



The University of New Mexico

NEW MEXICO COUNTY POPULATION PROJECTIONS JULY 1, 2005 TO JULY 1, 2035

A Product of the Census Dissemination and
Demographic Analysis Project

This study was funded in part by the State of New Mexico

July 2008

UNIVERSITY OF NEW MEXICO
BUREAU OF BUSINESS AND ECONOMIC RESEARCH

New Mexico County Population Projections July 1, 2005 to July 1, 2035

Adelamar N. Alcantara, Ph.D.
Senior Demographer

Xiaomin Ruan, Jack Baker, M Anderson Frey, Nathaniel Croose
Jana L. Morehouse, Ruji Rajbhandari¹

University of New Mexico
Bureau of Business and Economic Research

BACKGROUND

This report presents projected state and county populations from July 1, 2005 to July 1, 2035 as an update of 2004 projections. Using a cohort component method of population projection, each of the components of change—namely births, deaths, and migration—and each age cohort were moved forward yearly to obtain the future population of each county and the state. The July 1, 2005 estimates by BBER provided the baseline for the projections.

As the same as last projection, this update assumed that births would gradually decline throughout the projection period. The speed of decline was determined by fertility trends estimated from birth data provided by the New Mexico Department of Health, Office of Vital Records and Health Statistics. Age-specific and total fertility rates from 1990 to 2005 were calculated and analyzed for each county. The age-specific fertility rate measures the number of children per woman between the ages of 15 and 44 years, whereas the total fertility rate is a summary measure that indicates the average number of children a woman would have at the end of her childbearing years. New Born babies calculated from current mothers' age specific fertility rates are integrated into age group 0 and then extrapolated into next age group at next year according to its age specific mortality rate. Counties with high proportions of traditional minority populations, racial and ethnic groups that are also relatively young, have the

¹ Fundamental data processing and analysis work were provided by Xiaomin Ruan, Jack Baker, M. Anderson Frey, the research scientists and Nathaniel Croose, the computer programmer. Extensive research assistance was provided by Jana L. Morehouse, and Ruji Rajbhandari, the student assistants with the Bureau of Business and Economic Research. Elvira Lopez, a friend of BBER provided valuable technical consultation.

highest fertility. For example, McKinley and Dona Ana counties have relatively high fertility. Counties with a high proportion of non-Hispanic Whites (Anglos), a group that is also older, have the lowest fertility. Sierra is a good example of low fertility rate. Meanwhile, counties such as Bernalillo, Sandoval, Torrance and Valencia that are major destinations of migrants in their peak reproductive years have relatively high fertility on average.

Overall, mortality as measured by life expectancy is expected to increase over time. In 2005, the life expectancy at birth of males in New Mexico was estimated at 76.0 years, while female life expectancy at birth was estimated at 82.1 years. By 2035, life expectancies at birth for males and females are 79.0 years and 85.1 years, respectively. Population at different age has different age specific mortality rate, which allows current age group to be extrapolated into next age group in next year.

The number of net migrants by age and sex was calculated based on the 1990 and 2000 censuses. The expected 2000 population for each county and the state was derived by multiplying the 1990 population in each age cohort by the appropriate survival ratio from the 1990 life tables. This expected 2000 population was compared to the actual Census 2000 population. The difference was attributed to migration. This process is called "forward survival technique." The Census 2000 population was "survived" back to 1990 using the same survival ratios. The population in each age cohort was divided by the appropriate survival ratio to obtain the population 10 years earlier. This expected 1990 population was compared to the actual 1990 Census count. Again, the difference between these two numbers was attributed to migration.

The average of the results from the two techniques provided the initial estimate for the number of migrants that each county gained between the two censuses. Both the 1990 and 2000 censuses suffered inaccuracies resulting from undercount. However, due to a lack of reliable weighting statistics for detailed age and sex cohorts, no adjustments were made before surviving the 1990 and 2000 populations. Instead, the migration counts were adjusted using data from estimates based on U.S. Internal Revenue Service (IRS) returns and Motor Vehicle Division (MVD) records when available. In general, unless contradicted by building permits, historical trends based on yearly estimates of migrants from IRS returns, and other economic indicators, the number of migrants was held constant throughout the projection period. The adjusted age specific migration population is integrated into corresponding local age group and is survived according to its relative mortality rate.

