

EXISTING CONDITIONS ANALYSIS

The existing conditions analysis for the regional planning area establishes measurable benchmarks for determining future needs and anticipated growth. Existing conditions are meant to be a simple statement about the present; representing a virtual “snapshot” in time. More importantly, they become the critical building blocks for predicting future outcomes by understanding past trends and present conditions.

For purposes of this plan, existing conditions shall include 1) a general reporting of the regional totals for the entire five-mile area, city-inclusive, and 2) a detailed reporting of the conditions relative to the regional planning area itself^a. Because the extraterritorial boundary represents a “buffered” curve of the city-limits line at a distance of five miles, the boundary is not determined by any natural features or based on reporting boundaries such as census tracts or block groups. For this reason, certain existing conditions for the planning area are reported for boundaries similar to (but not precisely) the five-mile boundary. Within the larger region, the data is generally described as the incorporated area (city) and the urban area^b, north, west and south subareas (Map 2.A.).

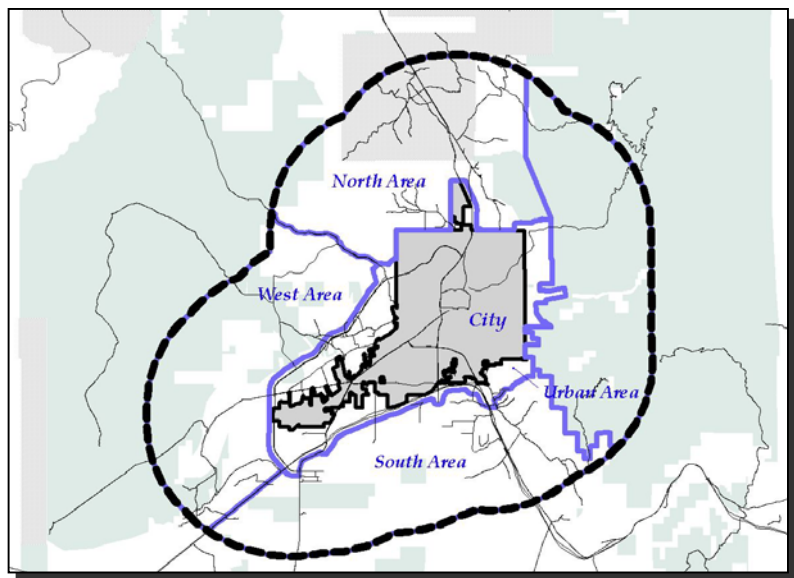


Figure 2.A. Subareas for Regional Existing and Projected Conditions

The regional existing conditions are grouped according to three categories—population and housing, economy and employment and water resources. *Population and housing* includes current population and housing unit estimates for the five-mile region and the planning area. *Economy and employment* includes trends and estimates by gross receipts tax reporting, the estimated number of employees by employment (adjusted)^c and commercial square footage estimates by industry classification within each subarea. Jobs-to-housing ratios are then estimated based on housing units and employees by subarea. Finally, the existing *water resources analysis* estimates the current water supply and demand in accordance with city and county utility estimates as well as estimates for the four watershed sub-basin region (taken from the Jemez y Sangre Regional Water Plan) that generally serves the Santa Fe planning area. Additional water demand summaries are included in Chapter 5 as it relates to land use, potential development build out and expected need.

Section 2.1. Population and Housing

The total Santa Fe five-mile region has experienced modest and reasonably consistent growth in the last several decades (Chart 2.1.A.). Increases in population for the City have generally continued at a slower pace (1.4%) than the urban fringe. Since 1970, the 5-mile region has

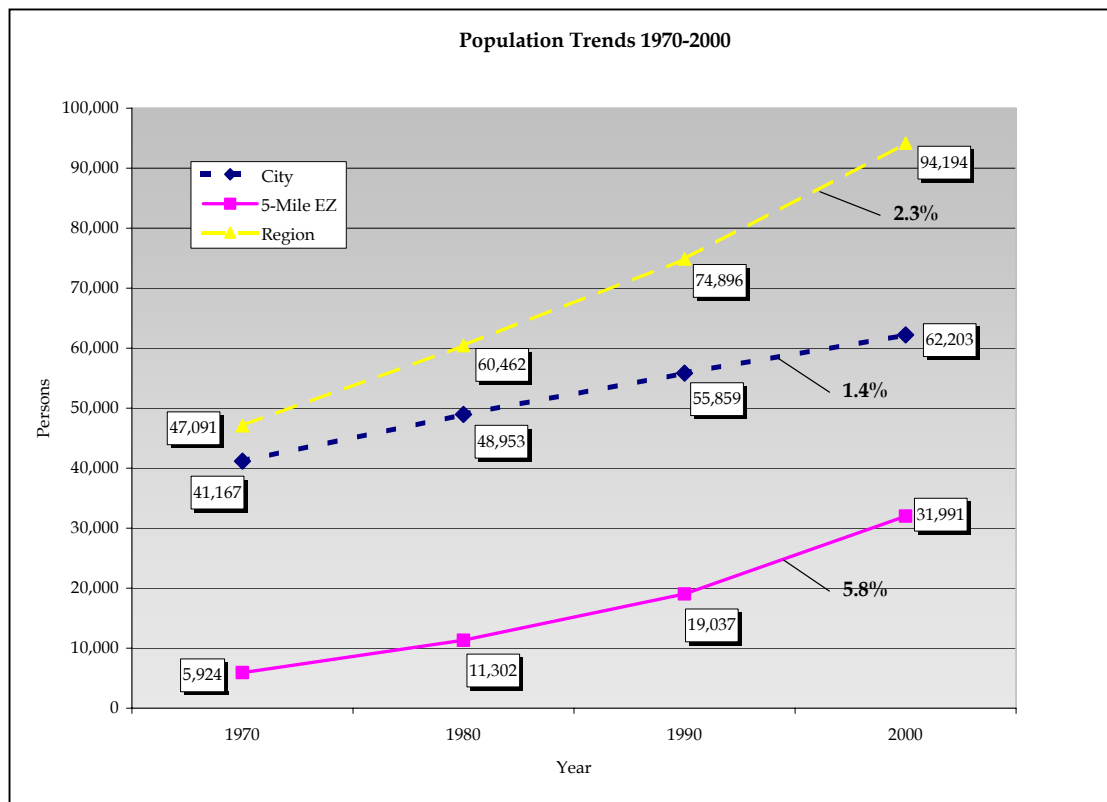


Chart 2.1.A. Population growth trends for the region 1970-2000 (Adjusted, pre-census estimates)

Sources: 1980 & 1990 data from Santa Fe General Plan Working Paper Table 3-1, based on Census and local information created by Southwest Land Research. US Census 2000 data released March 2001 reported in March 27, 2001 memorandum from Reed Liming for Central County Region at 104,194 persons and was reduced by an estimated 10,000 persons living outside the 5-Mile EZ Area.

experienced an average annual growth rate of approximately 2.3% and has added nearly 47,100 persons, effectively doubling the regional population. Growth within the unincorporated portion of the five-mile area has occurred at a relatively higher rate (5.8%) adding some 26,000 persons.

