



PART V – ECONOMIC ANALYSIS - SUMMARY

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1.0 General Information

This section summarizes the complete Economic Analysis report found in Appendix B. For specific economic data, analysis, references or data sources refer to the applicable section of Appendix B.

Kirtland AFB is a sprawling military complex with more than 100 Federal Agencies, commands, administrative offices, research laboratories, test and evaluation facilities, maintenance, air rescue, special operations and training centers. Government contracting opportunities with the Base are plentiful with some \$100 million in local purchases and \$135 million in local service contracts awarded in fiscal year 2008.

In 1995, the Air Force placed the Base on its list of bases to be closed using the Base Realignment and Closure (BRAC) process. Alerted to the threat, the Albuquerque community created an ad-hoc committee to challenge the decision. The community highlighted the significance of the Base as a national resource for research, testing and evaluation, and succeeded in reversing the recommendation. The Base was removed from the closure list prior to the BRAC Commission's vote on the recommendation.

1.1 Focus and Objectives

This report responds to the MRCOG Board's direction to provide an analysis that would help the region better understand the full impact of employment and spending associated with Kirtland AFB and Albuquerque's International Sunport so that regional land use issues affecting Kirtland AFB and Sunport missions could be considered with better understanding of the economic consequences.

This report addresses the objective to provide MRCOG and its member agencies estimated impacts on jobs, income and regional industrial output associated with Kirtland AFB and the Sunport.

1.2 Geographic Scope

The geographic scope of this analysis is defined as the region comprising the four counties of the MRCOG: Bernalillo, Sandoval, Tarrant and Valencia. A newer member of MRCOG, the community of Edgewood in southwest Santa Fe County, is included in the analysis where data are available.



2.0 Regional Information

2.1 Population

Table V-1 displays estimates from the U.S. Census Bureau and places the MRCOG region's four-county population at 845,913, with an additional 2,742 estimated for Edgewood, for a total of 848,655. A competing estimate provided by the and University of New Mexico's Bureau of Business Economic Research (BBER) puts MRCOG's 2008 population at a much larger 875,008.

