent of personal income, as shown in **Figure 3**. Government employment is also a large source of personal income, accounting for a total of 19 percent, with local government accounting for 14 percent (including school districts). Health Care generates 9.0 percent of personal income with 13 percent of total jobs. Health Care has a wide range of wage levels from low paying low-skilled jobs to higher paying professional jobs. Retail accounts for 7 percent of personal income, with 12 percent of total jobs. Mining/Extractives accounts for just 11 percent of all jobs but contributes 18 percent of all earnings, indicating that it has a much larger economic impact than these other sectors.

Figure 3
Personal Income by Industry, San Juan County, 2008
San Juan County Economic Base Analysis



Source: U.S. Bureau of Economic Analysis; Economic & Planning Systems

Exports

The best measure of a region's economic base is the amount or percentage of economic activity, services, or sales that are exported. Exports bring new dollars into an economy rather than re-circulating existing dollars. Economies with large amounts of exports can generate far more economic growth and wealth than economies based on serving the local population, i.e., "selling lattes to each other," a popular catch phrase in economics.

Using the IMPLAN Model that is discussed in more detail in Chapter 5, the approximate levels of exports (domestic and foreign) from San Juan County are shown by industry in **Table 12**. The percentage of an industry's total sales exported is also shown. Utilities, Mining/Extractives, Agriculture, and Manufacturing all export 80 percent or more of their sales. Transportation also has a large amount of exported sales at nearly 60 percent. Retail sales are shown as approximately 31 percent exports; however, the IMPLAN model reports retail sales as the gross margin between sales and the cost of sales. This under-represents the total amount of retail activity in the County. A more detailed and more accurate analysis of retail sales is presented in the next chapter.

Table 12
Exports as a Percentage of Industry Sales, San Juan County, 2008
San Juan County Economic Base Analysis

NAICS Industry	Sales in Study Area	Exports	Total Industry Receipts	Exports as % of Sales
11 Ag, Forestry, Fish & Hunting	\$9,320,000	\$78,660,000	\$87,980,000	89.4%
21 Mining/Extractives	399,230,000	2,125,620,000	2,524,850,000	84.2%
22 Utilities	167,660,000	672,620,000	840,280,000	80.0%
23 Construction	693,060,000	215,850,000	908,910,000	23.7%
31-33 Manufacturing	17,650,000	934,460,000	952,110,000	98.1%
42 Wholesale Trade	297,000,000	58,310,000	355,310,000	16.4%
48-49 Transportation & Warehousing	127,000,000	187,100,000	314,100,000	59.6%
44-45 Retail trade	360,980,000	163,800,000	524,780,000	31.2%
51-56 Professional Services	1,026,020,000	223,800,000	1,249,820,000	17.9%
61-72 Educational, Health, Recreation Service	800,980,000	338,220,000	1,139,200,000	29.7%
92 Government & non NAICs	629,820,000	160,560,000	790,380,000	20.3%
Total	\$4,528,720,000	\$5,159,000,000	\$9,687,720,000	53.3%

Source: IMPLAN; Economic & Planning Systems

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The above export figures can be used to estimate the number of economic base or “basic” jobs in each industry by multiplying the percentage of export sales by the number of jobs. In Mining /Extractives, it is estimated that 5,100 out of the 6,070 jobs are basic, as shown in **Table 13**. These 5,100 basic jobs make up 8.6 percent of employment in the County. Transportation is also a large basic industry, with 4,300 basic jobs, or 7.3 percent of total employment. Transportation includes not only traditional ground transportation but also pipeline transportation related to oil and gas extraction. Nearly all of the Manufacturing output in the County is exported; however, it is a small industry with only 1,500 basics jobs. In total, approximately 38 percent of all jobs in San Juan County are basic jobs.

Table 13
Economic Base Jobs by Industry, San Juan County
San Juan County Economic Base Analysis

NAICS Industry	Total Employment	% Exports	Approx. # Economic Base Jobs	% of Total Jobs
11 Ag, Forestry, Fish & Hunting	280	89.4%	250	0.4%
21 Mining/Extractives	6,070	84.2%	5,110	8.6%
22 Utilities	1,280	80.0%	1,025	1.7%
23 Construction	4,870	23.7%	1,157	1.9%
31-33 Manufacturing	1,570	98.1%	1,541	2.6%
42 Wholesale Trade	2,110	16.4%	346	0.6%
48-49 Transportation & Warehousing	7,250	59.6%	4,319	7.3%
44-45 Retail trade	1,730	31.2%	540	0.9%
51-56 Professional Services	7,300	17.9%	1,307	2.2%
61-72 Educational, Health, Recreation Service	15,600	29.7%	4,632	7.8%
92 Government & non NAICs	11,350	20.3%	2,306	3.9%
Total	59,410	53.3%	22,532	37.9%

Source: IMPLAN; Economic & Planning Systems

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Gross Regional Product

While agriculture has a large percentage of exports as shown above, it does not account for a significant amount of the County's total economic activity. The contribution of an industry to the County's economy can be expressed in term of "value added," which is essentially the sum of all wages, profits, and taxes generated by an industry. The total value added in a region is the Gross Regional Product (GRP), which is essentially the same as national Gross Domestic Product (GDP) but on a regional scale.

San Juan County generates about \$5.3 billion in economic activity, as shown in **Table 14 and Figure 4**. The table shows value added, percent of GRP, and percent of employment for each industry, which illustrates the relative contributions of each industry to the County's total economic activity. Agriculture exports 89 percent of its sales but accounts for less than 1.0 percent of GRP; it also comprises 0.4 percent of jobs. Mining/Extractives generates about 27 percent of San Juan County's GRP with 11 percent of employment making it the largest contributor to the economy. The next largest industry in terms of GRP or value added is Professional Services, generating 13.6 percent of GRP with only two percent of total jobs. Due to the wide ranges of wages and profitability levels in Health Care, it generates 5.4 percent of the GRP but accounts for 12.6 of employment. Health care is, however, still considered a critical economic base sector for Farmington. The contributions of other industries are shown as well, but are generally less than 10 percent of the economy.

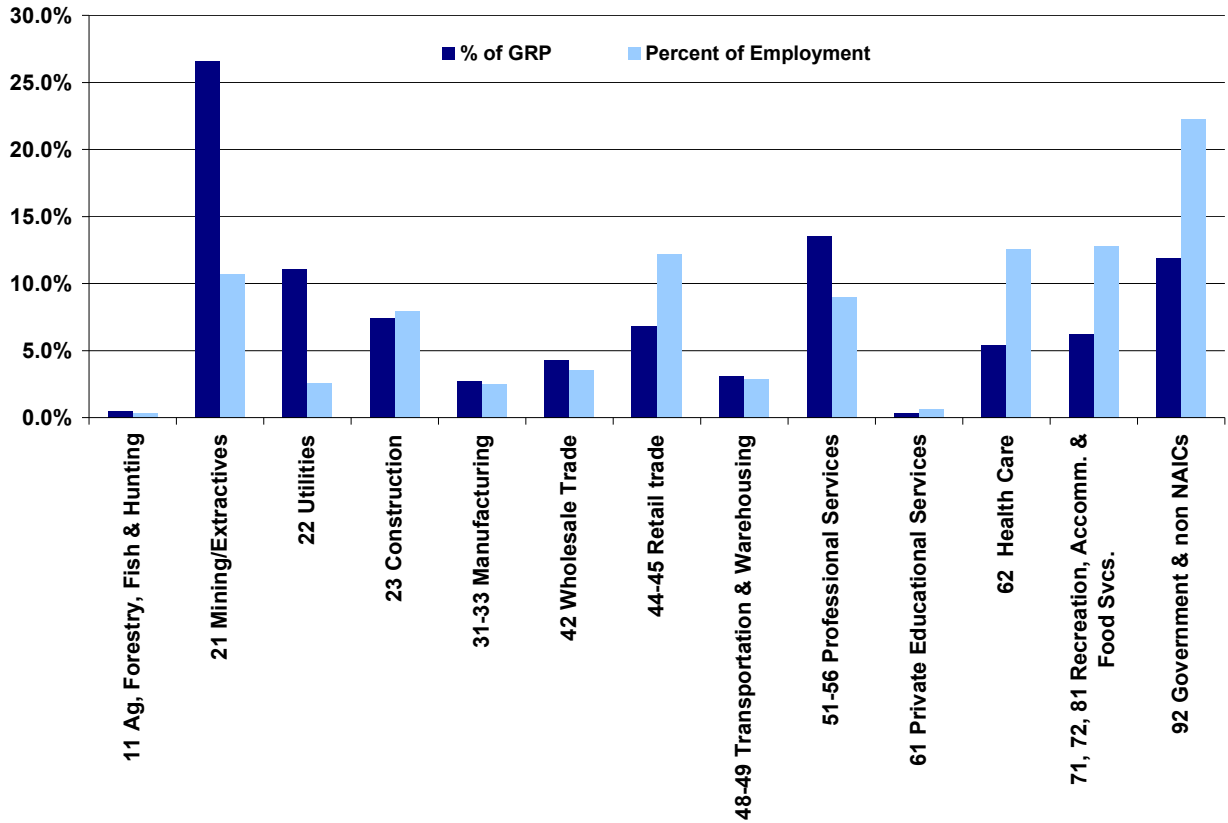
Table 14
Gross Regional Product by Industry, San Juan County 2008
San Juan County Economic Base Analysis

NAICS Industry	Value Added	% of GRP	% of Wage and Salary Employment [1]
11 Ag, Forestry, Fish & Hunting	\$25,540,000	0.5%	0.4%
21 Mining/Extractives	1,404,260,000	26.6%	10.7%
22 Utilities	585,000,000	11.1%	2.6%
23 Construction	390,670,000	7.4%	8.0%
31-33 Manufacturing	144,080,000	2.7%	2.5%
42 Wholesale Trade	228,230,000	4.3%	3.5%
44-45 Retail trade	361,000,000	6.8%	12.2%
48-49 Transportation & Warehousing	163,610,000	3.1%	2.8%
51-56 Professional Services	716,560,000	13.6%	9.0%
61 Private Educational Services	18,940,000	0.4%	0.6%
62 Health Care	285,020,000	5.4%	12.6%
71, 72, 81 Recreation, Accom. & Food Svcs.	330,650,000	6.3%	12.8%
92 Government & non NAICs	<u>629,430,000</u>	<u>11.9%</u>	<u>22.2%</u>
Gross Regional Product (GRP)	\$5,282,990,000	100.0%	100.0%

Source: IMPLAN; Economic & Planning Systems

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Figure 4
Gross Regional Product and Percent of Wage and Salary Employment, San Juan County, 2009
San Juan County Economic Base Analysis



Employment Multipliers

Three levels of economic effects, or impact, are used in regional economic analysis: direct, indirect, and induced. Multipliers are used to express these economic impacts as a ratio to the direct effect.

- **Direct Employment** – Employment in an initial firm or industry in the process of producing a good or service to meet the demand of final users.
- **Indirect Employment** – Employment in all local firms that supply goods and services to the initial firm.
- **Induced Employment** – Employment in all local firms that produce and sell goods and services to the local households that are spending income earned at the initial firm and all other firms in the supply chain.

The following example illustrates the three levels of impact. A manufacturing firm in San Juan County receives a large order originating in Albuquerque, making it a San Juan County export. Filling the order requires 10 employees of the primary firm. The manufacturer also buys material from other local firms, which in turn employ 5 workers. The impact of the primary firm's purchasing from its suppliers is called the indirect effect, in this case 5 jobs. When the wages paid to the employees of the primary and supplier firms involved are spent at local businesses for household needs, the employment and income impact is called the induced effect. If these local businesses need a total of 2 employees to meet the household demand, the induced employment effect would be two jobs (average annual). The total direct, indirect, and induced impact of this example is 17 jobs.

The multiplier effects inferred from these relationships are how economists describe the total effect of the primary action as compared to the direct effect. The total effect is the sum of the direct, indirect, and induced effects. In the example above, the direct employment effect was 10 jobs and the total effect was 17 jobs, implying an employment multiplier of 1.7. The direct employment multiplier is 1.0. The indirect employment multiplier is 0.5 and the induced multiplier is 0.2.

San Juan County Employment Multipliers

Employment multipliers for each industry in San Juan County range from 1.168 for Accommodation and Food Services to 1.913 for Mining/Extractives, 2.010 for Manufacturing, and 2.044 for Utilities, as shown in **Table 15**. The multipliers show the relative level of impact of each industry in the County. Multipliers can be interpreted as follows: each job in Utilities supports an additional 1.044 jobs; each Mining/Extractives job supports another 0.912 jobs, and so on. Conversely, a loss of one mining/extractives job would result in a loss of 0.912 additional jobs.