Between 1990 and 2000, the region added some 18,086 persons, which translates to approximately 1,800 persons added annually. The percentage gains in distribution of population and housing within the extraterritorial zone, however, have continued to see a significant shift from 1990 and 2000. The EZ has gained population and housing at a higher percentage rate than the city. This is consistent with noted past trends. With respect to current population estimates, nearly 67% of the regional population and 72% of the housing units lie within the city limits (Chart 2.1.B.).

Table 2.1.A and Chart 2.1.A. illustrate the current population totals for the Santa Fe region, the extraterritorial zone and the regional planning area.^d The population and housing totals are computed by region (with city), extraterritorial zone and planning area. In accordance with the

RPA Population and Housing Estimates for the Years 1990, 2000 and 2002

Subregion	Population				Housing Units			Annual Rate of Growth	Persons per Housing
	1990	2000	2002*	Annual Rate of Growth	1990	2000	2002		
<i>Incorporated area</i>	55,859	62,203	63,711	1.1%	24,681	30,533	31,575	2.2%	2.0
<i>Unincorp. area or 5-mile EZ</i>									
Urban Area (MPO)	10,245	16,897	17,542	5.1%	3,892	6,046	6,304	4.5%	2.7
North	2,693	3,540	3,024	2.8%	1,334	1,959	1,780	3.9%	1.7
West	1,399	4,345	4,914	12.0%	521	1,726	1,966	12.7%	2.4
South	4,305	5,602	6,653	2.7%	1,612	2,327	2,777	3.7%	2.3
Total region	74,501	92,587	95,844	2.2%	32,040	42,591	44,402	2.9%	2.1
Five-mile EZ	18,642	30,384	32,133	5.0%	7,359	12,058	12,827	5.1%	2.4

Estimated--Source: City of Santa Fe, (9/2002) *Land Use Assumptions for the Santa Fe 5-Mile Area & Growth Projections for Santa Fe County-Al Pitts (2004)*

Table 2.1.A. 2000 population and housing estimates for the region

2000 Census data, there is an estimated 92,587 persons residing in the Santa Fe 5-mile region. Of this, there are approximately 30,384 residents within the extraterritorial area. Between 1990 and 2000, the incorporated area experienced only a 1.1% annual growth, while the EZ grew annually at nearly 5%. The average annual growth rate for the entire region was approximately 2.2%. The greatest percentage gain occurred in the western subarea (including La Cienega) and the unincorporated urban area. In contrast, the smallest population percentage gain occurred within the city limits itself.

Housing experienced a similar growth pattern over the last decade. The regional annual growth rate for housing from 1990 to 2000 was 2.9%. Although the majority of the region's existing housing is within the city, the greatest percentage increases in housing have occurred within the EZ. The city witnessed an annual 2.2% increase, or an added 5,800 units in housing stock, while the increase in housing within the EZ was nearly 5.1% (4,700 units). Slightly less than half of the new regional housing stock was constructed outside of the city.

The "persons per household" ratios similarly vary by area (Figure 2.1.B.). The incorporated area, the EZ and the region average nearly 2.0, 2.4 and 2.1 persons per household respectively. What is most relevant is the variation of persons per household within each of the subareas. The unincorporated urban area possesses the highest persons per household ratio at 2.7. This would include such areas as the Southwest Community Planning Area, Agua Fria Village, Hyde Park and portions of Seton Village. The western subarea coincides with the greatest population percentage gains within the total urban area over the last decade. The lowest persons per household (1.7) occurred within the northern subarea. This would include Las Campanas (north), Camino La Tierra and the Tesuque Area. The city ratio was slightly higher at 2.0 persons per household.