Table V - 1:
Population Trends in MRCOG Incorporated and Unincorporated Areas

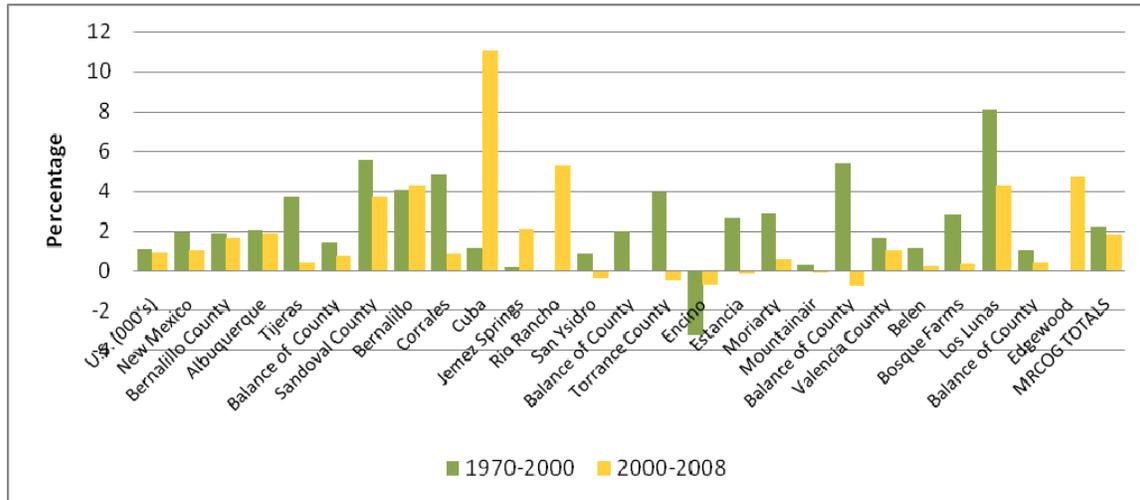
Community	1970	1980	1990	2000	2008 †	% Change (1970-2008)
U.S. (000's)	203,302	226,542	248,718	281,422	304,060	49.6
New Mexico	1,017,055	1,303,303	1,515,069	1,819,046	1,984,356	95.1
Bernalillo County	315,774	420,262	480,577	556,678	635,139	101.1
Albuquerque	244,501	332,336	386,988	448,607	521,999	109.8
Tijeras	160	311	478	474	520	225.0
Balance of County	71,113	87,615	93,111	107,597	112,620	58.4
Sandoval County	17,492	34,400	63,319	89,908	122,298	599.2
Bernalillo	2,016	2,988	5,732	6,611	9,237	358.2
Corrales	1,776	2,791	5,503	7,334	7,787	338.5
Cuba	415	609	750	590	1,358	227.2
Jemez Springs	356	316	359	375	439	233.1
Rio Rancho	n/a	9,985	32,551	51,765	79,651	n/a
San Ysidro	182	199	345	238	229	25.8
Balance of County	12,747	17,512	18,079	22,995	23,597	85.1
Torrance County	5,290	7,491	10,285	16,911	16,269	207.5
Encino	250	155	131	94	89	-64.4
Estancia	721	830	800	1,584	1,572	118.0
Moriarty	758	1,276	1,420	1,765	1,952	157.5
Mountainair	1,022	1,170	926	1,116	1,113	8.9
Balance of County	2,539	4,060	7,008	12,352	11,543	354.6
Valencia County	40,576	30,769	45,235	66,152	72,207	78.0
Belen	4,823	5,617	6,555	6,901	7,325	51.9
Bosque Farms	1,699	3,353	3,824	3,931	4,060	139.0
Los Lunas	973	3,525	6,135	10,034	14,153	1354.6
Balance of County	33,081	18,274	28,721	45,286	46,669	41.1
Santa Fe County	Not a member of the MRCOG					
Edgewood	n/a	n/a	n/a	1,893	2,742	n/a
MRCOG TOTALS	379,132	492,922	599,416	731,542	848,655	123.8



Figure V-1 shows the average annual population growth for incorporated and unincorporated areas in the MRCOG region and highlights an estimated slowdown in the

region's growth, a trend that mirrors State and U.S. estimates.

Figure V - 1:
Average Annual Population Growth - 1970-2000 and 2000-2008



2.2 Economic Benchmarks

Table V- 2 (p. V - 6) depicts economic benchmark data for the U.S., New Mexico and MRCOG's four-county region. Analysis reveals the region has outpaced the State and U.S. in average annual growth in population, jobs (employment) and personal income. Median age in the MRCOG region is calculated at 35.8 years, identical to the statewide median age, but one year younger than the U.S. median.

Per capita income, a traditional measure of economic performance, is calculated at \$33,294, averaged across the four-county region. This income level represents 108.4% of the statewide average of \$30,706 but 86.2% of the nation's \$38,615 average, as estimated for 2007.

A notable feature of the regional data is the high level of educational achievement on average across the four counties. Individuals with college bachelor's degrees (or greater) account for 28.0% of the region's population. This statistic compares to 23.5% college-educated for the State and 24.4% for the nation. High education levels typically are associated with strong personal earnings and greater-than-average regional per capita income. While personal earnings and per capita income in the MRCOG region do not exceed the national average, an educated population

nevertheless serves as a positive economic indicator and fuels the potential for economic improvement.

In regard to regional poverty, a benchmark indicator known as the "rich-to-poor ratio" is shown for each County. The measure is based on the number of households with incomes less than \$35,000 as a ratio to the number of households earning more than \$100,000. For this indicator, the MRCOG region ranks above the State and below the U.S. averages with 1.42 MRCOG households reporting incomes of less than \$35,000 for every household earning \$100,000. Table V-2 should be referred to for display of values and assessments included in the county analyses (Sections 3 - 6).