Multipliers are affected by the degree to which all of an industry's supply chain needs can be met by local industries and the wages and profits of that industry. If an industry has to import the majority of its inputs, the multiplier will be lower than if its inputs can be supplied locally. A more detailed economic cluster and import substitution analysis could identify ways to better leverage local industries for greater economic impact.

Table 15
Employment Multipliers by 2-Digit NAICS Industry, San Juan County
San Juan County Economic Base Analysis

Description	Direct Effect	Indirect Effects	Induced Effects	Total Multiplier
11 Ag, Forestry, Fish & Hunting	1.000	0.086	0.134	1.220
21 Mining/Extractives	1.000	0.409	0.503	1.913
22 Utilities	1.000	0.360	0.684	2.044
23 Construction	1.000	0.189	0.278	1.467
31-33 Manufacturing	1.000	0.628	0.382	2.010
42 Wholesale Trade	1.000	0.209	0.309	1.518
44-45 Retail trade	1.000	0.080	0.155	1.234
48-49 Transportation & Warehousing	1.000	0.188	0.290	1.478
51 Information	1.000	0.532	0.301	1.833
52 Finance & insurance	1.000	0.195	0.228	1.423
53 Real estate & rental	1.000	0.613	0.288	1.900
54 Professional- scientific & tech svcs	1.000	0.184	0.230	1.415
55 Management of companies	1.000	0.260	0.331	1.591
56 Administrative & waste services	1.000	0.105	0.168	1.272
61 Educational svcs	1.000	0.040	0.108	1.148
62 Health & social services	1.000	0.095	0.227	1.321
71 Arts- entertainment & recreation	1.000	0.124	0.077	1.201
72 Accomodation & food services	1.000	0.077	0.090	1.168
81 Other services	1.000	0.110	0.138	1.247
92 Government & non NAICs	1.000	0.039	0.225	1.264

Source: IMPLAN; Economic & Planning Systems

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5. RETAIL SALES AND GROSS RECEIPTS TAX

This Chapter describes retail sales levels by store type in Farmington and estimates the sales generated by San Juan County residents and from inflow from the larger Farmington trade area. This analysis quantifies the degree to which retail is a basic industry that attracts outside dollars to San Juan County. Trends in City of Farmington and San Juan County GRT revenues are also presented.

Retail Definitions

For analysis purposes, retail stores are categorized based on shopping and trade area characteristics listed below. Each is described with examples to clarify the types of retail stores included in each of the categories.

Convenience Goods – This category includes supermarkets and other grocery stores, convenience stores, as well as liquor, drug, and other specialty food stores. These stores sell frequently purchased, low cost items with little product differentiation. The primary locations for Convenience Goods stores are the supermarket-anchored neighborhood shopping centers and smaller convenience centers, as these items are most often bought close to home.

Shoppers Goods – This category includes general merchandise, apparel, sporting goods, furniture, appliance, and specialty goods stores. General merchandise stores include traditional department stores (e.g., JCPenney, Sears, Dillard’s) as well as discount department stores (e.g., Wal-Mart, Target, and Kmart). The product lines of these stores are generally more expensive, less frequently purchased items. In general, people are more likely to comparison shop for Shoppers Goods and are often more willing to travel farther to buy them. In urban/suburban settings, the primary locations for regional Shoppers Goods are traditional downtown shopping districts, regional shopping centers, power centers, and free-standing large format stores. In most communities, there is also a larger collection of specialty stores in the apparel, sporting goods, and specialty/miscellaneous retail categories.

Eating and Drinking Establishments – This category covers restaurants including conventional sit-down and fast food, and bars. Businesses in this category exhibit some of the characteristics of convenience stores in that many restaurant expenditures are made at establishments close to home and on a frequent basis. However, some higher quality restaurants, unique in the marketplace, can have a regional draw.

Building Materials/Nurseries – This category is made up of stores selling lumber, paint, glass, hardware, plants and garden supplies, and other retail items related to home improvement. Home improvement centers such as Home Depot and Lowe’s are the largest stores in this category. Hardware stores such as Ace Hardware, True Value, and Do It Best are also represented in this category.

Community serving retail includes most convenience store and eating and drinking store space. Regional retail space is comprised primarily of Shoppers Goods and Building Material stores. For purposes of this study, large format retailers (also called big box stores) are defined as regional

retail stores of about 80,000 square feet of space or greater. These stores generally include discount department stores (e.g., Target and Wal-Mart), supercenters (discounter with grocery store space), membership warehouse stores (e.g., Costco and Sam's Club), and home improvement centers (e.g., Lowe's and Home Depot). Other regional retail stores include mass merchandisers (also called mid-box stores) in the 20,000 to 40,000 square foot range that concentrate on a more narrow line of merchandise, such as home furnishings, office, electronics, apparel and sporting goods stores.

Trade Area

A retail trade area is a geographic area from which a store or collection of stores draws the majority of its business. The San Juan trade area is defined as the County as a whole. Sales from visitors as well as residents who live outside the primary trade area (in the larger secondary trade area) are referred to as "inflow." Purchases made outside the trade area by residents living within the trade area are referred to as "outflow" or "leakage."

Retail Inventory

EPS compiled an inventory of the major national retailers in the County, which happen to be concentrated in the City of Farmington. The inventory was created from published and unpublished sources, supplemented by estimates made by EPS where data were unavailable.

In the Convenience Goods category, there are approximately 270,000 square feet of supermarket and drug store space with three Safeway stores and one Smith's Grocery store, as shown in **Table 16**. General Merchandise and Shoppers Goods stores are concentrated in and around the 462,000 square foot Animas Valley Mall. The Mall is anchored by Dillard's, Sears, JCPenney, and Allen Theater, encompassing 250,000 square feet of anchor space. There are approximately 174,000 square feet of smaller inline store space in the mall. Total square footage in General Merchandise is approximately 985,000 square feet, including two Wal-Mart Super Centers, one Sam's Club, one Target, and one K-Mart.

The retail inventory shows that the many of the major national retailers are well represented in the General Merchandise, Shoppers Goods, and Home Improvement store categories. This suggests, at least at a preliminary analysis level, that there are no obvious opportunities to significantly expand retail in Farmington.

Table 16
Major Retailers in San Juan County
San Juan County Economic Base Analysis

Category	Address	Notes	Approx. Size
<u>Grocery/Convenience</u>			
Safeway	730 W Main		60,000
Safeway	3540 E. Main		60,000
Safeway	415 N. Main	Aztec, NM	60,000
Smiths Grocery	600 E. 20th		60,000
Walgreens	4221 E. Main		15,000
Walgreens	701 E. 20th		<u>15,000</u>
Subtotal			270,000
<u>General Merchandise</u>			
Dillards	4601 E. Main	Animas Valley Mall	80,000
JC Penney	4601 E. Main	Animas Valley Mall	70,000
Sears	4601 E. Main	Animas Valley Mall	70,000
Sam's Club	4600 E. Main		180,000
Walmart Super Center	1400 W. Main		180,000
Walmart Super Center	4600 E. Main		180,000
Target	4900 E. Main		120,000
K Mart	3000 E. Main		75,000
Big Lots	909 Farmington Ave.		<u>30,000</u>
Subtotal			985,000
<u>Other Shoppers Goods</u>			
Animas Valley Mall Shops	4601 E. Main	Animas Valley Mall	174,000
Ross	4604 E. Main	Animas Valley Mall	30,000
TJ Maxx	3550 E. Main		30,000
Best Buy	3520 E Main		30,000
Office Depot	3558 E. Main		30,000
Office Max	4091 E. Main		30,000
Pet Co	3530 E. Main		30,000
Zia Sporting Goods	500 E. Main		15,000
Big 5 Sporting Goods	910 E. Main		<u>20,000</u>
Subtotal			389,000
<u>Home Improvement</u>			
Lowes	5451 E. Main		120,000
Home Depot	3560 E Main		<u>120,000</u>
Subtotal			240,000
<u>Cinema</u>			
Animas Cinema 10	4605 E. Main	Animas Valley Mall	30,000
Total			1,914,000

Source: Economic & Planning Systems

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Retail Sales and Spending Patterns

To estimate the spending and sales flows patterns in Farmington and San Juan County, retail sales by store type are estimated first. Store sales were estimated from San Juan County GRT data available from the State of New Mexico, the U.S. Census of Retail Trade, property manager and retailer interviews, and EPS estimates. Retail sales in these major retail categories, comprised of stores located largely in Farmington, total approximately \$1.86 billion, as shown in **Table 17**. Motor Vehicle and Parts Dealers generates the largest amount of sales, at \$516.5 million. Convenience Goods is the next largest category, with \$476 million in sales. General Merchandise achieves approximately \$370 million in sales followed by Shoppers Goods at \$225 million, Eating and Drinking at \$149 million, and Building Material and Garden at \$122 million.

Table 17
Estimated Retail Sales by Store Type, San Juan County
San Juan County Economic Base Analysis

Store Type	Estimated Sales (\$000s)
Motor Vehicle and Parts Dealers	
Automotive Dealers	\$430,000
Other Motor Vehicle Dealers	\$28,900
Parts and Accessories Stores	<u>\$57,600</u>
Total Automotive	\$516,500
Convenience Goods	
Supermarkets and Other Food Stores	\$162,981
Convenience Stores (incl. Gas Stations)	\$264,722
Health and Personal Care	<u>\$48,187</u>
Total Convenience Goods	\$475,890
Shopper's Goods	
General Merchandise	\$370,197
Other Shopper's Goods	
Clothing & Accessories	\$52,499
Furniture & Home Furnishings	\$29,451
Electronics & Appliances	\$59,527
Sporting Goods, Hobby, Book, & Music Stores	\$27,226
Miscellaneous Retail	<u>\$56,083</u>
Total Other Shopper's Goods	\$224,786
Eating and Drinking	\$148,979
Building Material & Garden	\$122,183
Total Retail Goods	\$1,858,535

Source: US Economic Census; Retailer Interviews; Economic & Planning Systems

H:\20832-Farmington NM Economic Base Forecasts\Models\20832-SalesFlows-TPI_12-15.xls\SJC_Sales

Next, Total Personal Income (TPI) for San Juan County is estimated to calculate retail spending potential. TPI is estimated at \$2.55 billion, as shown in **Table 18**.

Table 18
Total Personal Income, San Juan County
San Juan County Economic Base Analysis

Description	Calculation
San Juan County	
Population	122,500
Per Capita Income	<u>\$20,813</u>
Total Personal Income (\$000s)	\$2,549,593

Source: 2007 US Census (ACS); Economic & Planning Systems

H:\20832-Farmington NM Economic Base Forecasts\Models\20832-SalesFlows-TPI_DG edits.xls\2007 TPI Trade Areas

TPI is multiplied by the percentage of household income spent on retail goods to calculate retail expenditure potential, as shown in columns A and B of **Table 19**. In column C, the percentage of expenditures in each category made in Farmington is estimated to calculate resident expenditures. Resident expenditures are equal to store sales from local residents. It is estimated that residents make approximately two-thirds of their vehicle purchases locally, as shown. Convenience Goods captures the majority of local spending potential at 86 percent in total, with grocery stores capturing 95 percent of resident's spending. Since the Farmington area has strong store coverage in the Shoppers Goods and General Merchandise categories, local capture is estimated at 70 to 90 percent. The remaining 10 to 30 percent of sales are leakage to other areas such as Albuquerque.