Page 7 shows a flow chart that summarizes the detailed decomposition process used for cohort component method.

RESULTS

Beginning on page 8, Table 1 summarizes the projection results in five-year intervals. Table 2 presents the compound annual average growth rates for the counties and the state as a whole. Figure 1 presents the projected proportion of metropolitan population in the state. Figure 2 to 4 illustrate the changing age structure of the state as measured by the young and old dependency ratios. Map 1 to 4 show the geographic distribution of New Mexico's population over the 30-year projection period. Map 5 to 7 point out the differential speed of population growth among the counties.

Population Levels and Trends

The state's population is projected to grow from 1.9 million in 2005 to 2.4 million by 2015. By 2025, New Mexico's population is estimated to reach 2.7 million, and by 2035 population will top 3.0 million. New Mexico will gain approximately 1,048,000 persons over the 30 years between 2005 and 2035. In general, the state's population will be concentrated in the metropolitan areas of Albuquerque, Santa Fe, and Las Cruces². In 2005, 64.6% of New Mexicans lived in a metropolitan area. By 2035, the proportion of metropolitan residents is estimated at 72.4%. In absolute numbers this is equal to 2.0 million people.

Figure 1 (page 10) presents this upward trend in the share of population attributed to metropolitan areas. The concentration of jobs in the metropolitan counties will continue to attract migrants from other counties in the state, as well as from outside New Mexico. Albuquerque Metropolitan Area (made up of Bernalillo, Sandoval, Torrance and Valencia counties) will become more densely populated as the center of state population growth. Increased residential development on the West Side of Bernalillo County and the annexation of the Black Ranch by Rio Rancho will further attract new migrants to these areas. The Las Cruces Metropolitan Area (Dona Ana County) will remain a major education and labor migrant destination because of its border location and the presence of the state's second largest university, New Mexico State University. The Santa Fe Metropolitan Area (comprised of Santa Fe county) will continue to attract affluent retirees, particularly those of the baby boom generation, but its growth trend is less than other two metropolitan areas.

Guadalupe, a small county with Hispanic origin dominated residence, will follow a lower than state average growth after Torrance. Taos is another county experiencing a growth rate lower than the state average. Migration to Taos is largely for seasonal purpose.

² Metropolitan areas (MAs) are defined here according to definitions used at the time of the April 1, 2000 Census. An MA definition refers to the whole county or groupings of whole counties that comprise the MAs. Over time, with changes in population and commuting flows, the U.S. Office of Management and Budget will change MA definitions.

Population density is also expected to increase in the Northwest corner of the state at a mild level as a mixed effect of high fertility rates and low migration inflows. McKinley County will expand its population from about 78,013 in 2005 to 94,837 by 2035, an increase of more than 20% in 30 years. San Juan County will have 159,781 people by 2035, a 27% increase over its 2005 population of 126,008 people. Cibola County is expected to continue its recovery from the mining slump of the 1980s. Casino gambling located on tribal lands of the Acoma and Laguna Pueblos is a major factor in the mild positive population growth projected for this county.

Meanwhile, in the Southeast corner of the state and the Eastern Plains, counties that have military bases (Otero and Curry) are projected to have positive population growth, albeit below the state average. The Cannon AFB within Roosevelt is under restructuring, which mitigated its county population growth. The population growth trend in Lea County is higher than surrounding New Mexico counties as a result of incoming commuting and in-migration effect from bordered Taxes counties.

Grant, Luna, and Hidalgo (Southwest NM) is experiencing a slightly lower than state average growth rate because of a re-booming mining industry. Grant County is also home to Western New Mexico University, which distinguishes it with a little higher growth rate. Luna County's growth benefits from domestic retiree migration. Socorro County, also a home to New Mexico Tech and the Very Large Array research center, shows a lower population growth though. The resort county of Lincoln shares a similar growth rate as Socorro but with different causes. Casino gambling at the Mescalero Apache Reservation, Ski Apache ski area, the Ruidoso Downs horseracing track and casino, and other tourist attractions make Lincoln County an attractive migrant destination.