3.0 Bernalillo County

Bernalillo County, the largest county in the State in population and industrial output, covers 1,166 square miles of high-desert mesa in central New Mexico. The County is home to nearly one out of every three New Mexicans. From 1970 to 2008, the County's population grew by 319,365, a 101% increase, accounting for an average annual growth of 1.83%, exceeding both the State (1.77%) and national (1.06%) averages.

Employment and income data for Bernalillo County show healthy growth in both jobs and income. From 1970 through 2007, the County recorded an annualized growth



in jobs of 3.19%, higher than the State's rate of 2.82% and the 1.86% rate for the United States. Per capita income, a traditional indicator of economic health, is estimated at \$34,983 for 2007, representing 113.9% of the State (\$30,706) and 90.6% of the national (\$38,615) averages.

The percentage of the adult population in Bernalillo County with a college degree is very high at 30.5% and ranks as the highest among counties in the MRCOG region.

Some 16,898 private, nonfarm establishments are located in the County representing employment of 41.4% of the State's total private, nonfarm job base. Government jobs represent 15.9% of total employment in Bernalillo County compared to 13.4% for the nation, and account for 20.3% of the County's total personal income.

Commuting data from 1981 through 2005 suggest that Bernalillo County is an "employment hub" as income derived from people commuting into the County to work exceeds the income from people commuting out of the County. Regarding employment, over time, the County has seen steady growth in the number of professional, scientific and technical service jobs. A decline was noted in manufacturing jobs. The largest employment sectors today are government (15.9% of total jobs), retail (11.4%), health care and social assistance (11.4%).

4.0 Sandoval County

Sandoval County covers 3,174 square miles of high-desert mesa and includes stretches of the Rio Grande and portions of the Sandia Mountain range. The Census Bureau estimates the County's 2008 population at 122,298, the second largest of the MRCOG counties. From 1970 to 2008, the County's population grew by an extraordinary 599.2%. For the same 38-year period, average annual growth is calculated at 5.25%, a remarkable rate by any standard.

Employment and income data for Sandoval County show strong growth in jobs and income. From 1970 through 2007, the County recorded an annualized growth in jobs of 6.94%, higher than the State's rate of 2.82% and 1.86% for the United States. Per capita income was estimated at \$29,476 for 2007, representing 96.0% of the State's (\$30,706) and 76.3% of the national (\$38,615) averages.

The adult population in Sandoval County with a college degree is 24.8%, higher than the Statewide (23.5%) rate and comparable to the nation's (24.4%) average.

Some 1,699 private, nonfarm firms are established in the County representing employment of 29,687. The largest employment sectors are government, manufacturing, retail, food and accommodation services. Government jobs represent 18.3% of total employment in the County, but account for merely 9.3% of total personal income. This compares to 13.4% government employment for the nation and the same 13.4% for government's share of the nation's total personal income. Commuting data from 1981 through 2005 suggest that Sandoval County is home to commuters who travel out of the County to work. Income derived from people commuting out of the County exceeds income from people commuting into the County to work.

5.0 Torrance County

Torrance County, covering 3,345 square miles, is home to scenic, gently rolling grasslands at elevations of 6,000 to 6,200 feet. The Census Bureau estimates the County's 2008 population at 16,269, the smallest of the MRCOG's four counties. From 1970 to 2008, Torrance County's population increased 202% accounting for average annual growth of 3.95%, exceeding both the State (1.77%) and national (1.06%) averages. The Census Bureau estimates the County has experienced a recent swing in population with 669 fewer individuals living in the County in 2008 than in 2000. This accounts for an overall negative growth (-0.50%) since 2000. The 2010 Census is likely to clarify which direction the County's population has taken in the past 10 years.

Employment and income data for Torrance County show healthy growth in jobs and income. From 1970 through 2007, the County recorded average annual growth in jobs of 3.12%, higher than rates for the State (2.82%) and the nation (1.86%). Per capita income is estimated at \$25,184 for 2007, lowest among the MRCOG counties, and representing 82.0% of the State (\$30,706) and 65.2% (\$38,615) of the national averages.