Table 19
San Juan County Resident Retail Expenditures by Location
San Juan County Economic Base Analysis

Store Type	A	B	C		D		E		F	
	State of NM Pct. of TPI	San Juan County Resident Expend. Poten. (\$000s)	Local Capture		Outflow/Leakage		Pct. of Expenditures		Resident Expenditures (\$000s)	
2007 San Juan County, TPI	100.0%	\$2,547,657								
Motor Vehicle and Parts Dealers										
Automotive Dealers	11.1%	\$283,970	65%	\$184,580	35%	\$99,389				
Other Motor Vehicle Dealers	0.9%	\$21,937	65%	\$14,259	35%	\$7,678				
Parts and Accessories Stores	1.3%	\$33,045	75%	\$24,784	25%	\$8,261				
Total Automotive	13.3%	\$338,952		\$223,623	34%	\$115,329				
Convenience Goods										
Supermarkets and Other Food Stores	5.7%	\$144,749	95%	\$137,512	5%	\$7,237				
Convenience Stores ¹	2.9%	\$73,822	90%	\$66,440	10%	\$7,382				
Health and Personal Care	2.6%	\$65,062	60%	\$39,037	40%	\$26,025				
Total Convenience Goods	11.1%	\$283,633	86%	\$242,989	14%	\$40,644				
Shopper's Goods										
General Merchandise										
Traditional Department Stores	1.9%	\$48,405	80%	\$38,724	20%	\$9,681				
Discount Department Stores	2.7%	\$68,787	90%	\$61,908	10%	\$6,879				
Warehouse clubs & supercenters, Other	6.3%	\$160,477	90%	\$144,430	10%	\$16,048				
Total General Merchandise	10.9%	\$277,670	88%	\$245,062	12%	\$32,608				
Other Shopper's Goods										
Clothing & Accessories	2.1%	\$53,876	80%	\$43,100	20%	\$10,775				
Furniture & Home Furnishings	1.4%	\$34,794	70%	\$24,356	30%	\$10,438				
Electronics & Appliances	1.4%	\$35,577	90%	\$32,019	10%	\$3,558				
Sporting Goods, Hobby, Book, & Music Stores	1.1%	\$28,855	80%	\$23,084	20%	\$5,771				
Miscellaneous Retail	2.2%	\$57,202	85%	\$48,622	15%	\$8,580				
Total Other Shopper's Goods	8.3%	\$210,303	81%	\$171,181	19%	\$39,122				
Eating and Drinking	6.2%	\$158,362	80%	\$126,690	20%	\$31,672				
Building Material & Garden	4.5%	\$114,345	85%	\$97,193	15%	\$17,152				
Total Retail Goods	54.3%	\$1,383,266	64%	\$883,115	36%	\$500,150				
Total without Motor Vehicles	41.0%	\$1,044,314	85%	\$883,115	15%	\$161,198				

¹Does Not Include Gas Sales

Source: US Economic Census; Economic & Planning Systems

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Finally, locally captured expenditures are compared to store sales to estimate the proportion of sales derived from local residents versus inflow from outside San Juan County. The Motor Vehicle category is estimated to generate approximately 40 percent of its sales from local residents and about 60 percent of its sales from outside San Juan County, as shown in **Table 20**. While it is a large sales and employment generator in the retail categories, the local revenue impacts are not as significant as motor vehicles are subject to an excise tax based on place of registration, rather than GRT collected at point of sale.

In the Convenience Goods category, the \$243 million in resident expenditures are about half of total store sales in that category, indicating that approximately 50 percent of sales are inflow. In General Merchandise, approximately one-third of sales are estimated to be inflow, and one quarter of sales in Shoppers Goods. Eating and Drinking derives about 15 percent of its sales from inflow, and Building Material and Garden generates 20 percent inflow. In total, approximately 40 percent of the Farmington area's retail sales come from outside San Juan County. Not including the Motor Vehicle category, the Farmington Area derives about one-third of its sales from outside the County.

Inflow is not likely to increase in Farmington, as it has historically drawn a substantial amount of spending from Durango and Southwest Colorado. Durango has dramatically expanded its retail inventory, with a recent Home Depot, Wal-Mart Supercenter, Bed Bath & Beyond, JCPenney, and Sears.

Table 20
San Juan County Retail Sales by Source
San Juan County Economic Base Analysis

Store Type	San Juan County Store Sales (\$000s)	Sales to Residents		Inflow and Visitor Sales	
		% of Sales	Sales (\$000s)	% of Sales	Sales (\$000s)
2007 San Juan County, Sales					
Motor Vehicle and Parts Dealers					
Automotive Dealers	\$430,000	43%	\$184,580	57%	\$245,420
Other Motor Vehicle Dealers	\$28,900	49%	\$14,259	51%	\$14,641
Parts and Accessories Stores	<u>\$57,600</u>	<u>43%</u>	<u>\$24,784</u>	<u>57%</u>	<u>\$32,816</u>
Total Automotive	\$516,500	43%	\$223,623	57%	\$292,877
Convenience Goods					
Supermarkets and Other Food Stores	\$162,981	84%	\$137,512	16%	\$25,469
Convenience Stores ¹	\$264,722	25%	\$66,440	75%	\$198,282
Health and Personal Care	<u>\$48,187</u>	<u>81%</u>	<u>\$39,037</u>	<u>19%</u>	<u>\$9,150</u>
Total Convenience Goods	\$475,890	51%	\$242,989	49%	\$232,901
Shopper's Goods					
General Merchandise					
Traditional Department Stores	\$64,536	60%	\$38,724	40%	\$25,811
Discount Department Stores	\$91,708	68%	\$61,908	32%	\$29,800
Warehouse clubs & supercenters, Other	<u>\$213,953</u>	<u>68%</u>	<u>\$144,430</u>	<u>32%</u>	<u>\$69,523</u>
Total General Merchandise	\$370,197	66%	\$245,062	34%	\$125,135
Other Shopper's Goods					
Clothing & Accessories	\$52,499	82%	\$43,100	18%	\$9,399
Furniture & Home Furnishings	\$29,451	83%	\$24,356	17%	\$5,095
Electronics & Appliances	\$59,527	54%	\$32,019	46%	\$27,508
Sporting Goods, Hobby, Book, & Music Stores	\$27,226	85%	\$23,084	15%	\$4,142
Miscellaneous Retail	<u>\$56,083</u>	<u>87%</u>	<u>\$48,622</u>	<u>13%</u>	<u>\$7,461</u>
Total Other Shopper's Goods	\$224,786	76%	\$171,181	24%	\$53,605
Eating and Drinking	\$148,979	85%	\$126,690	15%	\$22,289
Building Material & Garden	\$122,183	80%	\$97,193	20%	\$24,990
Total Retail Goods	\$1,858,535	60%	\$1,106,739	40%	\$751,796
Total without Motor Vehicles	\$1,342,035	66%	\$883,115	34%	\$458,920

¹Does Not Include Gas Sales

Source: US Ecomic Census; Economic & Planning Systems

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Gross Receipts Tax

City of Farmington

Data on Gross Receipts Tax (GRT) was compiled from the City's Comprehensive Annual Financial Report (CAFR). The GRT is a tax on the total amount of money or value of other consideration received from:

- Selling property in New Mexico;
- Leasing or licensing property employed in New Mexico;
- Granting a right to use a franchise employed in New Mexico; and
- Performing services in New Mexico.

The City receives 37 percent of its GRT from retail, as shown in **Figure 5**. Services also generate a large amount of GRT, accounting for 29 percent of the City's GRT revenue. Mining/Extractives generates 8 percent of total GRT in the City. It should be noted that oil and gas production is not subject to GRT, but is taxed by numerous other taxes and royalties collected at the State level. Some Mining/Extractives GRT is generated from sand and gravel and stone quarries, and any services provided by companies classified under Mining/Extractives.

Overall, Farmington's GRT collections have shown net growth of 5.3 percent per year, a healthy revenue growth rate. Retail GRT grew at 2.3 percent per year, as shown in **Table 21**, roughly in pace with population growth. Mining/Extractives and Construction GRT grew at 5.5 percent per year during this time period. Manufacturing showed very strong 10.6 percent growth, although it accounts for less than 5 percent of total GRT. Services also grew strongly at 8.1 percent per year.

Retail's share of total GRT has declined from 48 percent in 2000 to 37 percent in 2008 and 2009. This is believed to be due to GRT growth in other industries, rather than a decline in retail sales, as retail GRT has been growing steadily. Services GRT for example increased from 23 to 29 percent of total GRT from 2000 to 2009, indicating the growth of services in the economy locally and nationally.

Figure 5
Gross Receipts Tax Sources by Industry, City of Farmington
San Juan County Economic Base Analysis

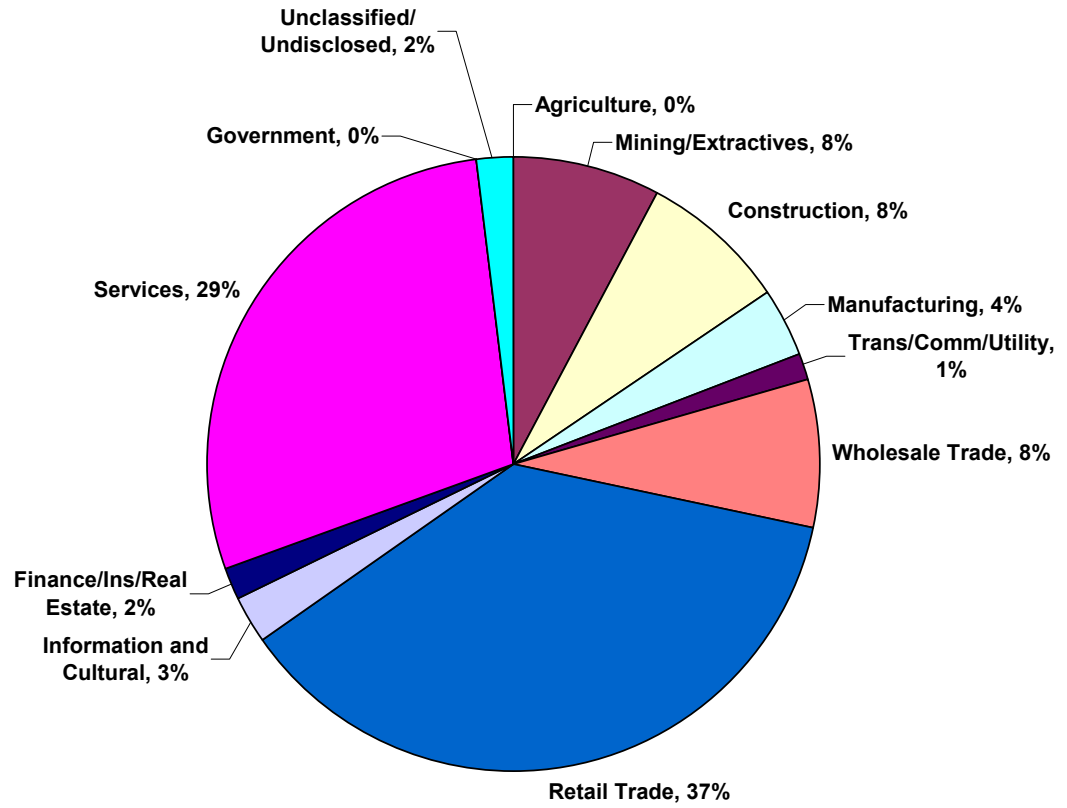


Table 21
Gross Receipts Tax Trends, City of Farmington, 2004-2009
San Juan County Economic Base Analysis

Industry	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Ann. % Change
Gross Receipts Tax											
Agriculture	\$50,000	\$0	\$10,000	\$50,000	\$60,000	\$70,000	\$70,000	\$80,000	\$80,000	-\$60,000	-202.0%
Mining/Extractives	2,490,000	2,920,000	3,100,000	2,680,000	3,040,000	3,320,000	4,770,000	5,520,000	4,600,000	4,040,000	5.5%
Construction	2,400,000	1,860,000	2,400,000	2,430,000	2,230,000	2,920,000	3,520,000	3,080,000	3,020,000	3,900,000	5.5%
Manufacturing	790,000	800,000	990,000	670,000	820,000	1,250,000	1,940,000	1,720,000	2,150,000	1,960,000	10.6%
Trans/Comm/Utility	1,050,000	1,460,000	1,200,000	600,000	380,000	500,000	820,000	660,000	810,000	750,000	-3.7%
Wholesale Trade	2,100,000	2,510,000	2,570,000	1,900,000	2,110,000	2,820,000	3,970,000	4,880,000	4,060,000	4,030,000	7.5%
Retail Trade	15,600,000	15,350,000	16,520,000	16,540,000	16,170,000	16,680,000	15,700,000	17,750,000	18,640,000	19,110,000	2.3%
Information and Cultural	---	---	---	---	620,000	1,090,000	1,070,000	1,280,000	1,260,000	1,330,000	---
Finance/Ins/Real Estate	550,000	570,000	550,000	530,000	510,000	520,000	650,000	760,000	860,000	830,000	4.7%
Services	7,400,000	7,480,000	9,040,000	9,040,000	11,490,000	12,560,000	12,550,000	13,310,000	14,380,000	14,880,000	8.1%
Government	---	---	---	---	60,000	50,000	---	---	---	---	---
Unclassified	---	---	0	1,870,000	890,000	1,010,000	980,000	40,000	370,000	210,000	---
Undisclosed	---	610,000	610,000	830,000	760,000	710,000	660,000	650,000	710,000	770,000	---
Total	\$32,430,000	\$33,560,000	\$36,990,000	\$37,140,000	\$39,140,000	\$43,500,000	\$46,700,000	\$49,730,000	\$50,940,000	\$51,750,000	5.3%
Percent of Total											Change
Agriculture	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-0.3%
Mining/Extractives	8%	9%	8%	7%	8%	8%	10%	11%	9%	8%	0.1%
Construction	7%	6%	6%	7%	6%	7%	8%	6%	6%	8%	0.1%
Manufacturing	2%	2%	3%	2%	2%	3%	4%	3%	4%	4%	1.4%
Trans/Comm/Utility	3%	4%	3%	2%	1%	1%	2%	1%	2%	1%	-1.8%
Wholesale Trade	6%	7%	7%	5%	5%	6%	9%	10%	8%	8%	1.3%
Retail Trade	48%	46%	45%	45%	41%	38%	34%	36%	37%	37%	-11.2%
Information and Cultural	---	---	---	---	2%	3%	2%	3%	2%	3%	---
Finance/Ins/Real Estate	2%	2%	1%	1%	1%	1%	1%	2%	2%	2%	-0.1%
Services	23%	22%	24%	24%	29%	29%	27%	27%	28%	29%	5.9%
Government	---	---	---	---	0%	0%	---	---	---	---	---
Unclassified/ Undisclosed	---	---	2%	7%	4%	4%	4%	1%	2%	2%	---
Total	100%	98%	100%	100%	100%	100%	100%	100%	100%	100%	