The small counties (10,000 persons or less) show various growth rates during the 30-year period. Harding, Catron, and Mora are projected to have a flat population growth throughout the projection period (Table 2, page 9). Union and De Baca will have negligible population increases. Quay County will have a slight increase from 2005 to 2020 and then decrease with a similar magnitude by 2035. Colfax and Rio Arriba, with a population size larger than the small counties, share a however similar flat increase pattern as small counties have.

The patterns of growth noted above are highlighted in Maps 5 to 7 (pages 16 to 18). With few exceptions, the population growth centers are located along the Rio Grande corridor. The result will be a greater concentration of population in the counties located in this area. The counties in the periphery will continue to post slow growth throughout the projection period.

Population Age Structure

Figures 2 to 4 (pages 10 and 11) illustrate the changing age structure of New

Mexico's population. The well-known baby-boom phenomenon will significantly alter the age structure of the state population. Measured in terms of dependency ratios, both young and old, it is clear that the population of New Mexico is aging. This aging process accelerates as the baby-boom generations successively reach retirement age in large numbers. In 2010, the first generation of these baby-boomers will turn 65 years old. Thereafter, this accelerated aging of the state population will continue over the next two decades. As illustrated in Figures 2 to 4, the old dependency ratio (the number of persons 65 years old and over per 100 population aged 16 to 64 years old) continues to increase during the 30 years. More obviously, the female old dependency ratio overtakes the young dependency ratio (the number of people younger than 16 years old per 100 population 16 to 64 years old) by the year 2025 (Figure 4), and the overall old dependency ratio will overtake the young dependency ratio by the year (Figure 2).

The female population will age faster than the male population. As a group, women outlive men. In New Mexico, the female life expectancy at birth in 2005 (82.1 years) was estimated to be higher than male life expectancy (76.0 years) by almost 6 years, on average. This differential in average life expectancy between males and females is expected to persist in the next 30 years. By 2035, the average male life expectancy will increase to 79.0 years. The average female life expectancy will increase to 85.1 years.