The percentage of the adult population in Torrance County with a college degree is low at 14.4%; this compares to 23.5% college-educated for the State and 24.4% for the nation. Some 245 private, nonfarm firms are established in the County and employ 2,342. Government jobs represent 20.7% of total employment, compared to 13.4% for the nation, but account for a much larger 39.5% of total personal income in the County.





6.0 Valencia County

Valencia County covers 1,068 square miles of desert mesa and includes stretches of the Rio Grande and the southern portion of the Manzano Mountains. Much of the County's population is located in small communities established alongside the Rio Grande. The County is home to an estimated 72,207 people. From 1970 to 2008, the County's population grew by 31,631 individuals, a 78.0% increase, accounting for an annual growth rate of 1.53%, trailing the State (1.77%), but exceeding the national (1.06%) average.

Employment and income data for Valencia County show healthy growth in both jobs and income. From 1970

through 2007, the County recorded an average annual growth in jobs of 1.86%, less than the State rate (2.82%) but equal to the rate for the U.S. (1.86%). Per capita income was estimated at \$26,715 for 2007, representing 82.0% of the State (\$30,706) and 65.2% of the national (\$38,615) averages.

The percentage of the adult population in Valencia County with a college degree is low at 14.8%; this compares to 23.5% college-educated Statewide and 24.4% on average for the nation. Some 1,026 private, nonfarm firms are established in the County representing employment of 12,159. Government jobs represent 19.3% of total employment in Valencia County, compared to 18.8% for

Table V-2: Economic Benchmark Data for United States, New Mexico and the MRCOG Four-County Region

Performance Measure	U.S.	NM	Four-County Region				Regional Avg
			Bernalillo	Sandoval	Torrance	Valencia	
Population Growth (Annualized rate, 1970-2008)	1.06%	1.77%	1.86%	5.25%	3.00%	1.53%	2.14%
Employment Growth (Annualized rate, 1970-2007)	1.86%	2.82%	3.19%	6.94%	3.12%	2.60%	8.55%
Personal Income Growth (Adjusted for Inflation, Annualized rate, 1970-2007)	2.75%	3.57%	3.63%	8.09%	5.12%	3.66%	6.63%
Non-labor Income Share of Total Income, 2007	32.3%	34.2%	32.1%	28.4%	34.2%	33.0%	31.7%
Median Age (2008)	36.8	35.8	35.9	34.9	38.6	35.7	35.8
Per Capita Income (2007)	\$ 38,615	\$ 30,706	\$ 34,983	\$ 29,476	\$ 25,184	\$ 26,715	\$ 33,294
Average Earnings Per Job (2007)	\$ 44,605	\$ 37,006	\$ 39,499	\$ 39,847	\$ 29,592	\$ 28,761	\$ 38,442
Education Rate (% of population 25 and over who have a college degree)*	24.4%	23.5%	30.5%	24.8%	14.4%	14.8%	28.0%
Education Rate (% of population 25 and over who have less than a high school diploma)*	19.6%	21.1%	15.6%	14.0%	22.9%	23.9%	16.2%
Rich-Poor Ratio (for each household that made over \$100K, how many households made less than \$35K)*	1.12	1.93	1.45	1.05	...	2.05	1.42
Government share of total employment	13.4%	18.8%	15.9%	18.3%	20.7%	19.3%	16.2%
Government share of total personal income	13.4%	19.1%	20.3%	9.3%	39.5%	10.6%	18.3%

Note: No comparable data for Torrance County rich-poor ration. Total personal income includes net earnings by place of residence; dividends, interest, and rent; and personal current transfer receipts received by the residents of Sandoval County.

Source: All data derived from Regional Economic Accounts, Bureau of Economic Analysis, U.S. Department of Commerce. Found at www.bea.gov with the exception of data marked *, which comes from the 2006-2008 American Community Survey 3-Year Estimates, Bureau of the Census, U.S. Department of Commerce. Found at www.factfinder.census.gov



the State and 13.4% for the nation. The government share of employment, while high, accounts for merely 10.6% of total personal income, compared to 19.1% for the State and 13.4% for the U.S.