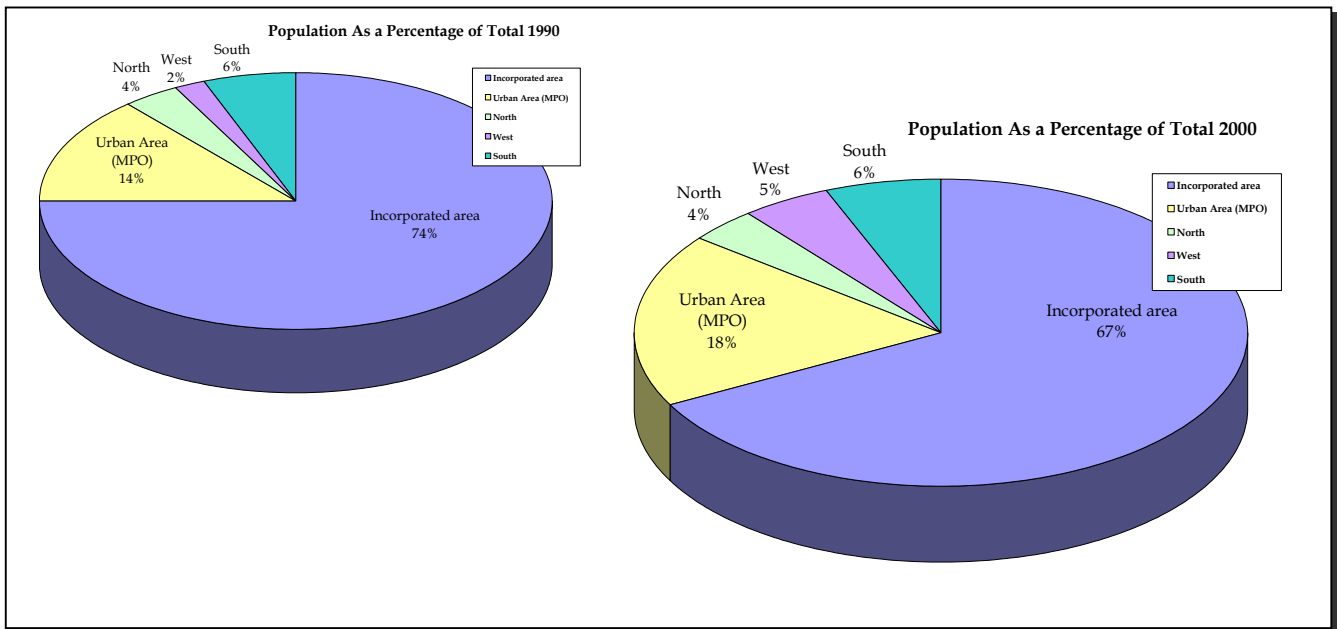


Chart 2.1.B. Area population as percentages of total for 1990 and 2000

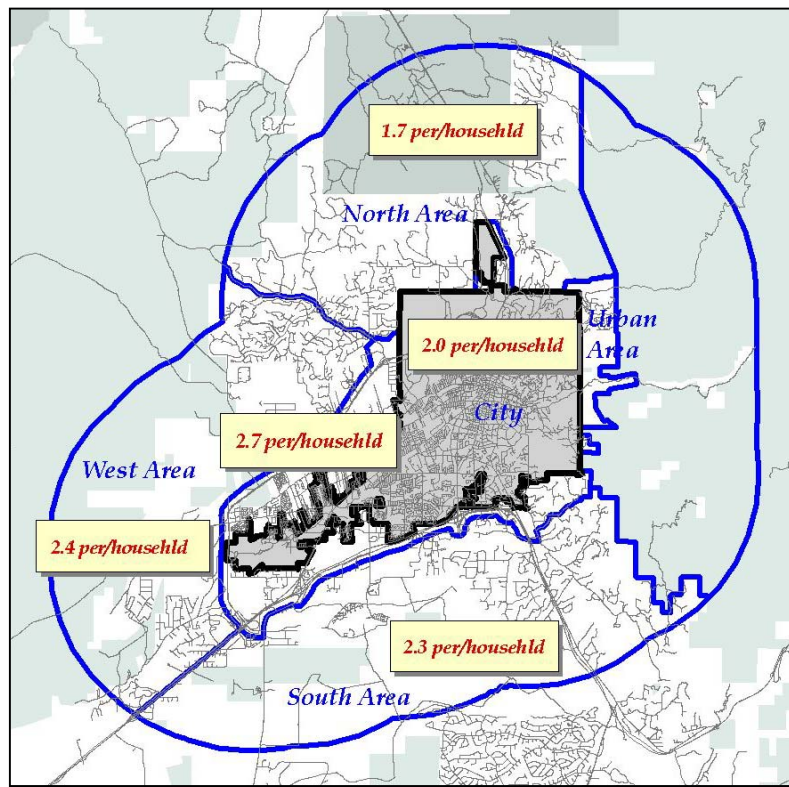


Figure 2.1.B. Persons per housing unit by subarea

Section 2.2. Economy and Employment

This existing conditions analysis for economy and employment is based on three reporting measures: 1) gross receipts activity, 2) number of employees by sector and 3) estimated commercial square footage by land use type. Because the data sources for gross receipts and for employment are typically reported by county and/or Standard Metropolitan Area (SMAs), the included analysis for the first two measures is reported in terms of the city totals and the balance of unincorporated areas within the County.^e

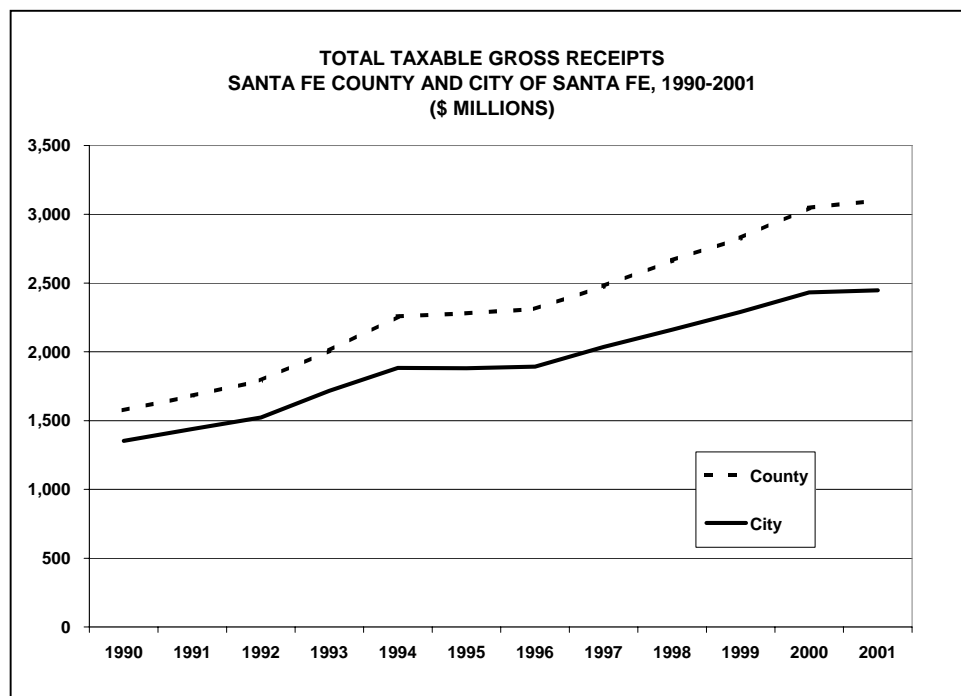


Chart 2.2.A. Taxable Gross Receipts for City and County 1990-2001
Source: BBER: Presentation: City of Santa Fe Growth Ordinance Impact Study (2002)

Chart 2.2.A illustrates the taxable gross receipts reported from 1990-2001 for both the city and the entire county. City gross receipts have generally increased over the last decade at a 3.9% annual rate (compounded). Although the city portion of the county-whole represents the majority of gross receipts reported, the balance of the county has increased at a slightly higher rate than the City. (This is primarily due to gains in sales and services in Edgewood and the unincorporated balance of the County.) The Santa Fe regional economic base continues to depend primarily on activity within the incorporated area, both with respect to total gross receipts and number of persons employed.

With respect to current year reporting, a comparison of taxable gross receipts for year 2000 by quarter is illustrated in Table 2.1.A. As the table demonstrates, an estimated 17% of the gross receipts collected in year 2000 were generated within the unincorporated area of Santa Fe County (adjusted to estimate 5-mile area). As previously noted, the lion's share of gross receipts is currently generated from within the City of Santa Fe.

Within the city, the largest percentage of gross receipts (75%) are generated from the retail and services industries. The largest percentage of gross receipts (60%) within the unincorporated area are generated by the construction and service-related industries. This implies that the City's economy is primarily driven by retail and services^f while the unincorporated area economy is based on construction and services. The strength of the construction totals also support the findings in population and housing totals that indicate an increasing shift in urbanization outside the city.