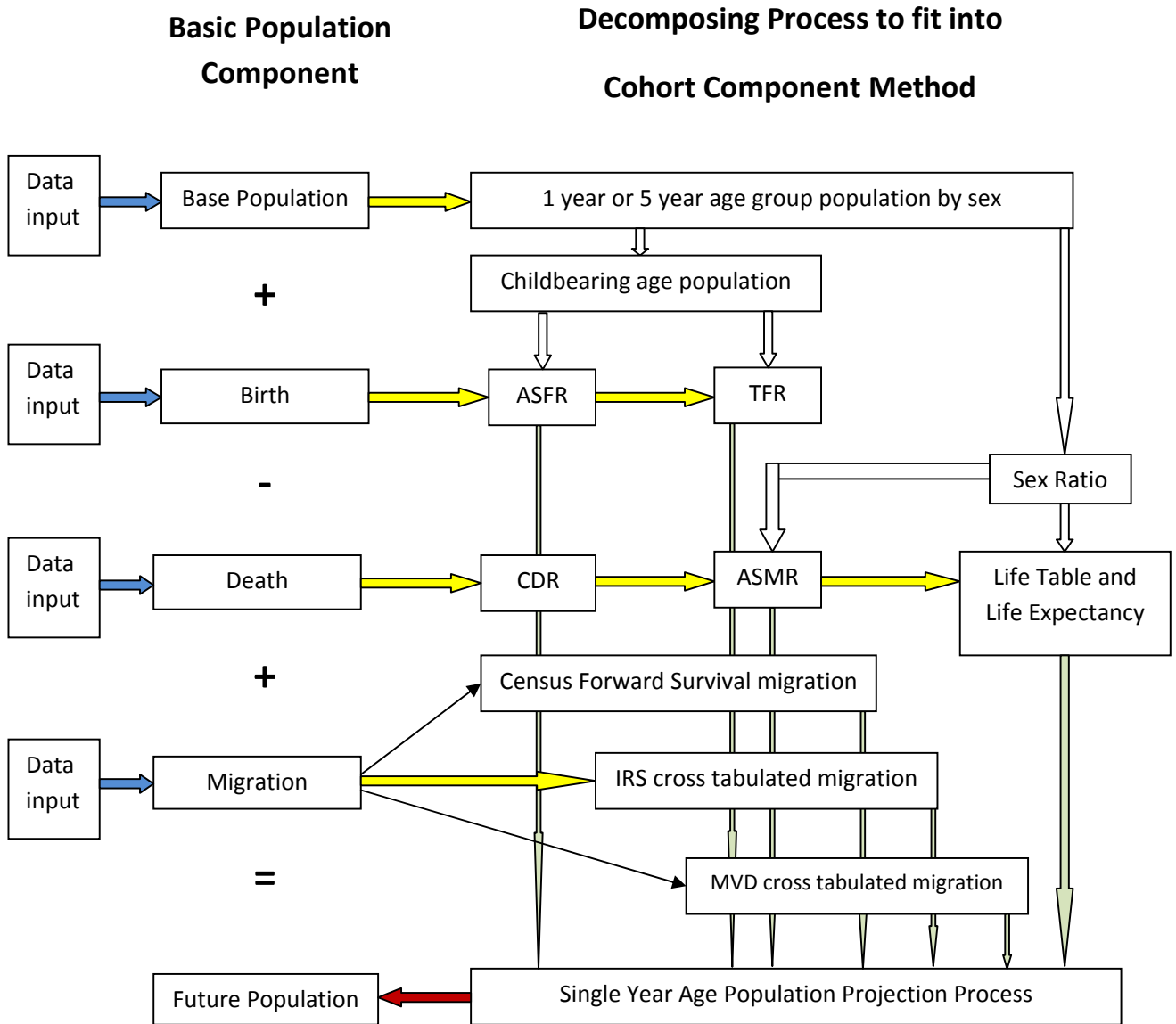
Conclusion and Implications of Findings

The population of New Mexico will expand during the next 30 years but at a declining rate. Even with a slower population growth rate, New Mexico will become more urbanized. The metropolitan areas will increase their demographic dominance as they further enhance their economic supremacy. Unless economic development programs address the current imbalance between metropolitan and non-metropolitan areas in the state, the former will drain population from the latter areas. Increased population density in the metropolitan areas brings with it a whole host of economic, housing, and environmental challenges.

The "graying" of the state population also generates new areas of conflict, especially because the various racial and ethnic groups are aging at different rates. The Anglo population will predominate among the elderly whereas the minority population will predominate among the young and in the labor force. Moreover, the needs of an aging population are quite different from the needs of a young population. Nursing homes, assisted living arrangements, high cost of medical care, and other issues associated with an aging population will come into direct conflict with the education, childcare, and employment needs of a young population. The economic implications of an aging population become even more problematic if the labor force is poorly educated and wages are low. Lastly, because women outlive men, the sex ratio at the older ages will clearly favor the former. For the most part, medical care for women is quite different from men.

As the population changes are driven not only by economic engine, but also by various cultural, historical, and community level factors, the picture of New Mexico's interim demographic characteristics will mix more color. To balance the demand of such a diversified population group would be always hard.

Cohort Component Method Decomposition Flow Chart



ASFR: Age specific fertility rate
 TFR: Total fertility rate
 CDR: Crude death rate
 ASMR: Age specific mortality rate