7.0 Methodology

7.1 Data Collection

The analysis of impacts from jobs and spending at Kirtland AFB and the Sunport was conducted using input data from Federal Fiscal Year (FY) 2008, the most current year for which consistent data could be found across all agencies. Results were estimated for the 2008 calendar year.

7.2 Kirtland AFB

Kirtland AFB is a large installation with a significant role in many mission areas supporting the Air Force, other major agencies and organizations, and the Nation. The 377th ABW of Air Force Materiel Command manages Base facilities. The installation has over 100 federal government and associate units with thousands of contractors providing support. Some contractors currently work at locations off-site, as space on and near Kirtland AFB is limited.

By far, the largest employers at Kirtland AFB are the U.S. Air Force, SNL and the Albuquerque DOE offices. Other organizations account for merely 4.1% of employment and less than 3.0% of total outside spending.

Considerable effort was made during the course of this analysis to account for employment and spending at all military, defense-related and other organizations associated with Kirtland AFB — military, Federal civilian and contractor. However, some organizations on Kirtland AFB require high levels of security clearance for employment, and the number of jobs, the amount of payroll and contract spending at some of these offices was not unavailable.

8.0 Data Analysis

Input-Output (I/O) analysis is a scientifically reliable method for measuring the economic consequences of employment and spending and was used to determine the impacts on employment (jobs), value-added (income), and total industry output (materials, services, labor and inter-industry dependencies) at Kirtland AFB on the four-county MRCOG region. For this study, I/O also was used to estimate impacts at the county level in jobs and income.

Data on the economic sector linkages for Kirtland AFB was obtained from the IMPLAN 3.0.2.1 (2009) database, a

popular software program used to estimate the impact of changes in spending in 436 industrial sectors. Data analysis took into account two kinds of spending: (1) military procurement, construction and general contracting and (2) household spending from military and associate unit payrolls. Total impact on jobs and income for each kind of spending was calculated as the sum of the direct, indirect and induced effects.

To determine the impact from spending on procurement, construction and general contracting, the model took into account the types of spending. For example, much of the spending at Kirtland AFB serves a research, testing and support mission. This differs from *direct* spending on construction. To account for this difference, each spending sector was assessed a unique industry code.

To determine the impact from payrolls, household spending was modeled using a nationwide median-income sector as a proxy. Because military personnel tend to purchase certain household commodities from military sources on base rather than in the local community, an adjustment factor of 0.85 was used on direct payroll figures, as is standard in studies of this type.

8.1 Impact Analysis and Multipliers

Impact analysis involves the use of multipliers to estimate the direct, indirect and induced impacts of a change in spending on the regional economy. The basic premise underlying the multiplier process is that one individual's spending is another person's income. An initial injection of funds into an economy will stimulate the recipient to spend. The spending will become income for another. The second person will spend some of that income, which will become a third person's income, and so on. Not all of the initial injection of funds stays in the local economy. Some money will be saved; some will be paid in taxes and some will be spent on goods and services outside of the local area.

The size of a community's multiplier is a function of the local economy's propensity to import from outside the area; the propensity of individuals to save and the amount of taxes paid. For the current study, hundreds of multipliers were calculated that were specific to the military and to operations conducting large-scale research, development, and testing operations.





9.0 Findings

9.1 Impact from Kirtland AFB

Table V-3 shows estimated impacts on the four-county MRCOG region from employment and spending at Kirtland AFB including its defense industry tenants, SNL and the DOE Albuquerque Office as well as more than 100 other associate units.

Employment numbers and dollar-value impacts are estimated as direct, indirect, and induced and are summed for their total. Direct impacts are those identified in actual job numbers and dollars spent. Indirect impacts are the result of direct spending in the local economy, allowing for ordinary growth in manpower and costs as local employment and spending changes. Induced impacts are those felt at the level of the household as income changes.

As shown in Table V-3, the analysis finds employment and spending associated with the Kirtland AFB community accounts for regional employment of 34,751, annual wages and salaries of \$2.24 billion, and total industry output of \$4.40 billion. Divided by regional totals, the estimates represent 9.11% of all jobs, 14.96% of all earned income and 9.76% of the region's total industrial output.