Comparison of Reported Taxable Gross Receipts for the City of Santa Fe and the Unincorporated Remainder of County (Estimated)						
Reported Area	Trade	Quarter				% of Total Ave.
		Jan-00	Apr-00	Jul-00	Oct-00	
Santa Fe City						
	Agriculture	1,963,923	4,076,175	4,136,015	2,579,707	0.5%
	Mining			0	0	0.0%
	Contract Construction	55,836,027	46,692,282	54,876,119	46,607,551	8.4%
	Manufacturing	11,507,115	13,770,165	15,374,305	12,106,571	2.2%
	T.C.U.	43,352,147	40,422,191	40,397,852	41,182,494	6.8%
	Total Retail Trade	275,602,263	260,259,756	299,992,613	281,984,834	46.0%
	F.I.R.E	21,903,082	20,974,662	21,237,749	20,640,450	3.5%
	Total Services	178,956,685	181,414,029	195,503,220	172,631,684	29.9%
	Total Government					0.0%
	Non-classified	371,123	394,487			0.0%
	Total Taxable Gross Receipts	606,880,477	582,717,722	650,234,279	592,636,623	
Santa Fe County Unincorp. Area (adjusted)						
	Agriculture	901,478	1,282,475	1,586,076	1,036,593	0.9%
	Mining	D	D	D	D	0.0%
	Contract Construction	48,138,364	53,441,085	58,689,914	52,611,984	41.7%
	Manufacturing	4,446,262	4,234,960	3,505,533	2,133,605	2.8%
	T.C.U.	14,750,989	14,115,801	12,349,454	13,146,690	10.6%
	Wholesale	3,480,849	3,447,384	3,580,410	3,562,035	2.8%
	Total Retail Trade	17,857,241	17,428,114	22,380,797	18,782,112	15.0%
	F.I.R.E	10,268,908	8,656,717	13,051,658	11,410,333	8.5%
	Total Services	22,728,763	20,888,137	26,817,784	18,923,534	17.5%
	Total Government	D	D	D	D	0.0%
	Non-classified	297,128	193,544	246,884	D	0.1%
	Total Taxable Gross Receipts	122,898,892	123,733,349	142,238,765	121,857,125	
	Total Taxable Gross Receipts	729,779,369	706,451,071	792,473,044	714,493,748	
	Uninc. Area as a % of Total	17%	18%	18%	17%	

Table 2.2.A. Comparison of Taxable Gross Receipts of City to the County Unincorporated Area
Source: BBER data tables prepared for Santa Fe County (August 2002)

City and county employment trends from 1990-2000 (Chart 2.2.B) closely reflect gross receipts trends. The city continues to dominate total employment, while the balance of the County continues to increase at a slightly higher rate. The most significant difference between employment and gross receipts trends over the last 10 years is that employment gains appear fairly flat since 1990, particularly within the city, while gross receipts have increased at a constant rate. This would imply that there is greater consumption of goods of services and that the cost of those products continue to rise, but there is little increase in employment being generated as a result of those increases.

Current regional employment figures by trade indicate related findings for industry. Table 2.2.B. (Charts 2.2.C.) provides a comparison of employment by sector over the last 4 years among the entire county, the city and the remainder (adjusted to the 5-mile) of the county. The city employs nearly 85% of the total County workforce. Of the 58,600 persons employed within the county, nearly 48,500 persons work within the city limits. The two categories where the city does not employ a high percentage of the workforce are in manufacturing and construction/mining. These findings are consistent with the higher percentage of gross receipts collected for construction and services outside of the city boundary.

Flat
employment
growth

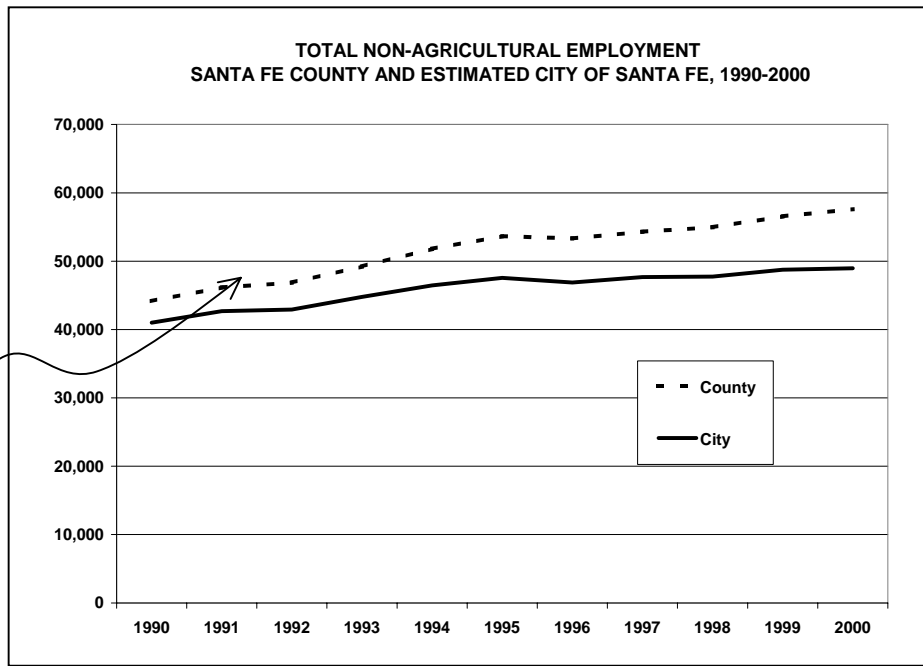


Chart 2.2.B. Comparison of Employment 1990-2000
Source: BBER; Presentation: City of Santa Fe Growth Ordinance Impact Study (2002)