**Table 1 Projected Population New Mexico Counties
July 1, 2005 to July 1, 2035**

County	2005	2010	2015	2020	2025	2030	2035
New Mexico	1,969,292	2,162,331	2,356,236	2,540,145	2,707,757	2,864,796	3,018,289
Bernalillo	614,508	713,020	811,861	905,393	993,650	1,080,297	1,166,590
Catron	3,712	3,881	4,040	4,176	4,263	4,292	4,292
Chaves	62,203	63,272	65,025	66,933	68,720	70,547	72,667
Cibola	28,506	29,844	31,164	32,293	33,138	33,873	34,624
Colfax	14,375	14,803	15,323	15,836	16,214	16,480	16,720
Curry	46,289	47,861	49,117	50,177	50,955	51,582	52,226
De Baca	2,256	2,268	2,313	2,349	2,372	2,401	2,438
Dona Ana	192,474	215,828	237,241	256,619	274,661	291,895	309,279
Eddy	52,167	54,145	56,331	58,294	59,731	60,764	61,605
Grant	31,511	33,626	35,748	37,744	39,589	41,369	43,140
Guadalupe	4,743	5,114	5,553	5,961	6,328	6,717	7,160
Harding	778	823	868	901	918	932	954
Hidalgo	5,966	6,300	6,667	7,061	7,420	7,739	8,051
Lea	57,006	60,896	64,410	67,479	70,193	72,928	75,716
Lincoln	21,898	22,733	23,574	24,211	24,518	24,640	24,747
Los Alamos	19,864	20,129	20,252	20,503	20,880	21,158	21,157
Luna	26,394	27,985	29,755	31,479	32,919	34,231	35,647
McKinley	78,013	80,747	84,301	88,155	91,200	93,294	94,837
Mora	5,440	5,636	5,855	6,007	6,066	6,094	6,134
Otero	63,994	66,292	68,814	71,051	72,517	73,436	74,274
Quay	10,106	10,232	10,311	10,344	10,289	10,199	10,145
Rio Arriba	43,024	44,072	45,224	46,206	46,674	46,879	47,170
Roosevelt	18,771	19,399	19,876	20,188	20,330	20,366	20,378
San Juan	126,008	133,170	140,523	146,815	151,501	155,593	159,781
San Miguel	30,719	31,827	33,137	34,284	35,067	35,677	36,337
Sandoval	107,104	125,675	144,087	163,315	182,592	200,822	217,806
Santa Fe	143,306	151,510	159,056	165,719	170,730	174,124	176,612
Sierra	13,657	13,717	13,793	13,887	13,959	13,989	14,028
Socorro	18,513	19,250	20,012	20,678	21,167	21,526	21,837
Taos	31,931	33,879	35,960	38,013	39,743	41,145	42,367
Torrance	18,282	20,052	22,184	24,584	26,990	29,132	31,007
Union	4,315	4,449	4,814	5,029	5,169	5,259	5,352
Valencia	71,459	79,894	89,045	98,459	107,294	115,416	123,212

**Table 2 Projected Annual Population Growth Rates
New Mexico Counties, July 1, 2005 to July 1, 2035**

County	2005-2010	2010-2015	2015-2020	2020-2025	2025-2030	2030-2035
New Mexico	1.87	1.72	1.50	1.28	1.13	1.04
Bernalillo	2.97	2.60	2.18	1.86	1.67	1.54
Catron	0.89	0.80	0.66	0.41	0.14	0.00
Chaves	0.34	0.55	0.58	0.53	0.52	0.59
Cibola	0.92	0.87	0.71	0.52	0.44	0.44
Colfax	0.59	0.69	0.66	0.47	0.33	0.29
Curry	0.67	0.52	0.43	0.31	0.24	0.25
De Baca	0.11	0.39	0.31	0.19	0.24	0.31
Dona Ana	2.29	1.89	1.57	1.36	1.22	1.16
Eddy	0.74	0.79	0.69	0.49	0.34	0.27
Grant	1.30	1.22	1.09	0.95	0.88	0.84
Guadalupe	1.51	1.65	1.42	1.20	1.19	1.28
Harding	1.13	1.06	0.74	0.37	0.31	0.47
Hidalgo	1.09	1.13	1.15	0.99	0.84	0.79
Lea	1.32	1.12	0.93	0.79	0.76	0.75
Lincoln	0.75	0.73	0.53	0.25	0.10	0.09
Los Alamos	0.27	0.12	0.25	0.36	0.26	0.00
Luna	1.17	1.23	1.13	0.89	0.78	0.81
McKinley	0.69	0.86	0.89	0.68	0.45	0.33
Mora	0.71	0.76	0.51	0.19	0.09	0.13
Otero	0.71	0.75	0.64	0.41	0.25	0.23
Quay	0.25	0.15	0.06	-0.11	-0.18	-0.11
Rio Arriba	0.48	0.52	0.43	0.20	0.09	0.12
Roosevelt	0.66	0.49	0.31	0.14	0.04	0.01
San Juan	1.11	1.07	0.88	0.63	0.53	0.53
San Miguel	0.71	0.81	0.68	0.45	0.34	0.37
Sandoval	3.20	2.73	2.51	2.23	1.90	1.62
Santa Fe	1.11	0.97	0.82	0.60	0.39	0.28
Sierra	0.09	0.11	0.14	0.10	0.04	0.06
Socorro	0.78	0.78	0.65	0.47	0.34	0.29
Taos	1.18	1.19	1.11	0.89	0.69	0.59
Torrance	1.85	2.02	2.05	1.87	1.53	1.25
Union	0.61	1.58	0.87	0.55	0.35	0.35
Valencia	2.23	2.17	2.01	1.72	1.46	1.31