Final impacts are presented as a percentage of their contribution to the region's economy (fifth column).

Table V-3: Estimated Impacts of Employment and Spending at Kirtland AFB on the MRCOG Region, 2008

	Military & Civilian Appropriated	Contractor, Construction & Procurement	Totals	% Regional Total
Employment (job number)				
Direct	15,864	4,857	20,721	
Indirect	0	2,887	2,887	
Induced	9,287	1,856	11,143	
Total	25,151	9,600	34,751	9.11
Labor Income (thousands of \$)				
Direct	1,498,093,000	252,469,300	1,750,562,300	
Indirect	0	110,364,261	110,364,261	
Induced	320,135,281	63,496,563	383,631,844	
Total	1,818,228,281	426,330,124	2,244,558,405	14.96
Total Industry Output (thousands of \$)				
Direct	1,809,643,000	1,058,374,000	2,868,017,000	
Indirect	0	334,322,679	334,322,679	
Induced	998,859,955	199,447,306	1,198,307,261	
Total	2,808,502,955	1,592,143,985	4,400,646,940	9.76



9.2 Impact from Albuquerque International Sunport

The Sunport is a large, commercial airport located in southeast Albuquerque, adjacent to Kirtland AFB. It is the largest commercial airport in New Mexico that, in 2008, served a record 6,467,263 passengers and moved 67,000 tons of cargo.

In land area, the Sunport covers 2,039 acres and supports four runways, one of which, 17/25 is slated for closure. It has a single terminal with 25 gates in three concourses. The Sunport is owned by the City and serves as an aviation facility for Kirtland AFB that provides fire, crash and rescue services in return for the Sunport's maintenance and operation of the airdrome.

Table V-4 displays an estimate of the impact of the commercial operations of the Sunport on regional employment, income and total industry output. The impact is provided separately as the Sunport is likely to remain a central hub for regional commercial air traffic with or without the operations of Kirtland AFB.

Table V-4: Estimated Economic Impacts of Sunport
MRCOG Four-County Region, 2008

	Impacts	% Regional Total
Employment (job number)		
Direct	3,400	
Indirect	2,308	
Induced	2,286	
Total	7,994	2.05
Labor Income (thousands of \$)		
Direct	212,492,000	
Indirect	88,907,240	
Induced	77,448,030	
Total	378,847,270	2.52
Total Industry Output (thousands of \$)		
Direct	870,258,900	
Indirect	261,391,100	
Induced	246,886,000	
Total	1,378,536,000	3.06



10.0 Recommendations

There are no recommendations that can be expressed within the context of the JLUS; however the complete Economic Analysis included at Appendix B includes several recommendations that could be useful to MRCOG and its members. Land use issues considered in the MRCOG region that potentially affect Kirtland AFB missions are likely to call for information on the economic impact of employment and spending at the Base, as detailed in this study.

11.0 Summary

When the impacts from employment and spending at Kirtland AFB and the Sunport are summed, the total impact on the MRCOG region represents 11.2% of all regional employment, or *one in every nine regional jobs*. Income from Kirtland AFB and the Sunport, added together, represents 17.5% of all earned income in the MRCOG region, or *one in every five to six dollars* in regional wages or salaries. In total industrial output, Kirtland AFB and the Sunport together account for 12.8% of all industrial activity, or about one in every eight dollars of regional output value.

These numbers are significant and highlight the value of Kirtland AFB and the Sunport to the regional economy. They are intended to provide guidance for local priorities during the planning and land use process, allowing for better, more informed decision making.

There are no known institutions or employers in the region that could replace the beneficial economic impacts if Kirtland AFB were to close or experience cutbacks. Because of this, the impact data draw attention to the need to maintain the viability and capacity of Kirtland AFB to perform its current missions while preserving the capability of the base to assume new missions in the future. The imperative to balance sustainment of the Base and Sunport activities with the MRCOG and its members' vision of future, compatible land use is underscored by the results of this analysis.