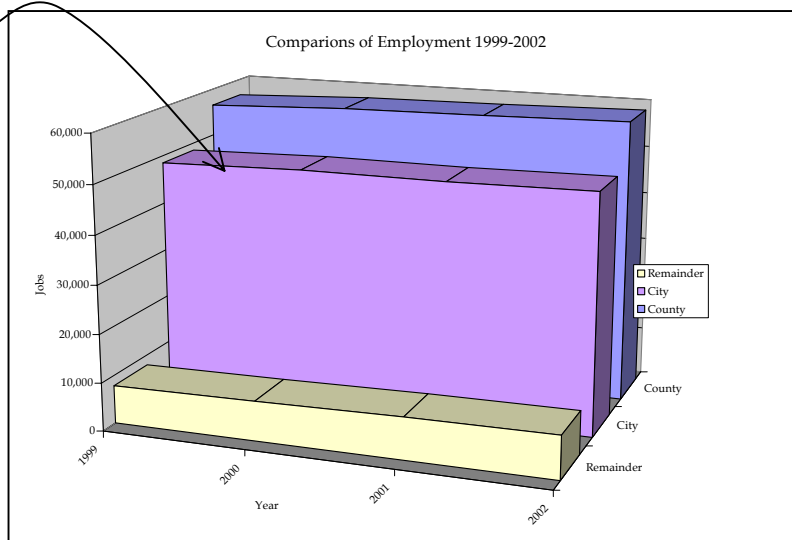


Chart 2.2.B. Comparison of Employment by subarea from 1999-2002

SANTA FE COUNTY										
Nonagricultural Wage and Salary Employment by Sector										Year-over-year Growth
Mfg	Const & Mining	TPU	Wholesale	Retail	FIRE	Services	Govt	Total		
1999	1,698	4,055	1,149	1,289	13,021	2,971	17,427	14,936	56,546	
2000	1,695	4,150	1,125	1,214	13,395	2,986	17,590	15,445	57,600	1.86%
2001	1,653	4,205	1,075	1,214	13,086	3,200	18,100	15,480	58,013	0.72%
2002	1,650	4,306	1,080	1,224	13,425	3,130	18,472	15,304	58,591	1.00%
CITY OF SANTA FE										
Nonagricultural Wage and Salary Employment by Sector										Annual Growth
Mfg	Const & Mining	TPU	Wholesale	Retail	FIRE	Services	Govt	Total		
1999	1,366	2,101	1,034	1,235	12,348	2,822	14,902	12,678	48,485	
2000	1,364	1,835	1,009	1,161	12,639	2,814	15,303	13,061	49,187	1.45%
2001	1,330	1,928	961	1,151	12,287	2,992	15,367	13,067	49,083	-0.21%
2002	1,327	2,104	963	1,155	12,543	2,903	15,590	12,881	49,465	0.78%
City Share in 2000	80%	44%	90%	96%	94%	94%	87%	85%	85%	
ESTIMATED REMAINDER OF COUNTY (ADJUSTED)										
Nonagricultural Wage and Salary Employment by Sector										Annual Growth
Mfg	Const & Mining	TPU	Wholesale	Retail	FIRE	Services	Govt	Total		
1999	324	1,905	112	53	656	145	2,462	2,202	7,859	
2000	323	2,256	113	52	737	167	2,230	2,324	8,203	4.38%
2001	315	2,220	111	61	779	203	2,665	2,353	8,707	6.14%
2002	315	2,147	115	67	860	221	2,809	2,363	8,898	2.19%

Table 2.2.B. Comparison of Employment by Sector from 1999-2002s
Source: BBER data table extraction as prepared for
Santa Fe County (August 2002) (year-over-year and annual growth are equivalent)

Using employment projections according to industrial classifications, floor area square footages have been estimated (Table 2.2.C.). According to this method, there is currently an estimated 26 million square feet of non-residential floor area with the 5-mile region. Nearly 22.8 million of that floor area, or 88%, is estimated to be within the city limits. An estimated 3.2 million square feet of floor area (12%) are located within the unincorporated area of the region. The City of Santa Fe continues to house the greatest proportional share of non-residential floor area for the region.

NONRESIDENTIAL FLOOR SPACE BY INDUSTRIAL CLASSIFICATION

AVG (SqFt)	TOTAL	MINING & CONST	WHOLE- SALE	RETAIL	FIRE	SVCS	GOVT			
SQUARE FEET PER EMPLOYEE:		600	700	900	1,000	500	400	400		
FLOOR SPACE		(Thousands of Square Feet)								
Urban Area	488	24,138	864	2,014	904	1,179	6,426	895	6,629	5,227
City of Santa Fe	461	22,821	796	1,473	867	1,155	6,271	871	6,236	5,152
RPA Urban Fringe	524	1,317	68	541	37	24	155	24	393	75
RPA North Area	404	127	0	3	0	0	9	6	109	0
RPA West Area	526	357	19	146	10	7	42	7	106	20
RPA South Area	489	1,363	81	164	8	18	75	5	237	775
RPA Planning Area	465	25,985	964	2,327	922	1,204	6,552	913	7,081	6,022
RPA Planning Area (EZ)	486	3,164	168	854	55	49	281	42	845	870

Table 2.2.C. Non-Residential Floor Area for the RPA Planning Area
Source: Al Pitts 2002 Regional Employment and Non-Residential Floor Area

Jobs-to-housing (J/H) ratios compare the number of housing units to total employment by subarea. It provides a means of describing the balance in housing to non-residential uses within a given proximity. It also provides some indication of commute patterns for a region. Figure 2.2.A illustrates those ratios by totals.

The urban area (including city) and south subareas all maintain ratios higher than 1.0 (as compared to the west and north). National standards suggest planning or providing for ratios ranging from 1.2 to 1.6 jobs/dwelling unit.^h Recent studies indicate that the Santa Fe’s regional jobs-to-housing ratio average is 1.3. These ratios indicate that there are a greater number of people commuting to their workplaces within the north and western subareas than in the south and urban subareas. They also imply that there are more employment centers or workplaces (such as the Community College, the State Penitentiary, Airport Road businesses, etc...) within the south and (entire) urban area.

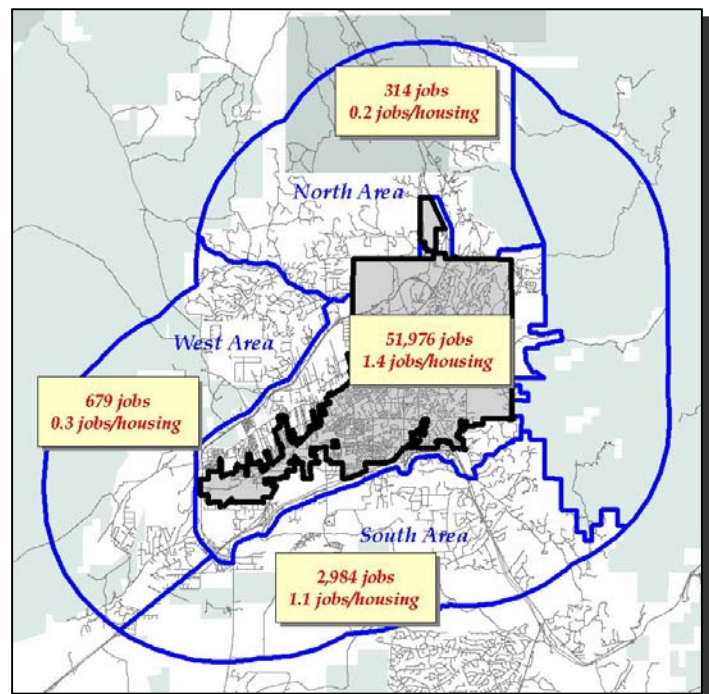


Figure 2.2.A. Employment (jobs) to housing ratios by subarea.

Section 2.4. Current Water Supply and Demand

Both the City of Santa Fe as part of the discussion on water budget regulations and Santa Fe County in the recent adoption of their 40-year water utility plan, have made significant progress in understanding the supply and demand of water for their individual utility systems. From that, there has also been considerable data generated for current supply and demand. A third planning process, the Jemez y Sangre Regional Water Study, is also contributing to the greater understanding of water at a regional level. For purposes of this plan, a combination of information from all three sources has been used to estimate current water supply and demand for the 5-mile region, including general information on water utility systems, community wells and individual wells.