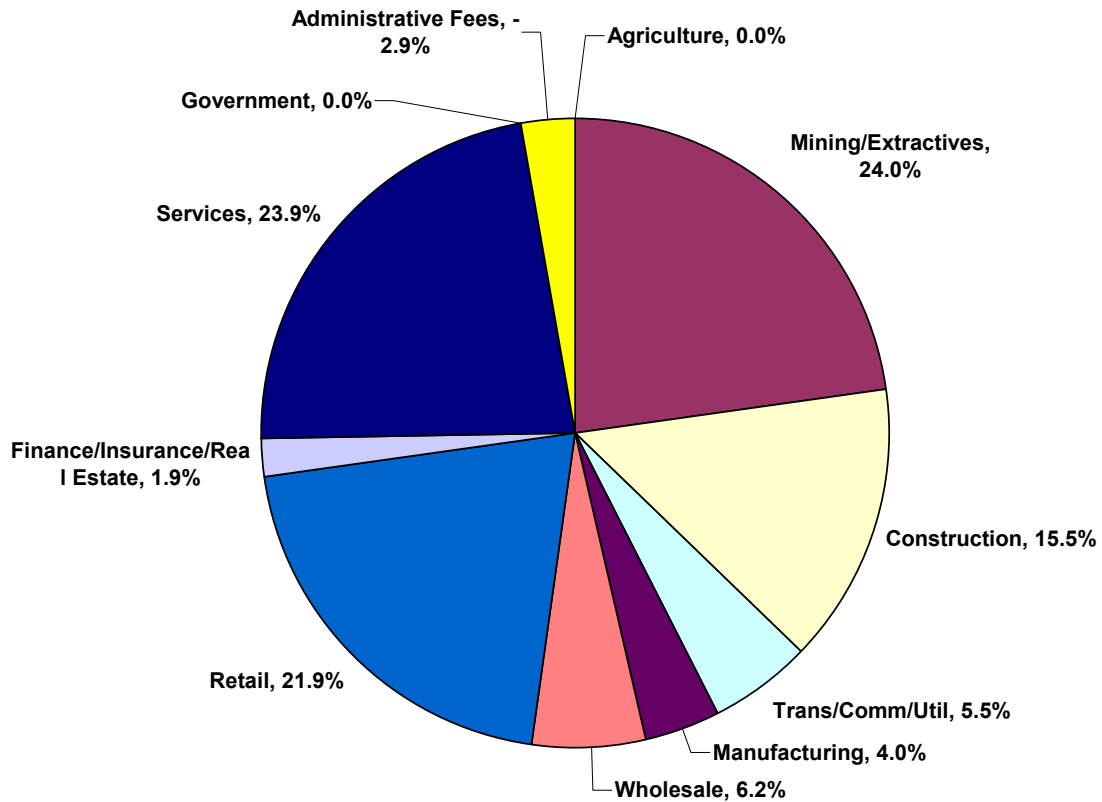
Source: City of Farmington 2008-2009 CAFR; Economic & Planning Systems

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San Juan County

The San Juan County government receives about 22 percent of its GRT from retail and 24 percent from Mining/Extractives and oil and gas, as shown in Figure 6. Similar to the City of Farmington, some of the Mining/Extractives GRT is from quarrying rather than mineral extractive industries. Services comprise 24 percent of GRT, and construction accounts for 15.5 percent.

Figure 6
San Juan County GRT by Industry, FY 2008-2009
San Juan County Economic Base Analysis



San Juan County experienced a sharp decline in GRT of 21.4 percent from fiscal year 2009 to 2010, as shown in **Table 22**. Mining/Extractives and oil and gas dropped by 15 percent, construction by nearly 40 percent, and manufacturing by 22 percent. Retail trade only declined by 8 percent compared to much higher declines in other industries.

Table 22
GRT by Industry, San Juan County, 2008-2010
San Juan County Economic Base Analysis

Year	2008	2009	2010
Agriculture	\$60,909	\$14,212	\$33,436
Mining/Extractives	9,136,269	10,218,547	7,747,187
Construction	6,156,721	6,622,487	3,722,316
Trans/Comm/Util	2,064,329	2,349,486	2,250,788
Manufacturing	1,802,437	1,713,842	1,402,234
Wholesale	2,581,190	2,647,307	1,941,874
Retail	9,351,939	9,326,445	8,574,599
Finance/Insurance/Real Estate	702,608	801,127	583,173
Services	9,500,111	10,204,215	8,287,699
Government	747,502	0	0
Administrative Fees	-1,204,891	-1,256,356	-1,045,214
Total	\$40,899,123	\$42,641,313	\$33,498,090
% Change		4.3%	-21.4%

Source: San Juan County; Economic & Planning Systems

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6. *ECONOMIC BASE SCENARIOS*

This Chapter defines two economic scenarios designed to estimate the impacts of losing portions of the Mining/Extractives and oil and gas (Mining/Extractives) and Utilities/Power Generation (Utilities) industries. The first scenario is a 2.5 percent annual decline in Mining/Extractives and Utilities over 15 years, which translates to a loss of approximately one-third of the employment in those industries. The second scenario assumes that Mining/Extractives and Utilities decline by 5.0 percent per year for 15 years, equating to a 55 percent decline in employment. The impacts of declines in these industries are estimated on population, other industry employment, the unemployment rate, and GRT in 2025.

IMPLAN Model

The IMPLAN model (Impact Analysis for Planning) was used to estimate the indirect and induced employment impacts of losing portions of the Mining/Extractives and Utilities industries. IMPLAN was developed by the U.S. Forest Service, Bureau of Land Management, and the Federal Emergency Management Agency, and the University of Minnesota in the 1980s. It was later spun off to a private company, the Minnesota IMPLAN Group (MIG), in the mid-1990s. IMPLAN is widely used by state and federal agencies, academic researchers, and local economic development organizations to evaluate the economic impacts of proposed policies, new industries, and land use changes.

IMPLAN is an input-output (I-O) economic model. An I-O model uses the relationships between purchasing and production activity a study area to estimate overall economic activity in response to a change. With the advent of modern computers, I-O modeling has become readily available and affordable to economists, regional planners, and economic development specialists engaged in both research and application.

The IMPLAN system makes data available down to the county level, and its dataset covers all 3,100 counties in the U.S. These data represent the relationships among employment and dollar values for purchasing and production activity in 440 industries, households in nine income brackets, and six levels of government.

IMPLAN is built from publicly available data obtained from the U.S. Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics, among other sources, with county-specific data reconciled to published national totals. In addition, the IMPLAN system uses statistical analysis to estimate county-level data that would ordinarily be confidential to avoid disclosure of private information about firms in small economies. The IMPLAN system is flexible and can incorporate local information when it is available.

Scenario Definitions

The two scenarios analyzed in this Chapter have been designed to address concerns in San Juan County about losing some or all of the Mining/Extractives and Utilities industries. There is a general consensus that the San Juan Basin oil and gas resources are being depleted, and it is uncertain how long the recent historical levels of production and associated employment can be sustained. Second, the Four Corners Power Plant 25 miles west of Farmington operated by Arizona Public Service may no longer be economical to operate if it is required to install new emissions control equipment, a large capital cost.

Scenario 1 is defined as a 2.5 percent per year decline in Mining/Extractives and Power over 15 years. This equates to a loss of about one-third of those industries employment, or a loss of nearly 2,000 direct jobs in Mining/Extractives and 440 direct jobs in Utilities.

Scenario 2 assumes a 5.0 annual decline in Mining/Extractives and Utilities over 15 years, resulting in a loss of 3,360 direct jobs in Mining/Extractives and 750 direct jobs in Utilities. IMPLAN was used to estimate the total direct, indirect, and induced impacts of these direct job losses. Separate estimates of GRT impacts for the City of Farmington and San Juan County were made by EPS.

Employment Impacts

A forecast of employment and population was developed after analyzing the industry impacts in IMPLAN. These are not forecasts per se, but provide a way to frame and isolate the potential impacts and "ripple effects" of a contraction of the economic base. This section discusses the total employment impacts (direct plus indirect plus induced) of the two scenarios.

In Scenario 1, Mining/Extractives is assumed to decline by 1,980 jobs by 2025 from an estimated 6,070 jobs in 2010 to 4,090 jobs in 2020. The Utilities category is assumed to decline from 1,280 jobs to 840 jobs over the same time period. The total impact of this scenario, shown in **Table 23**, is a loss of 4,400 jobs as a result of the Mining/Extractives and Utilities multipliers which are 1.913 and 2.044, respectively. The indirect and induced impacts are distributed fairly evenly across many industry sectors in the County. The largest indirect and induced impacts are in Retail which loses 320 jobs and Health Care which loses 380 jobs.

Table 23
Scenario 1: 2.5% Annual Decline in Mining/Extractives and Utilities
San Juan County Economic Base Analysis

Industry	2008	2009	2010 [1]	2015	2020	2025	2010-2025		
							Change	Pct. Change	Ann. % Change
Forestry, fishing, and related activities	284	290	280	280	280	280	0	0.0%	0.0%
Mining/Extractives	6,999	6,310	6,070	5,410	4,750	4,090	-1,980	-32.6%	-2.6%
Utilities	1,310	1,330	1,280	1,130	980	840	-440	-34.4%	-2.8%
Construction	6,642	5,060	4,870	4,830	4,790	4,750	-120	-2.5%	-0.2%
Manufacturing	1,990	1,630	1,570	1,570	1,570	1,570	0	0.0%	0.0%
Wholesale trade	2,443	2,190	2,110	2,070	2,030	1,980	-130	-6.2%	-0.4%
Retail trade	7,853	7,540	7,250	7,140	7,030	6,930	-320	-4.4%	-0.3%
Transportation and warehousing	2,014	1,800	1,730	1,700	1,670	1,650	-80	-4.6%	-0.3%
Information	409	410	390	380	370	370	-20	-5.1%	-0.4%
Finance and insurance	1,394	1,400	1,350	1,320	1,290	1,250	-100	-7.4%	-0.5%
Real estate and rental and leasing	2,071	1,700	1,640	1,590	1,540	1,490	-150	-9.1%	-0.6%
Professional, scientific, and technical services	1,981	1,860	1,790	1,730	1,670	1,620	-170	-9.5%	-0.7%
Management of companies and enterprises	269	270	260	250	240	220	-40	-15.4%	-1.1%
Administrative and waste services	2,166	1,940	1,870	1,840	1,810	1,790	-80	-4.3%	-0.3%
Educational services	838	810	780	770	760	750	-30	-3.8%	-0.3%
Health care and social assistance	6,195	6,450	6,200	6,070	5,940	5,820	-380	-6.1%	-0.4%
Arts, entertainment, and recreation	1,003	1,090	1,050	1,040	1,030	1,020	-30	-2.9%	-0.2%
Accommodation and food services	4,488	4,330	4,170	4,100	4,030	3,950	-220	-5.3%	-0.4%
Other services, except public administration	3,705	3,530	3,400	3,380	3,360	3,330	-70	-2.1%	-0.1%
Government and government enterprises	<u>11,640</u>	<u>11,800</u>	<u>11,350</u>	<u>11,320</u>	<u>11,290</u>	<u>11,270</u>	<u>-80</u>	<u>-0.7%</u>	<u>0.0%</u>
Total	65,694	61,740	59,410	57,920	56,430	54,970	-4,440	-7.5%	-0.5%

[1] 2010 Estimated from the QCEW rate of change from 2008 to 2009 and the Current Employment Statistics rate of change for 2010 through August 2010.

Source: IMPLAN; Economic & Planning Systems

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Scenario 2 assumes a more aggressive 5.0 percent annual decline in Mining/Extractives and Utilities. This results in a loss of 3,360 direct jobs in Mining/Extractives and a loss of 750 in Utilities, as shown in **Table 24**. The total impact of the basic job losses is a loss of 7,540 jobs through the economy, resulting in a -0.9 percent annual growth rate from 2010 to 2025. The relative industry impacts are the same as Scenario 1, with Retail losing 550 jobs and Health Care losing 640 jobs. Other sectors that experience substantial negative impacts are Construction (-210), Real Estate (-250), and Professional Services (-280).