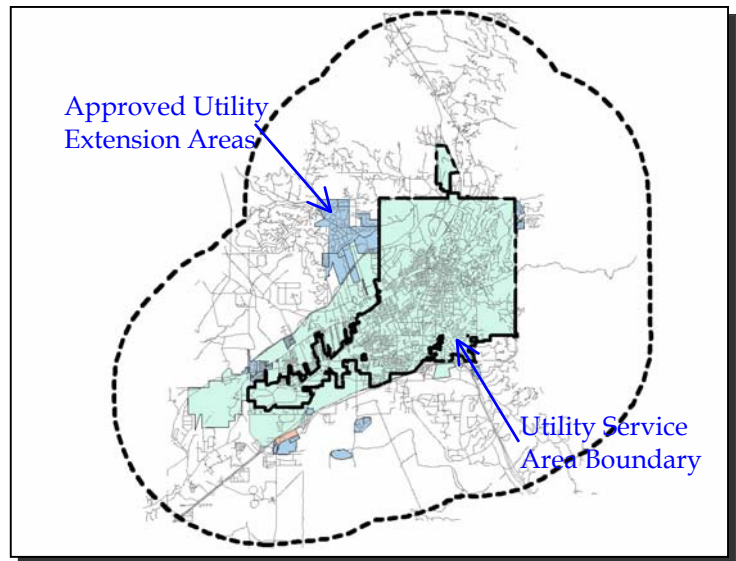
City and County Water Utility Systems

City Water Utility (Sangre de Cristo): The *City of Santa Fe* adopted Ordinance 2002-29 in August of 2002, establishing “an annual water budget which allocates water for new residential and non-residential development connecting to the City of Santa Fe water systems and balances water demands with water supplies”. Incorporated in the ordinance, or as part of the earlier water budget discussions, the following assumptions were applied and/or determinations madeⁱ:

- The current City’s historic water supply available on an annual basis range from 9,700 acre feet (AFY) (under drought conditions) to 13,210 acre feetⁱ (AFY) of optimal supply (under average precipitation and efficient delivery and capacity of supply).
- A reliable water supply falls at or near 10,850 AFY (base years 2001/02), under conditions where the city reservoirs deliver approximately 700 AFY.
- Measured storage levels of the McClure and Nichols Reservoirs vary greatly in response to seasonal and annual runoff fluctuations and potable water demands. Historical storage fluctuations include; McClure from 200 AF to 3,300 AF and Nichols from 90 AF to 710 AF. The combined *permitted* storage capacity cannot exceed 4,000 AF at any time.
- Water usage varies by land use type (See Table 5.1.A.) On average, residential water usage is approximately .22 AFY per housing unit, while non-residential water usage is approximately 1.0 to 1.5 AFY per 10,000 square feet of floor area. An annual system-side water use ratio (where commercial usage is prorated into housing units) assumes a .40 acre feet per dwelling unit. Assuming 2.2 persons per dwelling unit average for the city, this would translate to .183 acre feet per capita. Actual prorated or weighted water demand factors are presented in Chapter 5.
- There are three principal sources of surface/diversion water rights for the utility that include 5,040 AFY from the Santa Fe River Canyon, the reservoirs and St. Michael’s Well, 3,507 AFY^k from the city wells, and 10,000 AFY of permitted diversion groundwater from the Buckman well fields^l. These total some 18,547 AFY of permitted

rights, however, the use of these rights are not cumulative. Under maximum pumping conditions at the Buckman well field, typical offset requirements are approximately 2,600 AFY (based on 6,000 AF in 2002).

- There are some 27,300 current water customers within its service area (Map 2.4.A.), both inside and outside of the city, that consume an total average prorated water usage of 10,800 AFY (based on .4 acre feet per unit) with an estimated average annual consumption of 11,200 AFY^m (historically ranging from 10,400 and 12,700 AFY).
- There is an obligation to serve another estimated 4,000 to 5,000 AF in outstanding water commitment associated with pending development (not built) inside and outside of the city respectivelyⁿ. This would bring the total future average demand on the utility system to 15,700 AFY. Therefore, the demand on a fully committed utility system would exceed the reliable supply by nearly 4,850 AF and exceed the optimal supply (13,210 AF) by 2,500 AF.

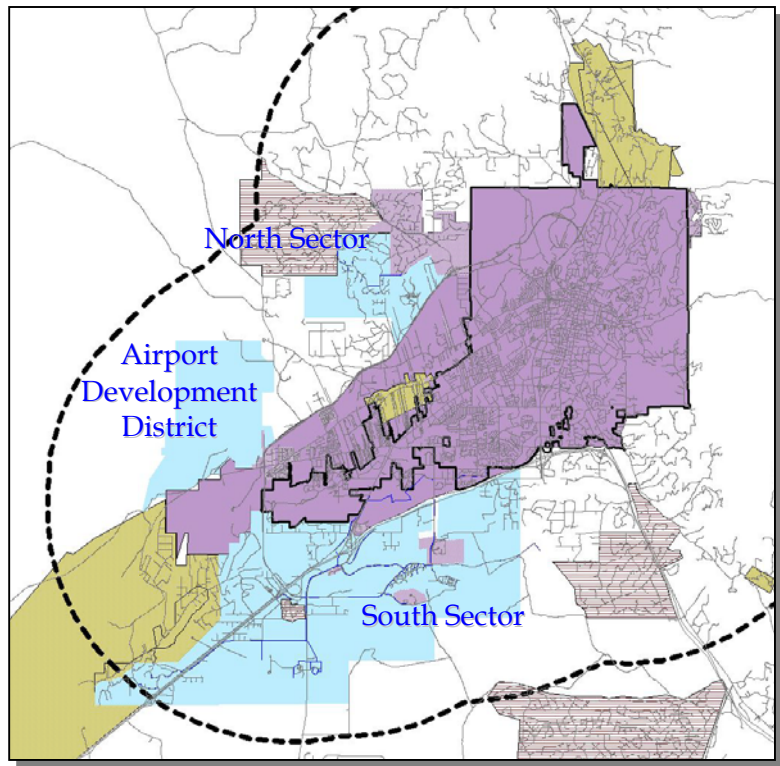


Map 2.4.A. City Utility Service Area

- There are an estimated 2,800 city water customers (650 AF) outside of the city limits that are not included as part of the County Wheeling Agreement. This includes 11.5 AF of water that is also redelivered to city customers through the county system (year 2004).
- The City is committed to provide an additional 500 AFY of “wet water” to County utility customers through the 1994 Wheeling Agreement (see County Utility Water Supply and Demand), which is scheduled to expire in 2005^o. The County possesses independent water rights separate of city rights^p. In 2001, 183 AF of “wheeled” water were delivered and by 2003, some 240 to 280 AF of water was being wheeled to the County^q. Historically, the County has averaged approximately 50 AF a year in added “wheeled” delivery.
- The City has traditionally provided an additional 896 AFY to Las Campanas (yr. 2003) as part of the inherited PNM development agreement. The city is also expected to provide 450 AF of effluent to Las Campanas beginning in 2004^r.
- Under the adopted offset (“water budget”) ordinance, the city assumes that the summation of current and future water demand exceeds existing supply, therefore, water allocation for future development has been set at -0- until such time as supply

exceeds current and obligated demand. In order for development to occur, new demand for water must be offset – additional water needs must be offset by additional supply.