Table 24
Scenario 2: 5.0% Annual Decline in Mining/Extractives and Utilities
San Juan County Economic Base Analysis

Industry	2008	2009	2010 [1]	2015	2020	2025	2010-2025		
							Change	Pct. Change	Ann. % Change
Forestry, fishing, and related activities	284	290	280	280	280	280	0	0.0%	0.0%
Mining/Extractives	6,999	6,310	6,070	4,950	3,830	2,710	-3,360	-55.4%	-5.2%
Utilities	1,310	1,330	1,280	1,030	780	530	-750	-58.6%	-5.7%
Construction	6,642	5,060	4,870	4,800	4,730	4,660	-210	-4.3%	-0.3%
Manufacturing	1,990	1,630	1,570	1,570	1,570	1,570	0	0.0%	0.0%
Wholesale trade	2,443	2,190	2,110	2,040	1,970	1,900	-210	-10.0%	-0.7%
Retail trade	7,853	7,540	7,250	7,070	6,890	6,700	-550	-7.6%	-0.5%
Transportation and warehousing	2,014	1,800	1,730	1,680	1,630	1,590	-140	-8.1%	-0.6%
Information	409	410	390	380	370	350	-40	-10.3%	-0.7%
Finance and insurance	1,394	1,400	1,350	1,290	1,230	1,180	-170	-12.6%	-0.9%
Real estate and rental and leasing	2,071	1,700	1,640	1,560	1,480	1,390	-250	-15.2%	-1.1%
Professional, scientific, and technical services	1,981	1,860	1,790	1,700	1,610	1,510	-280	-15.6%	-1.1%
Management of companies and enterprises	269	270	260	240	220	190	-70	-26.9%	-2.1%
Administrative and waste services	2,166	1,940	1,870	1,820	1,770	1,730	-140	-7.5%	-0.5%
Educational services	838	810	780	760	740	730	-50	-6.4%	-0.4%
Health care and social assistance	6,195	6,450	6,200	5,990	5,780	5,560	-640	-10.3%	-0.7%
Arts, entertainment, and recreation	1,003	1,090	1,050	1,030	1,010	1,000	-50	-4.8%	-0.3%
Accommodation and food services	4,488	4,330	4,170	4,050	3,930	3,800	-370	-8.9%	-0.6%
Other services, except public administration	3,705	3,530	3,400	3,360	3,320	3,270	-130	-3.8%	-0.3%
Government and government enterprises	<u>11,640</u>	<u>11,800</u>	<u>11,350</u>	<u>11,310</u>	<u>11,270</u>	<u>11,220</u>	<u>-130</u>	<u>-1.1%</u>	<u>-0.1%</u>
Total	65,694	61,740	59,410	56,910	54,410	51,870	-7,540	-12.7%	-0.9%

[1] 2010 Estimated from the QCEW rate of change from 2008 to 2009 and the Current Employment Statistics rate of change for 2010 through August 2010.

Source: IMPLAN; Economic & Planning Systems

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Population and Unemployment Forecasts

In most typical metropolitan areas and counties, employment growth or decline drives population growth and decline. This is not always true in areas with economies or population growth based on natural amenities and resorts or second homes. In San Juan County, a decline in employment is expected to result in an increase in the unemployment rate and a decline in population. The expectation is that when seemingly permanent job losses occur, some of the affected employees will leave the County for other opportunities, while another portion will stay.

The estimated population impacts of the two Scenarios are shown in **Table 25**. Under Scenario 1, the population is shown to decline by 8,800 people by 2025, as 65 to 85 percent of the labor force is expected to leave the County as unemployment rises (**Table 26**). It is not expected that people would tolerate sustained unemployment above 10 percent for very long, and the scenarios show a larger percentage of people migrating out of the County, starting at 65 percent of affected employees and rising to 85 percent in 2025. The unemployment rate is estimated to increase from just under 10 percent today to approximately 15 percent, as shown in **Table 26**.

Table 25
Population Forecast, San Juan County, 2010-2025
San Juan County Economic Base Analysis

Scenario	Factors	2008	2009	2010	2015	2020	2025	Change/ Totals	Pct. Change
2.5% Per Year Reduction									
	Total Jobs	65,694	61,740	59,410	57,920	56,430	54,970	-4,440	-7.5%
	Jobs Lost from 2010			--	1,490	1,490	1,460		
	Employees Impacted				1,242	1,242	1,217	3,700	
	% of Employees Leaving SJC				65%	85%	85%		
	% of Employees Staying				35%	15%	15%		
	Employees Leaving SJ County				807	1,055	1,034	2,897	
	Population Leaving SJ County				2,462	3,219	3,154	8,835	
	Unemployed Family/Household Population Staying				1,325	568	557	2,450	
	Population	122,407	124,131	124,000	121,538	118,319	115,165	-8,835	-7.1%
5.0% Per Year Reduction									
	Total Jobs	65,694	61,740	59,410	56,910	54,410	51,870	-7,540	-12.7%
	Jobs Lost from 2010			--	2,500	2,500	2,540		
	Employees Impacted				2,083	2,083	2,117	6,283	
	% of Employees Leaving SJC				65%	90%	90%		
	% of Employees Staying				35%	10%	10%		
	Employees Leaving SJ County				1,354	1,875	1,905	5,134	
	Population Leaving SJ County				4,130	5,719	5,810	15,659	
	Unemployed Family/Household Population Staying				2,224	635	646	3,505	
	Population	122,407	124,131	124,000	119,870	114,151	108,341	-15,659	-12.6%

[1] Calculated from population divided by total employment, average 2001-2008.

[2] Total population including group quarters, divided by total households; average 2001-2008.

Source: Economic & Planning Systems

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Under Scenario 2, the total population loss is 15,700 by 2025, with 90 percent of the affected labor force in Mining/Extractives and Utilities expected to leave the County by the 2020-2025 time period, as shown in **Table 25**. The rise in unemployed people is estimated to push the unemployment rate to over 18 percent, as shown in **Table 26**.

Table 26
Estimated Unemployment Rate, San Juan County, 2010-2025
San Juan County Economic Base Analysis

Description	Factor	2010	2015	2020	2025
2.5% Per Year Reduction					
Population		124,000	121,538	118,319	115,165
Labor Force	45%	55,441	54,341	52,901	51,491
Newly Unemployed			1,325	568	557
Total Unemployed		5,433	6,759	7,327	7,883
Unemployment Rate		9.8%	12.4%	13.8%	15.3%
5.0% Per Year Reduction					
Population		124,000	119,870	114,151	108,341
Labor Force	45%	55,441	53,595	51,038	48,440
Newly Unemployed			2,224	635	646
Total Unemployed		5,433	7,657	8,293	8,938
Unemployment Rate		9.8%	14.3%	16.2%	18.5%

Source: Economic & Planning Systems

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Local Government Revenue Impacts

The loss in population shown above would result in a decline in total personal income and retail spending, affecting Retail GRT. In Scenario 1, the loss of 8,800 people translates to a decline in local retail spending of \$63.5 million, and a loss of \$1.6 million in Retail GRT, an 8.2 percent decline, as shown in **Table 27**. Scenario 2 results in a \$112.6 million decline in local spending, and a 14.6 percent drop in Retail GRT.

Table 27
City of Farmington Retail GRT Impacts
San Juan County Economic Base Analysis

Description	2.5%/Yr Decline	5.0%/Yr Decline
Population Change 2010-2025	-8,835	-15,659
Per capita income	\$20,813	\$20,813
% of Income Spent on Retail	41%	41%
% Spent in Farmington	<u>84%</u>	<u>84%</u>
Change in Local Retail Spending	-\$63,528,775	-\$112,600,915
GRT		
City	1.1875%	1.1875%
State - Remitted back to City	1.2250%	1.2250%
Environmental	<u>0.0625%</u>	<u>0.0625%</u>
Total City Rate	<u>2.4750%</u>	<u>2.4750%</u>
Change in Retail GRT	-\$1,572,337	-\$2,786,873
2009/2010 Approx Retail GRT	\$19,110,000	\$19,110,000
Change in Retail GRT	<u>-\$1,572,337</u>	<u>-\$2,786,873</u>
2025 Estimated Retail GRT	\$17,537,663	\$16,323,127
Percent Change	-8.2%	-14.6%

Source: Economic & Planning Systems

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The impacts to GRT coming from other industries is estimated by applying the percent change in employment forecasted to the most recent GRT figures for the City and County. The City of Farmington is estimated to experience an 8.4 percent decline in GRT by 2025 under Scenario 1, as shown in **Table 28**. Scenario 2 results in a 14.4 percent loss of GRT. San Juan County is forecasted to lose 12.4 percent of its GRT under Scenario 1 and 21.2 percent under Scenario 2, as shown in **Table 29**.

Table 28
City of Farmington Total GRT Impacts
San Juan County Economic Base Analysis

Industry	2009/10 GRT	% Change in Employment 2010-2025	Change in GRT	2025 GRT	% Change
2.5% per Year Decline					
Agriculture	---	0.0%	\$0	---	---
Mining/Extractives	\$4,040,000	-32.6%	-\$1,317,825	\$2,722,175	-32.6%
Construction	\$3,900,000	-2.5%	-\$96,099	\$3,803,901	-2.5%
Manufacturing	\$1,960,000	0.0%	\$0	\$1,960,000	0.0%
Trans/Comm/Utility	\$750,000	-17.3%	-\$129,568	\$620,432	-17.3%
Wholesale Trade	\$4,030,000	-6.2%	-\$248,294	\$3,781,706	-6.2%
Retail Trade [1]	\$19,110,000	---	-\$1,572,337	\$17,537,663	-8.2%
Information and Cultural	\$1,330,000	-3.5%	-\$46,181	\$1,283,819	-3.5%
Finance/Ins/Real Estate	\$830,000	-8.4%	-\$69,398	\$760,602	-8.4%
Services, Health Care, Other	<u>\$15,860,000</u>	-5.4%	<u>-\$850,103</u>	<u>\$15,009,897</u>	<u>-5.4%</u>
Total	\$51,810,000		-\$4,329,804	\$47,480,196	-8.4%
5.0% per Year Decline					
Agriculture	---	0.0%	\$0	---	---
Mining/Extractives	\$4,040,000	-55.4%	-\$2,236,310	\$1,803,690	-55.4%
Construction	\$3,900,000	-4.3%	-\$168,172	\$3,731,828	-4.3%
Manufacturing	\$1,960,000	0.0%	\$0	\$1,960,000	0.0%
Trans/Comm/Utility	\$750,000	-29.6%	-\$221,761	\$528,239	-29.6%
Wholesale Trade	\$4,030,000	-10.0%	-\$401,090	\$3,628,910	-10.0%
Retail Trade [1]	\$19,110,000	---	-\$2,786,873	\$16,323,127	-14.6%
Information and Cultural	\$1,330,000	-6.3%	-\$83,125	\$1,246,875	-6.3%
Finance/Ins/Real Estate	\$830,000	-14.0%	-\$116,589	\$713,411	-14.0%
Services, Health Care, Other	<u>\$15,860,000</u>	-9.1%	<u>-\$1,442,599</u>	<u>\$14,417,401</u>	<u>-9.1%</u>
Services	\$51,810,000		-\$7,456,518	\$44,353,482	-14.4%

[1] Estimated separately

Source: Economic & Planning Systems

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Table 29
San Juan County GRT Impacts
San Juan County Economic Base Analysis

Industry	2009/10 GRT	% Change in Employment 2010-2025	Change in GRT	2025 GRT	% Change
2.5% per Year Decline					
Agriculture	\$14,212	0.0%	\$0	---	---
Mining/Extractives	\$10,218,547	-32.6%	-\$3,333,233	\$6,885,314	-32.6%
Construction	\$6,622,487	-2.5%	-\$163,182	\$6,459,305	-2.5%
Trans/Comm/Util	\$2,349,486	-17.3%	-\$405,891	\$1,943,595	-17.3%
Manufacturing	\$1,713,842	0.0%	\$0	\$1,713,842	0.0%
Wholesale	\$2,647,307	-6.2%	-\$163,104	\$2,484,203	-6.2%
Retail [1]	\$9,326,445	-8.2%	-\$767,363	\$8,559,081	-8.2%
Finance/Insurance/Real Estate	\$801,127	-8.4%	-\$66,984	\$734,143	-8.4%
Services	<u>\$10,204,215</u>	-5.4%	<u>-\$546,950</u>	<u>\$9,657,265</u>	<u>-5.4%</u>
Total	\$43,897,669		-\$5,446,709	\$38,436,748	-12.4%
5.0% per Year Decline					
Agriculture	\$14,212	0.0%	\$0	--	--
Mining/Extractives	\$10,218,547	-55.4%	-\$5,656,395	\$4,562,152	-55.4%
Construction	\$6,622,487	-4.3%	-\$285,569	\$6,336,918	-4.3%
Trans/Comm/Util	\$2,349,486	-29.6%	-\$694,699	\$1,654,788	-29.6%
Manufacturing	\$1,713,842	0.0%	\$0	\$1,713,842	0.0%
Wholesale	\$2,647,307	-10.0%	-\$263,476	\$2,383,831	-10.0%
Retail [1]	\$9,326,445	-14.6%	-\$1,360,105	\$7,966,339	-14.6%
Finance/Insurance/Real Estate	\$801,127	-14.0%	-\$112,533	\$688,594	-14.0%
Services	<u>\$10,204,215</u>	-9.1%	<u>-\$928,158</u>	<u>\$9,276,057</u>	<u>-9.1%</u>
Services	\$43,897,669		-\$9,300,935	\$34,582,521	-21.2%

[1] Assumed to experience the same proportional impact as the City of Farmington. The % shown is percent change in GRT rather than employment.

Source: Economic & Planning Systems

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Other Impacts

Any economic base contraction in a region will have far reaching impacts. A decrease in economic activity will result in declining home prices. A drop in home prices will reduce personal and household net worth. Labor force mobility is also affected by the drop in home prices, as it is difficult to sell and move out of a home that may be worth less than what is owed on the mortgage.

E>P Economic Development Framework

As presented above, a contraction of the Mining/Extractives and energy sector economic base jobs would result in large job losses and high unemployment for extended periods of time. The E>P Economic Development Framework provides a way to put the problem in perspective and set goals for replacing economic base jobs. E>P is based on the premise that to be healthy, a region's population and economy should grow at a sustainable rate. A sustainable growth rate does not stress municipal and social services or quality of life. It provides enough revenue growth to keep up with inflation. The goal of E>P is to grow jobs faster than population to reduce the number of unemployed people, and people dependent on social services. The E>P framework shows the number of economic base jobs that are needed to sustain a healthy population growth rate.

The current population of San Juan County is 124,000. If the population grows by 1.5 percent per year for the next 15 years the County would add 31,000 people, as shown in **Table 30**. The population change for each five-year period from 2010 to 2025 is also shown. From population growth, the new labor force is calculated from the historical labor force participation rate of 43.2 percent. From 2011 to 2015, 9,600 people would be added to the County, also adding 4,100 people to the labor force. In total there would be 31,000 new residents and 13,400 potential new workers by 2025.

Table 30
San Juan County E>P Model
San Juan County Economic Base Analysis

Description	Factor					2010-2025 Change / Totals
		2010	2015	2020	2025	
E > P Forecast						
Population	1.5%	124,000	133,583	143,907	155,029	31,029
			<u>2011-2015</u>	<u>2016-2020</u>	<u>2021-2025</u>	
Population Change			9,583	10,324	11,122	31,029
New Labor Force	43.2%		4,143	4,463	4,808	13,414
Employed People at Natural Unemployment Rate	5.0%		3,936	4,240	4,567	12,743
New Jobs Needed [1]	1.1		4,329	4,664	5,024	14,017
Economic Base Jobs Needed [2]	2.0		2,165	2,332	2,512	7,009
Unemployment Gap [3]		2,150				
Total Jobs Needed			4,315	2,332	2,512	9,159
New Firms Needed			<u>2011-2015</u>	<u>2016-2020</u>	<u>2021-2025</u>	
Total New Firms, 50 new hires per firm	50		86	47	50	183

[1] Upward adjustment to convert employees to jobs to account for multiple job holders. An estimate of an average of 1.1 jobs per employee is used.

[2] Economic base jobs in San Juan County generally have a multiplier of approximately 2.0.

[3] 1/2 of current 10% unemployed people.

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After adjusting for a stabilized or natural unemployment rate of 5.0 percent, there would be 12,700 new employees. Since some employees hold more than one job, an adjustment for multiple job holders is made, assuming on average 1.1 jobs per employee. This increases the total number of jobs needed to approximately 14,000.

The economic base analysis presented in Chapter 5 showed that the multiplier for energy and Mining/Extractives jobs in San Juan County is approximately 2.0. This means that each one direct economic base job will spin off an additional one job in services or other economic base supporting industries. The new jobs needed are divided by the multiplier of 2.0 to estimate the number of economic base jobs needed to sustain population growth. However, first the current unemployment gap of roughly 2,160 jobs is shown to be filled from 2010-2015. The total jobs needed from 2011 to 2015 are therefore 4,315. From 2016 on, approximately 2,300 economic base jobs are needed for every five-year period, or 460 economic base jobs per year.

Jobs are translated to new firms by assuming an average of 50 new hires per firm. San Juan County would need to attract approximately 86 firms from 2011-2015, and 45 to 50 firms every five years, or four to five new firms per year to sustain 1.5 percent population growth. These goals or targets could form the basis of a job creation or recruitment strategy.



Appendix: Supporting Information

Table A1
San Juan County Wage and Salary Employment by 3-Digit NAICS Classification, 2009
San Juan County Economic Base Analysis

NAICS	Industry	2001	2009	Change	% of Total
11	Agriculture, Forestry, Fishing and Hunting	167	184	17	0.5%
111	Crop Production	76	96	20	0.2%
112	Animal Production	ND	7	---	0.0%
113	Forestry and Logging	ND	0	---	0.0%
114	Fishing, Hunting and Trapping	0	0	0	0.0%
115	Support Activities for Agriculture and Forestry	ND	81	---	0.2%
21	Mining	4,447	5,397	950	13.3%
211	Oil and Gas Extraction	ND	1,410	---	3.5%
212	Mining (except Oil and Gas)	ND	1,035	---	2.5%
213	Support Activities for Mining	2,427	2,926	499	7.2%
22	Utilities	1,257	1,319	62	3.2%
221	Utilities	1,257	1,319	62	3.2%
23	Construction	3,858	4,033	175	9.9%
236	Construction of Buildings	875	585	-290	1.4%
237	Heavy and Civil Engineering Construction	1,654	1,135	-519	2.8%
238	Specialty Trade Contractors	1,798	2,314	516	5.7%
31-33	Manufacturing	1,226	1,272	46	3.1%
311	Food Manufacturing	46	42	-4	0.1%
312	Beverage and Tobacco Product Manufacturing	29	36	7	0.1%
313	Textile Mills	ND	0	---	0.0%
314	Textile Product Mills	ND	0	---	0.0%
315	Apparel Manufacturing	ND	0	---	0.0%
316	Leather and Allied Product Manufacturing	0	0	0	0.0%
321	Wood Product Manufacturing	ND	22	---	0.1%
322	Paper Manufacturing	0	0	0	0.0%
323	Printing and Related Support Activities	35	56	21	0.1%
324	Petroleum and Coal Products Manufacturing	ND	106	---	0.3%
325	Chemical Manufacturing	ND	22	---	0.1%
326	Plastics and Rubber Products Manufacturing	15	15	0	0.0%
327	Nonmetallic Mineral Product Manufacturing	70	80	10	0.2%
331	Primary Metal Manufacturing	ND	0	---	0.0%
332	Fabricated Metal Product Manufacturing	301	395	94	1.0%
333	Machinery Manufacturing	151	156	5	0.4%
334	Computer and Electronic Product Manufacturing	ND	0	---	0.0%
335	Electrical Equipment, Appliance, and Component Manufacturing	ND	0	---	0.0%
336	Transportation Equipment Manufacturing	ND	31	---	0.1%
337	Furniture and Related Product Manufacturing	45	46	1	0.1%
339	Miscellaneous Manufacturing	60	48	-12	0.1%
42	Wholesale Trade	1,294	1,781	487	4.4%
423	Merchant Wholesalers, Durable Goods	964	1,372	408	3.4%
424	Merchant Wholesalers, Nondurable Goods	300	325	25	0.8%
425	Wholesale Electronic Markets and Agents and Brokers	30	84	54	0.2%
44-45	Retail Trade	5,778	6,178	400	15.2%
441	Motor Vehicle and Parts Dealers	871	962	91	2.4%
442	Furniture and Home Furnishings Stores	174	135	-39	0.3%
443	Electronics and Appliance Stores	ND	221	---	0.5%
444	Building Material and Garden Equipment and Supplies Dealers	377	603	226	1.5%
445	Food and Beverage Stores	807	747	-60	1.8%
446	Health and Personal Care Stores	361	179	-182	0.4%
447	Gasoline Stations	805	775	-30	1.9%
448	Clothing and Clothing Accessories Stores	312	293	-19	0.7%
451	Sporting Goods, Hobby, Book, and Music Stores	175	176	1	0.4%
452	General Merchandise Stores	1,322	1,646	324	4.0%
453	Miscellaneous Store Retailers	377	324	-53	0.8%
454	Nonstore Retailers	ND	117	---	0.3%
48-49	Transportation and Warehousing	1,545	1,439	-106	3.5%
481	Air Transportation	ND	0	---	0.0%
482	Rail Transportation	0	0	0	0.0%
483	Water Transportation	0	0	0	0.0%
484	Truck Transportation	1,112	1,144	32	2.8%
485	Transit and Ground Passenger Transportation	ND	0	---	0.0%
486	Pipeline Transportation	55	0	-55	0.0%
487	Scenic and Sightseeing Transportation	0	0	0	0.0%
488	Support Activities for Transportation	42	84	42	0.2%
491	Postal Service	159	124	-35	0.3%
492	Couriers and Messengers	ND	68	---	0.2%
493	Warehousing and Storage	ND	0	---	0.0%
51	Information	472	445	-27	1.1%
511	Publishing Industries (except Internet)	ND	82	---	0.2%
512	Motion Picture and Sound Recording Industries	ND	0	---	0.0%
515	Broadcasting (except Internet)	31	76	45	0.2%
516	Internet Publishing and Broadcasting	ND	0	---	0.0%
517	Telecommunications	124	116	-8	0.3%
518	Internet Service Providers, Web Search Portals, and Data Processing Services	30	0	-30	0.0%
519	Other Information Services	ND	0	---	0.0%
52	Finance and Insurance	686	946	260	2.3%
521	Monetary Authorities - Central Bank	0	0	0	0.0%
522	Credit Intermediation and Related Activities	430	664	234	1.6%
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	ND	0	---	0.0%
524	Insurance Carriers and Related Activities	223	235	12	0.6%
525	Funds, Trusts, and Other Financial Vehicles	ND	0	---	0.0%
53	Real Estate and Rental and Leasing	592	556	-36	1.4%
531	Real Estate	18	220	202	0.5%
532	Rental and Leasing Services	362	336	-26	0.8%
533	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	ND	0	---	0.0%
54	Professional, Scientific, and Technical Services	1,022	1,079	57	2.7%
541	Professional, Scientific, and Technical Services	1,022	1,079	57	2.7%
55	Management of Companies and Enterprises	231	241	10	0.6%
551	Management of Companies and Enterprises	231	241	10	0.6%
56	Admin., Support, and Waste Management Services	1,424	1,280	-144	3.1%
561	Administrative and Support Services	1,413	1,086	-327	2.7%
562	Waste Management and Remediation Services	76	236	160	0.6%
61	Private Educational Services	302	318	16	0.8%
62	Health Care and Social Assistance	4,405	6,379	1,974	15.7%
621	Ambulatory Health Care Services	1,424	2,328	904	5.7%
622	Hospitals	711	822	111	2.0%
623	Nursing and Residential Care Facilities	590	2,325	1,735	5.7%
624	Social Assistance	ND	904	---	2.2%
71	Arts, Entertainment, and Recreation	690	545	-145	1.3%
711	Performing Arts, Spectator Sports, and Related Industries	ND	0	---	0.0%
712	Museums, Historical Sites, and Similar Institutions	51	49	-2	0.1%
713	Amusement, Gambling, and Recreation Industries	377	811	434	2.0%
72	Accommodation and Food Services	4,149	4,038	-111	9.9%
721	Accommodation	483	499	16	1.2%
722	Food Services and Drinking Places	3,666	3,539	-127	8.7%
81	Other Services (except Public Administration)	1,314	1,912	598	4.7%
811	Repair and Maintenance	860	973	113	2.4%
812	Personal and Laundry Services	262	575	313	1.4%
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	180	165	-15	0.4%
814	Private Households	13	199	186	0.5%
92	Public Administration (Including Education)	10,902	11,251	349	27.7%
	Total not including non-disclosed data	33,683	40,680	6,997	100%
	Total	45,761	50,593	4,832	

Source: U.S. Bureau of Labor Statistics; Economic & Planning Systems
H:\20832-Farmington NM Economic Base Forecasts\Data\20832-OCEW_BD.xls3-digit

Table A2
Percent of Wage and Salary Employment by Industry, Four Corners Region, 2001-2009
San Juan County Economic Base Analysis