Santa Fe County Water Utility: The *Santa Fe County 40-Year Water Plan* was adopted in August 2002. According to the plan, the Santa Fe County Water Utility (SFCWU) purveys water to some 690 customers within the county and is adding an average of 10 new residential customers per month in 2001^s. The Utility Service Boundary consists of three areas that include the South Sector (the Community College District and La Cienega), the Airport Development District, and the Northwest Sector (Map 2.4.B.). Except for the recently acquired Valle Vista Wells, the county utility depends primarily on the City of Santa Fe to deliver water supply in accordance with the 1994 Wheeling Agreement that expires in 2005.



Map 2.4.B. SFC Water Utility service areas.

The following represents a summary of the water plan:

- The current source of supply is through the Wheeling Agreement which allows for 500 acre-feet of water to be delivered annually by the City's Sangre de Cristo Water Utility system. As of end of 2001, 183 AFY (including Valle Vista) were being utilized, however, the full 500 AFY are committed for future service.
- Regarding short-term commitments, estimates to the year 2004 indicate the Wheeling Agreement's 500 AFY^t would be fully allocated. Long-term commitments associated with growth in both the Community College District and the Airport Development District increase expected demand in 2004 by 850 AFY, yielding a total estimated demand by 2004 of 1,370 AFY.
- According to the plan, SFCWU owns 452.5 AFY of usable consumptive rights, 212.2 AFY of owned/needing transfer rights, and 942.4^u AFY of contracted or potential rights. This

yields a total of 1,607 AFY of consumptive water rights available. This includes local and imported water right sources.

- Assuming no additional water rights are acquired and that the Wheeling Agreement is extended, the full 1,607 AFY will be fully allocated by the year 2006 (assuming allocation of 121 AFY after year 2004).^v
- Current average water usage is .084 AFY per capita (or .22 AFY per housing unit) which is based on a high percentage of residential customers. As commercial uses increase, it is expected that the per capita ratio will increase to .183 AFY, similar to the City's and the Jemez y Sangre project's estimated average usage per capita.

Community and Individual Well Systems

There are an estimated 49 public community water systems in the county, which regularly serve at least 25 year-round residents (this includes the City's water system). Other community water systems located solely or in part within the 5-mile EZ include the Agua Fria Water Association, the Tesuque community water system, Seton Village/Arroyo Hondo and the La Cienega MDWCA^w (Map 2.4.B). There are also some 44 non-community water systems for seasonal type or non-resident facilities and approximately 15 non-transient/non-community water systems that provide service to 25 persons for more than 6 months per year, including schools and factories that are located within the county. It is assumed that the remaining water delivery systems are individual wells.

Estimated water usage within the EZ is estimated by applying a prorated .29 AF per housing unit (Chapter 5) to the 12,827 residential units, which yields an expected (prorated) water usage average of 3,700 AF. Assuming that approximately 1,600 AF of EZ water is supplied through city, county or other major utility, then estimated usage on [smaller] community systems^x and individual wells would roughly be 2,500 AFY^y.

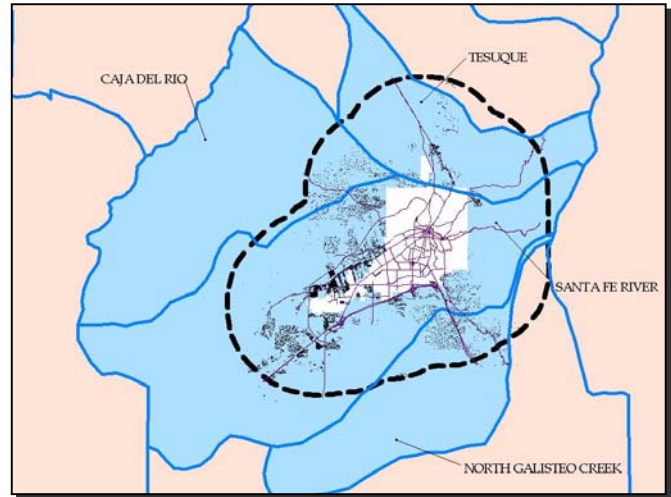
Combined with the City's average range in demand from 10,400 to 12,700 AFY, the region currently utilizes an estimated range of 14,200 to 17,900 acre-feet per year^z. In comparison, the region has an estimated 20,100 acre-feet of water rights between the two water systems.

Regional Sub-basins – Surface and Groundwater Supply

In addition to the recent studies undertaken by the City and County, the Jemez y Sangre Water Planning Council has prepared a regional water report for the larger watershed area that includes Santa Fe, Rio Arriba and Los Alamos Counties. Much of the report is based on a sub-report, the *Water Supply Study, Jemez y Sangre Water Planning Region, New Mexico* produced by Duke Engineering & Services (January 2001). Although the study area is much larger than 5-mile planning area, there are roughly four sub-basins, including Tesuque, Santa Fe River, Caja del Rio and the North Galisteo Creek^{aa}, that serve the 5-mile area (Map 2.4.C.) Nearly sixty percent of the RPA Planning Area is comprised of Santa Fe River sub-basin.

Although the other three sub-basins make up a lower percentage of the area, the distribution of population within the 5-mile area within those sub-basins occurs primarily within the planning area^{bb}. In addition, sub-basins are natural features; they do not respect political boundaries. For these reasons, the data for this section is reported in terms of sub-basins.

The previous subsections on both utility and wells demonstrate expected demand and supply using current population, service, and water rights. Another method of assessing water supply and demand is from surface/groundwater accounting using documented hydrological studies. In accordance with the *Duke Engineering* study, Table 2.4.A^{cc} illustrates the inflow and outflow for surface and groundwater within the four basins. Note that the study assumes the net surface water inflow and outflow to be zero^{dd}. The net storage (or change) illustrated in the second table assumes a negative storage of -3,100 AFY. This indicates that within the four sub-basins, groundwater levels are generally being depleted at a faster rate than they are being replenished under average conditions^{ee}.



Map 2.4.C. Basins included in the 5-mile planning area.

This is particularly the case in the Caja del Rio and the North Galisteo sub-basins where net depletion totals nearly -5,600 AFY of storage. The negative storage occurs both within the supply and demand side. With regards to supply, municipal wells account for nearly 5,000 AFY of ground water draw in the Caja del Rio sub-basin as compared to only 2,200 AFY within the Santa Fe River sub-basin (primarily the Buckman Wells which draw 5,300 AFY [1999]). Similarly, demand totals include several large developments dependent on community and individual wells, including Camino La Tierra, Seton Village and Eldorado^{ff}. The region appears to largely rely on offsets created by the positive net storage of the Santa Fe River sub-basin to supply the demands of the Santa Fe region for water supply. The Santa Fe River provides the greatest surface inflow (nearly twice that of the other three) and return flow offsets^{gg}.