NAICS	Industry	2001					4-State		2009					4-State	
		San Juan County	NM	CO	AZ	UT	Region	United States	San Juan County	NM	CO	AZ	UT	Region	United States
11	Agriculture, Forestry, Fishing and Hunting	0.50%	2.02%	0.77%	1.52%	0.47%	1.13%	1.06%	0.45%	1.66%	0.74%	1.18%	0.46%	0.96%	1.06%
111	Crop Production	0.23%	0.45%	0.37%	0.55%	0.19%	0.41%	0.51%	0.24%	0.40%	0.31%	0.42%	0.17%	0.34%	0.49%
112	Animal Production	---	0.84%	0.29%	0.19%	0.22%	0.30%	0.18%	0.02%	0.87%	0.29%	0.20%	0.23%	0.31%	0.21%
113	Forestry and Logging	---	---	0.01%	---	0.01%	0.01%	0.07%	0.00%	---	0.01%	0.00%	0.00%	0.00%	0.05%
114	Fishing, Hunting and Trapping	0.00%	---	0.00%	---	0.01%	0.00%	0.01%	0.00%	---	---	0.00%	0.01%	0.00%	0.01%
115	Support Activities for Agriculture and Forestry	---	0.70%	0.11%	0.76%	0.04%	0.40%	0.29%	0.20%	0.38%	0.13%	0.57%	0.04%	0.31%	0.30%
21	Mining	13.20%	2.59%	0.68%	0.49%	0.82%	0.85%	0.48%	13.27%	2.73%	1.29%	0.56%	1.11%	1.16%	0.59%
211	Oil and Gas Extraction	---	0.50%	0.20%	0.00%	0.06%	0.14%	0.11%	3.47%	0.65%	0.42%	0.00%	0.14%	0.25%	0.15%
212	Mining (except Oil and Gas)	---	0.75%	0.29%	0.48%	0.49%	0.44%	0.20%	2.54%	0.64%	0.28%	0.53%	0.53%	0.46%	0.19%
213	Support Activities for Mining	7.21%	1.34%	0.19%	0.01%	0.27%	0.27%	0.17%	7.19%	1.44%	0.59%	0.04%	0.44%	0.46%	0.25%
22	Utilities	3.73%	1.03%	0.71%	1.05%	0.69%	0.87%	0.76%	3.24%	1.00%	0.76%	1.16%	0.65%	0.92%	0.76%
221	Utilities	3.73%	1.03%	0.71%	1.05%	0.69%	0.87%	0.76%	3.24%	1.00%	0.76%	1.16%	0.65%	0.92%	0.76%
23	Construction	11.45%	8.16%	8.97%	9.17%	8.17%	8.82%	6.26%	9.91%	7.69%	7.21%	6.55%	7.34%	7.05%	5.64%
236	Construction of Buildings	2.60%	2.28%	1.71%	1.67%	1.85%	1.78%	1.41%	1.44%	1.93%	1.32%	1.23%	1.47%	1.38%	1.23%
237	Heavy and Civil Engineering Construction	4.91%	2.18%	1.18%	1.56%	1.12%	1.42%	1.03%	2.79%	1.91%	1.18%	1.06%	1.05%	1.20%	0.95%
238	Specialty Trade Contractors	5.34%	4.04%	5.91%	5.95%	5.33%	5.62%	3.82%	5.69%	4.19%	4.72%	4.27%	4.96%	4.53%	3.46%
31-33	Manufacturing	36.4%	6.84%	9.61%	10.48%	13.84%	10.31%	14.75%	3.13%	4.67%	6.99%	7.61%	11.67%	7.76%	10.90%
311	Food Manufacturing	0.14%	0.92%	1.04%	0.43%	1.51%	0.88%	1.40%	0.10%	0.79%	0.99%	0.51%	1.55%	0.89%	1.33%
312	Beverage and Tobacco Product Manufacturing	0.09%	0.08%	0.32%	0.19%	0.07%	0.20%	0.19%	0.09%	0.08%	0.28%	0.17%	0.07%	0.18%	0.17%
313	Textile Mills	---	0.02%	0.01%	0.04%	0.03%	0.03%	0.30%	0.00%	0.01%	0.01%	0.02%	0.03%	0.02%	0.11%
314	Textile Product Mills	---	0.02%	0.08%	0.06%	0.10%	0.07%	0.18%	0.00%	0.02%	0.10%	0.05%	0.08%	0.07%	0.12%
315	Apparel Manufacturing	---	0.05%	0.07%	0.03%	0.09%	0.06%	0.38%	0.00%	0.01%	0.04%	0.01%	0.05%	0.03%	0.15%
316	Leather and Allied Product Manufacturing	0.00%	0.02%	0.05%	0.02%	0.03%	0.03%	0.05%	0.00%	0.00%	0.01%	0.02%	0.01%	0.01%	0.03%
321	Wood Product Manufacturing	---	0.20%	0.26%	0.40%	0.29%	0.31%	0.51%	0.05%	0.15%	0.18%	0.18%	0.21%	0.18%	0.33%
322	Paper Manufacturing	0.00%	0.13%	0.16%	0.14%	0.31%	0.17%	0.52%	0.00%	0.09%	0.10%	0.11%	0.27%	0.13%	0.37%
323	Printing and Related Support Activities	0.10%	0.25%	0.55%	0.42%	0.84%	0.52%	0.69%	0.14%	0.15%	0.33%	0.23%	0.59%	0.34%	0.48%
324	Petroleum and Coal Products Manufacturing	---	0.12%	0.03%	0.01%	0.11%	0.05%	0.11%	0.26%	0.13%	0.05%	0.01%	0.13%	0.06%	0.11%
325	Chemical Manufacturing	---	0.12%	0.39%	0.24%	0.80%	0.37%	0.86%	0.05%	0.20%	0.33%	0.21%	0.84%	0.36%	0.74%
326	Plastics and Rubber Products Manufacturing	0.04%	0.21%	0.31%	0.36%	0.38%	0.33%	0.80%	0.04%	0.10%	0.22%	0.19%	0.40%	0.23%	0.58%
327	Nonmetallic Mineral Product Manufacturing	0.21%	0.44%	0.55%	0.46%	0.56%	0.51%	0.49%	0.20%	0.34%	0.39%	0.31%	0.49%	0.37%	0.36%
331	Primary Metal Manufacturing	---	0.19%	0.11%	0.30%	0.62%	0.27%	0.51%	0.00%	0.06%	0.10%	0.19%	0.36%	0.18%	0.33%
332	Fabricated Metal Product Manufacturing	0.89%	0.50%	0.90%	1.00%	1.31%	0.96%	1.51%	0.97%	0.37%	0.70%	0.70%	0.75%	1.18%	1.21%
333	Machinery Manufacturing	0.45%	0.27%	0.55%	0.48%	0.72%	0.52%	1.22%	0.38%	0.18%	0.52%	0.32%	0.57%	0.41%	0.94%
334	Computer and Electronic Product Manufacturing	---	2.09%	2.51%	2.95%	1.75%	2.49%	1.57%	0.00%	1.19%	1.26%	1.85%	1.33%	1.48%	1.04%
335	Electrical Equipment, Appliance, and Component Manufacturing	---	0.10%	0.15%	0.15%	0.11%	0.14%	0.50%	0.00%	0.07%	0.08%	0.11%	0.13%	0.10%	0.34%
336	Transportation Equipment Manufacturing	---	0.37%	0.60%	1.90%	1.65%	1.22%	1.75%	0.08%	0.24%	0.49%	1.68%	1.30%	1.04%	1.27%
337	Furniture and Related Product Manufacturing	0.13%	0.17%	0.40%	0.44%	0.86%	0.46%	0.58%	0.11%	0.16%	0.29%	0.25%	0.56%	0.31%	0.35%
339	Miscellaneous Manufacturing	0.18%	0.54%	0.58%	0.45%	1.71%	0.72%	0.64%	0.12%	0.30%	0.54%	0.41%	1.52%	0.64%	0.53%
42	Wholesale Trade	3.84%	3.79%	5.24%	4.98%	4.89%	4.89%	5.14%	4.38%	3.39%	5.01%	4.97%	4.71%	4.75%	5.11%
423	Merchant Wholesalers, Durable Goods	2.86%	2.14%	3.17%	3.01%	2.38%	2.87%	2.79%	3.37%	1.87%	2.89%	2.63%	2.42%	2.52%	2.57%
424	Merchant Wholesalers, Nondurable Goods	0.89%	1.40%	1.78%	1.59%	1.45%	1.61%	1.81%	0.80%	1.20%	1.69%	1.53%	1.44%	1.53%	1.80%
425	Wholesale Electronic Markets and Agents and Brokers	0.09%	0.25%	0.29%	0.38%	0.86%	0.41%	0.54%	0.21%	0.31%	0.63%	0.82%	0.85%	0.70%	0.74%
44-45	Retail Trade	17.15%	15.13%	13.00%	14.03%	14.91%	13.93%	13.68%	15.19%	14.38%	12.87%	14.87%	14.75%	14.11%	13.43%
441	Motor Vehicle and Parts Dealers	2.59%	2.02%	1.72%	2.19%	1.81%	1.94%	1.67%	2.36%	1.81%	1.51%	1.77%	1.71%	1.67%	1.50%
442	Furniture and Home Furnishings Stores	0.52%	0.55%	0.58%	0.56%	0.55%	0.57%	0.48%	0.33%	0.35%	0.45%	0.47%	0.50%	0.46%	0.41%
443	Electronics and Appliance Stores	---	0.42%	0.44%	0.53%	0.50%	0.48%	0.50%	0.54%	0.38%	0.46%	0.62%	0.47%	0.51%	0.45%
444	Building Material and Garden Equipment and Supplies Dealers	1.12%	1.12%	1.13%	0.98%	1.25%	1.09%	1.02%	1.48%	1.20%	1.11%	1.07%	1.23%	1.12%	1.07%
445	Food and Beverage Stores	2.40%	2.38%	2.33%	2.53%	2.70%	2.47%	2.65%	1.84%	2.18%	2.42%	2.90%	2.54%	2.59%	2.62%
446	Health and Personal Care Stores	1.07%	0.64%	0.53%	0.76%	0.55%	0.63%	0.84%	0.44%	0.67%	0.60%	0.90%	0.60%	0.72%	0.90%
447	Gasoline Stations	2.39%	1.30%	0.82%	0.93%	1.18%	0.97%	0.83%	1.91%	1.20%	0.66%	0.78%	0.96%	0.82%	0.76%
448	Clothing and Clothing Accessories Stores	0.93%	1.12%	0.98%	0.90%	1.13%	0.99%	1.19%	0.72%	1.00%	0.99%	1.08%	1.19%	1.06%	1.25%
451	Sporting Goods, Hobby, Book, and Music Stores	0.52%	0.64%	0.88%	0.60%	1.01%	0.77%	0.61%	0.43%	0.61%	0.81%	0.60%	0.88%	0.72%	0.57%
452	General Merchandise Stores	3.92%	3.10%	2.33%	2.61%	2.77%	2.59%	2.57%	4.05%	3.56%	2.77%	3.19%	3.06%	3.07%	2.80%
453	Miscellaneous Store Retailers	1.12%	1.27%	0.98%	1.08%	0.91%	1.04%	0.89%	0.80%	0.99%	0.80%	0.93%	0.79%	0.87%	0.72%
454	Nonstore Retailers	---	0.55%	0.29%	0.35%	0.56%	0.39%	0.43%	0.29%	0.40%	0.29%	0.57%	0.82%	0.50%	0.38%
48-49	Transportation and Warehousing	4.59%	3.91%	4.24%	4.05%	5.64%	4.36%	4.79%	3.54%	3.44%	3.82%	3.95%	5.49%	4.11%	4.62%
481	Air Transportation	---	0.29%	0.85%	0.85%	0.81%	0.78%	0.55%	0.00%	0.21%	0.72%	0.71%	0.66%	0.64%	0.42%
482	Rail Transportation	0.00%	---	---	---	---	0.00%	0.00%	0.00%	---	---	---	---	0.00%	0.00%
483	Water Transportation	0.00%	---	---	---	---	0.00%	0.05%	0.00%	---	---	---	---	0.00%	0.06%
484	Truck Transportation	3.30%	1.08%	0.91%	0.92%	2.03%	1.12%	1.24%	2.81%	1.05%	0.93%	0.88%	1.89%	1.10%	1.16%
485	Transit and Ground Passenger Transportation	---	0.59%	0.36%	0.31%	0.49%	0.39%	0.53%	0.00%	0.52%	0.38%	0.40%	0.59%	0.44%	0.61%
486	Pipeline Transportation	0.16%	0.17%	0.04%	0.01%	0.02%	0.04%	0.04%	0.00%	0.03%	0.05%	0.01%	0.03%	0.03%	0.04%
487	Scenic and Sightseeing Transportation	0.00%	0.04%	0.02%	0.03%	0.05%	0.03%	0.03%	0.00%	---	0.03%	0.03%	0.00%	0.02%	0.03%
488	Support Activities for Transportation	0.12%	0.45%	0.40%	0.48%	0.44%	0.44%	0.56%	0.21%	0.49%	0.37%	0.50%	0.41%	0.44%	0.57%
491	Postal Service	0.47%	0.74%	0.79%	0.67%	0.59%	0.71%	0.78%	0.30%	0.58%	0.65%	0.57%	0.61%	0.60%	0.65%
492	Couriers and Messengers	---	0.35%	0.55%	0.45%	0.56%	0.49%	0.54%	0.17%	0.33%	0.46%	0.44%	0.51%	0.45%	0.49%
493	Warehousing and Storage	---	0.18%	0.47%	0.32%	0.60%	0.40%	0.46%	0.00%	0.20%	0.36%	0.40%	0.72%	0.42%	0.59%
51	Information	1.40%	3.04%	5.72%	2.89%	3.80%	4.08%	3.35%	1.09%	2.48%	4.15%	1.98%	3.09%	2.97%	2.72%
511	Publishing Industries (except Internet)	---	0.52%	1.83%	0.68%	1.05%	1.14%	0.91%	0.20%	0.37%	1.29%	0.45%	0.94%	0.81%	0.73%
512	Motion Picture and Sound Recording Industries	---	0.22%	0.23%	0.19%	0.57%	0.27%	0.33%	0.00%	0.47%	0.22%				