SANTA FE REGION SURFACE WATER INFLOW AND OUTFLOW TOTALS

		Tesuque	Santa Fe River	Caja del Rio	North Galisteo Creek	Santa Fe Region Sub-Basin Total
Inflow (AFY)	ref					
Surface Inflow	a	3500	7850	1350	900	13600
Springs	a	1815	2170	0	0	3985
Rtn Flw Irr	a	1115	1559	0	0	2674
Rtn Flw Mun	a	0	6501	0	0	6501
Total Inflow		6430	18080	1350	900	26760
Outflow (AFY)						
Irrigation Diversion	a	2110	2665	0	0	4775
Municipal	a	0	4625	0	0	4625
Seepage	a	2500	8500	1150	770	12920
Evapotranspiration	a	1280	1180	200	130	2790
Surface Outflow	a	540	1110	0	0	1650
Total Outflow		6430	18080	1350	900	26760
Net Inflow/Outflow	a	0	0	0	0	0

a. Water Supply Study, Jemez y Sangre Water Planning Region, New Mexico, Duke Engineering Services, January 2001.

Source: Jemez y Sangre Water Planning Council: Presentation of Water Supply Assessment and Population Projections, February 2001

SANTA FE REGION GROUNDWATER INFLOW AND OUTFLOW TOTALS

		Tesuque	Santa Fe River	Caja del Rio	North Galisteo Creek	Santa Fe Region Sub-Basin Total
Inflow (AFY)	ref					
Mtn Frnt Rech	a	2460	5050	0	0	7510
Stream Loss	a	2500	1600	1150	770	6020
Stream loss blw La Bajada	a		4730			4730
Flow from Adj Sub	a	3500	1000	3550	1550	9600
Return Flow	a	155	2455	0	260	2870
Total Inflow		8615	14835	4700	2580	30730
Outflow (AFY)						
Municipal Wells	a	0	2266	4910	403	7579
Other Metered Wells	b	107.4	690		132	929.4
Domestic Wells	c	622	1275	83	1126	3106
Irrigation Wells	a	0	318	0	0	318
Evapotranspiration	a	2400	1200	1100	500	5200
Springs	a	1815	2170	0	0	3985
Sub Flow out	a	4000	4120	2550	2050	12720
Total Outflow		8944.4	12039	8643	4211	33837
Change Storage	d	-329.4	2796	-3943	-1631	-3107

References:

a: Duke, 2001. Water Supply Analyses for the Jemez y Sangre Water Planning Region

b: Wilson and Lucero, 1997. Water Use in New Mexico

c: BBER, 2000 (Population Projections for the Jemez y Sangre Water Planning Council) * .15 af/cap minus metered uses, BBER Update 2002

d: Inflow minus Outflow

Table 2.4.A. Inflow/outflow for surface and groundwater within the four sub-basins.

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- ^a The planning area includes those lands from the city-limits to the five-mile extraterritorial boundary, less the La Cienega/Cienguilla, Agua Fria, and Tesuque Traditional Villages.
- ^b The eastern boundary is mostly public lands—conditions for the area are nested within the urban area totals.
- ^c Based on Bureau of Business and Economic Research/University of New Mexico (BBER) employment estimates by employment group, prepared for Santa Fe County, August 2002. The original estimates have been reduced by 2% in order to adjust for Edgewood and Espanola (based on the 2% percentage of total gross receipts).
- ^d These figures include the total population for the area outside of the city, including the traditional communities.
- ^e The reported figures are based on summary employment and gross receipts data prepared for the County by BBER (August 2002). A 2% reduction was applied to the “balance of County” figures to account for Espanola and Edgewood. An additional .5% reduction was applied to account for other employment that may occur outside of the 5-mile area (Eldorado and portions of La Cienega, etc...)
- ^f This does not account for government-related industry, which typically does not generate sales tax revenue. Government is better reflected in the employment data, which is accounted by person employed.
- ^g TPU represents transportation and utility, FIRE is finance, insurance and real estate.
- ^h From the *Employment-Based Land Use Ratios in the Santa Fe Urban Area, 1997*.
- ⁱ Much of the data generated as part of that process originated from the *Water Supply Analysis for the City of Santa Fe, January 2001* produced by Camp Dresser and McGee, Inc. and the Sangre de Cristo Water Division.
- ^j One acre-foot is equivalent to 325,851 gallons. Average usage is approximately 6,800 gallons per month for residential units. These figures are taken directly from Section 7.B(8) of City Ordinance 2002-29.
- ^k Total assumes typical NW Well production (900 AF). If the NW well is not included, the city well field rights total 4,865 AF. Similarly, if the NW Well is not used, then total city permitted rights are 19,905 AFY.
- ^l Streamflow depletion offsets at the Buckman wells include 5,605 AFY from the San-Juan Chama water rights. Sustainable pumping at the Buckman field is considered 5,000 AFY or less. Cumulative offset ratios are dependent on the level of pumping and the amount of withdrawal.
- ^m Does not include Las Campanas and the Wheeling Agreement (Reed Liming, City Principal Planner, 9/12/02).
- ⁿ This is according to information released by the City as a result of the water commitment study (2003).
- ^o In February 2004, the City voted to extend the agreement to 2006 in order to allow time to negotiate a new agreement.
- ^p The Wheeling Agreement is not accounted for in the aforementioned calculations.
- ^q These 2004 figures are preliminary --it is expected that the City and County Utility Departments will produce a final usage total for 2004.
- ^r These terms were set forth as part of the settlement agreement with Las Campanas in 2003.
- ^s As of the end of 2003, there were approximately 1,000 county utility customers.
- ^t It is not clear from the plan if all short-term commitments are expected to be operational by 2004. For this report, that is the assumption. It is suggested that County water demand figures be recalibrated to reflect actual demand by the year 2005.
- ^u These water rights were taken from the 40-year plan are subject to change. For example, the State Penitentiary has not entered into a contract with the County as was anticipated when these figures were produced.
- ^v This is derived assumption based on demand projections contained within the report. Chapter 6 recalculates average annual demand according to historical permit data for utility and non-utility water, backing out Las Campanas. Benchmark demand figures indicate 50 AFY for utility and 57 AFY for non-utility excluding Las Campanas (400 permits per year).
- ^w Page 9, *Santa Fe County 40-Year Water Plan*.
- ^x This number is less the State Penitentiary well water system at 387 AFY of diversion rights.
- ^y According to City water staff, there are an estimated 8,000 permitted wells within the region outside of the city and another 2,000 wells within the city limits.
- ^z This includes 900 AFY by Las Campanas.
- ^{aa} A segment of the South Galisteo Creek is also within the area, however, the included proportionate area is less than ±5%, therefore, it was not included in these calculations.
- ^{bb} Notable exception is Eldorado.
- ^{cc} The data is a subset of the entire watershed area—the data has been collapsed to only include the four sub-basins.
- ^{dd} Based on the premise that surface water is not stored.
- ^{ee} The figures presented in this data set assume average conditions rather than ranges.
- ^{ff} Although only the northern corner of Eldorado is within the planning area, the entire sub-basin is accounted for in this subsection.
- ^{gg} It should be noted that the much of the Santa Fe River return flow occurs farther downstream, below La Bajada (Amy Lewis, hydrologist, 9/17/02).