Table A3
San Juan County Location Quotients by 3-Digit NAICS Classification, 2009
San Juan County Economic Base Analysis

NAICS	Industry	2001			2009			Change		
		San Juan vs. NM	vs. 4-State Region	vs. U.S.	San Juan vs. NM	vs. 4-State Region	vs. U.S.	San Juan vs. NM	vs. 4-State Region	vs. U.S.
11	Agriculture, Forestry, Fishing and Hunting	0.246	0.437	0.469	0.272	0.471	0.428	0.027	0.034	-0.041
111	Crop Production	0.505	0.548	0.446	0.586	0.704	0.483	0.081	0.156	0.037
112	Animal Production	---	---	---	0.020	0.055	0.083	---	---	---
113	Forestry and Logging	---	---	---	---	0.000	0.000	---	---	---
114	Fishing, Hunting and Trapping	---	0.000	0.000	---	0.000	0.000	---	0.000	0.000
115	Support Activities for Agriculture and Forestry	---	---	---	0.529	0.650	0.669	---	---	---
21	Mining	5.101	15.578	27.484	4.864	11.428	22.482	-0.236	-4.150	-5.002
211	Oil and Gas Extraction	---	---	---	5.326	14.136	23.473	---	---	---
212	Mining (except Oil and Gas)	---	---	---	3.987	5.569	13.361	---	---	---
213	Support Activities for Mining	5.394	26.996	42.017	5.000	15.675	28.543	-0.394	-11.321	-13.475
22	Utilities	3.633	4.309	4.939	3.230	3.535	4.293	-0.403	-0.774	-0.645
221	Utilities	3.633	4.309	4.939	3.230	3.535	4.293	-0.403	-0.774	-0.645
23	Construction	1.403	1.299	1.831	1.290	1.407	1.757	-0.114	0.108	-0.074
236	Construction of Buildings	1.140	1.458	1.846	0.743	1.040	1.170	-0.397	-0.418	-0.676
237	Heavy and Civil Engineering Construction	2.254	3.455	4.773	1.460	2.331	2.933	-0.793	-1.124	-1.840
238	Specialty Trade Contractors	1.320	0.950	1.398	1.359	1.255	1.644	0.039	0.305	0.246
31-33	Manufacturing	0.532	0.353	0.247	0.669	0.403	0.287	0.137	0.050	0.040
311	Food Manufacturing	0.148	0.154	0.098	0.131	0.117	0.077	-0.017	-0.038	-0.020
312	Beverage and Tobacco Product Manufacturing	1.075	0.422	0.463	1.030	0.487	0.515	-0.045	0.065	0.052
313	Textile Mills	---	---	---	0.000	0.000	0.000	---	---	---
314	Textile Product Mills	---	---	---	0.000	0.000	0.000	---	---	---
315	Apparel Manufacturing	---	---	---	0.000	0.000	0.000	---	---	---
316	Leather and Allied Product Manufacturing	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
321	Wood Product Manufacturing	---	---	---	0.359	0.298	0.164	---	---	---
322	Paper Manufacturing	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
323	Printing and Related Support Activities	0.408	0.201	0.150	0.898	0.410	0.285	0.489	0.209	0.135
324	Petroleum and Coal Products Manufacturing	---	---	---	1.933	4.525	2.475	---	---	---
325	Chemical Manufacturing	---	---	---	0.271	0.150	0.073	---	---	---
326	Plastics and Rubber Products Manufacturing	0.208	0.135	0.055	0.361	0.162	0.064	0.152	0.027	0.009
327	Nonmetallic Mineral Product Manufacturing	0.476	0.411	0.426	0.585	0.531	0.548	0.109	0.120	0.122
331	Primary Metal Manufacturing	---	---	---	0.000	0.000	0.000	---	---	---
332	Fabricated Metal Product Manufacturing	1.777	0.933	0.593	2.614	1.297	0.806	0.837	0.364	0.213
333	Machinery Manufacturing	1.681	0.863	0.367	2.130	0.925	0.409	0.449	0.062	0.042
334	Computer and Electronic Product Manufacturing	---	---	---	0.000	0.000	0.000	---	---	---
335	Electrical Equipment, Appliance, and Component Manufacturing	---	---	---	0.000	0.000	0.000	---	---	---
336	Transportation Equipment Manufacturing	---	---	---	0.314	0.073	0.060	---	---	---
337	Furniture and Related Product Manufacturing	0.773	0.287	0.231	0.688	0.368	0.321	-0.085	0.080	0.089
339	Miscellaneous Manufacturing	0.331	0.248	0.278	0.388	0.185	0.221	0.056	-0.063	-0.057
42	Wholesale Trade	1.015	0.786	0.747	1.293	0.921	0.856	0.278	0.135	0.109
423	Merchant Wholesalers, Durable Goods	1.335	0.999	1.026	1.800	1.336	1.313	0.465	0.338	0.286
424	Merchant Wholesalers, Nondurable Goods	0.638	0.553	0.492	0.664	0.523	0.443	0.026	-0.030	-0.050
425	Wholesale Electronic Markets and Agents and Brokers	0.363	0.216	0.164	0.668	0.295	0.279	0.305	0.078	0.115
44-45	Retail Trade	1.134	1.232	1.254	1.056	1.076	1.130	-0.078	-0.155	-0.123
441	Motor Vehicle and Parts Dealers	1.277	1.334	1.553	1.309	1.413	1.575	0.032	0.080	0.023
442	Furniture and Home Furnishings Stores	0.939	0.914	1.070	0.959	0.728	0.810	0.020	-0.186	-0.260
443	Electronics and Appliance Stores	---	---	---	1.442	1.063	1.207	---	---	---
444	Building Material and Garden Equipment and Supplies Dealers	1.001	1.025	1.094	1.240	1.318	1.391	0.239	0.293	0.297
445	Food and Beverage Stores	1.007	0.970	0.902	0.844	0.709	0.700	-0.163	-0.261	-0.203
446	Health and Personal Care Stores	1.679	1.707	1.273	0.653	0.611	0.487	-1.026	-1.096	-0.786
447	Gasoline Stations	1.841	2.458	2.894	1.583	2.317	2.514	-0.258	-0.141	-0.380
448	Clothing and Clothing Accessories Stores	0.824	0.935	0.780	0.718	0.681	0.577	-0.106	-0.253	-0.203
451	Sporting Goods, Hobby, Book, and Music Stores	0.811	0.673	0.849	0.711	0.601	0.764	-0.100	-0.072	-0.084
452	General Merchandise Stores	1.267	1.515	1.527	1.136	1.319	1.446	-0.131	-0.196	-0.081
453	Miscellaneous Store Retailers	0.883	1.078	1.258	0.802	0.916	1.099	-0.081	-0.161	-0.159
454	Nonstore Retailers	---	---	---	0.712	0.576	0.752	---	---	---
48-49	Transportation and Warehousing	1.174	1.051	0.958	1.028	0.860	0.765	-0.147	-0.192	-0.193
481	Air Transportation	---	---	---	0.000	0.000	0.000	---	---	---
482	Rail Transportation	---	---	0.000	---	---	0.000	---	---	0.000
483	Water Transportation	---	---	0.000	---	---	0.000	---	---	0.000
484	Truck Transportation	3.061	2.951	2.660	2.683	2.568	2.426	-0.378	-0.383	-0.235
485	Transit and Ground Passenger Transportation	---	---	---	0.000	0.000	0.000	---	---	---
486	Pipeline Transportation	0.963	3.915	3.899	0.000	0.000	0.000	-0.963	-3.915	-3.899
487	Scenic and Sightseeing Transportation	0.000	0.000	0.000	---	0.000	0.000	---	0.000	0.000
488	Support Activities for Transportation	0.278	0.283	0.222	0.421	0.469	0.361	0.143	0.186	0.139
491	Postal Service	0.638	0.668	0.603	0.522	0.505	0.469	-0.116	-0.164	-0.135
492	Couriers and Messengers	---	---	---	0.505	0.372	0.340	---	---	---
493	Warehousing and Storage	---	---	---	0.000	0.000	0.000	---	---	---
51	Information	0.460	0.344	0.419	0.441	0.369	0.402	-0.019	0.025	-0.016
511	Publishing Industries (except Internet)	---	---	---	0.543	0.248	0.276	---	---	---
512	Motion Picture and Sound Recording Industries	---	---	---	0.000	0.000	0.000	---	---	---
515	Broadcasting (except Internet)	0.332	0.270	0.298	0.889	0.694	0.670	0.557	0.424	0.372
516	Internet Publishing and Broadcasting	---	---	---	---	---	---	---	---	---
517	Telecommunications	0.250	0.232	0.317	0.251	0.264	0.318	0.000	0.031	0.001
518	Internet Service Providers, Web Search Portals, and Data Processing Services	0.227	0.152	0.202	0.000	0.000	0.000	-0.227	-0.152	-0.202
519	Other Information Services	---	---	---	0.000	0.000	0.000	---	---	---
52	Finance and Insurance	0.549	0.384	0.400	0.673	0.426	0.448	0.123	0.042	0.048
521	Monetary Authorities - Central Bank	---	---	0.000	---	0.000	0.000	---	---	0.000
522	Credit Intermediation and Related Activities	0.630	0.451	0.547	0.817	0.544	0.683	0.188	0.094	0.136
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	---	---	---	0.000	0.000	0.000	---	---	---
524	Insurance Carriers and Related Activities	0.487	0.392	0.348	0.495	0.342	0.297	0.007	-0.050	-0.052
525	Funds, Trusts, and Other Financial Vehicles	---	---	---	---	0.000	0.000	---	---	---
53	Real Estate and Rental and Leasing	1.035	0.807	0.937	0.848	0.640	0.737	-0.187	-0.167	-0.201
531	Real Estate	0.051	0.038	0.043	0.534	0.362	0.407	0.483	0.324	0.364
532	Rental and Leasing Services	1.657	1.496	1.784	1.388	1.370	1.644	-0.269	-0.126	-0.140
533	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	---	---	---	0.000	0.000	0.000	---	---	---
54	Professional, Scientific, and Technical Services	0.452	0.462	0.485	0.300	0.348	0.380	-0.152	-0.114	-0.105
541	Professional, Scientific, and Technical Services	0.452	0.462	0.485	0.300	0.348	0.380	-0.152	-0.114	-0.105
55	Management of Companies and Enterprises	0.709	0.563	0.445	0.749	0.417	0.347	0.041	-0.146	-0.098
551	Management of Companies and Enterprises	0.709	0.563	0.445	0.749	0.417	0.347	0.041	-0.146	-0.098
56	Admin., Support, and Waste Management Services	0.567	0.502	0.603	0.474	0.393	0.473	-0.093	-0.109	-0.130
561	Administrative and Support Services	0.601	0.521	0.626	0.436	0.349	0.423	-0.165	-0.172	-0.203
562	Waste Management and Remediation Services	0.472	0.623	0.716	1.134	1.620	1.651	0.661	0.997	0.934
61	Private Educational Services	0.894	0.736	0.137	0.683	0.419	0.108	-0.211	-0.317	-0.029
62	Health Care and Social Assistance	0.890	1.188	0.994	0.839	1.077	0.961	-0.051	-0.111	-0.034
621	Ambulatory Health Care Services	0.909	1.080	1.038	0.847	0.994	1.058	-0.063	-0.087	0.020
622	Hospitals	0.456	0.617	0.455	0.386	0.480	0.371	-0.070	-0.137	-0.084
623	Nursing and Residential Care Facilities	0.730	0.960	0.679	2.464	2.619	1.884	1.734	1.659	1.206
624	Social Assistance	---	---	---	0.523	1.023	0.912	---	---	---