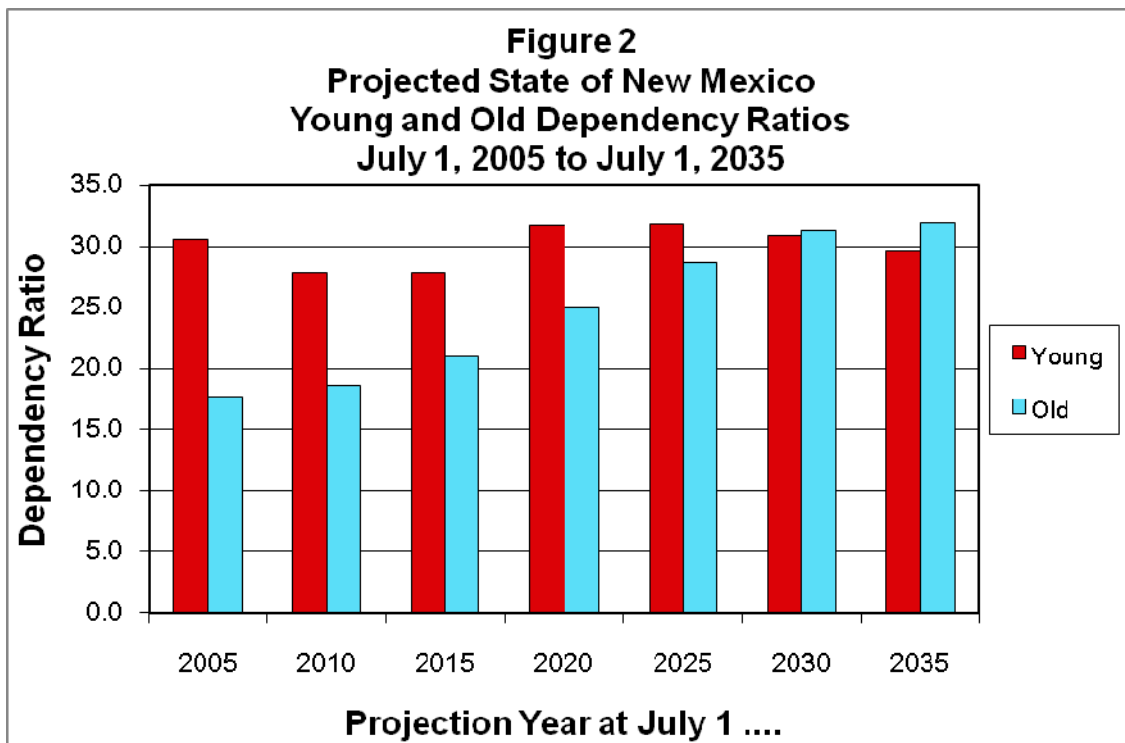
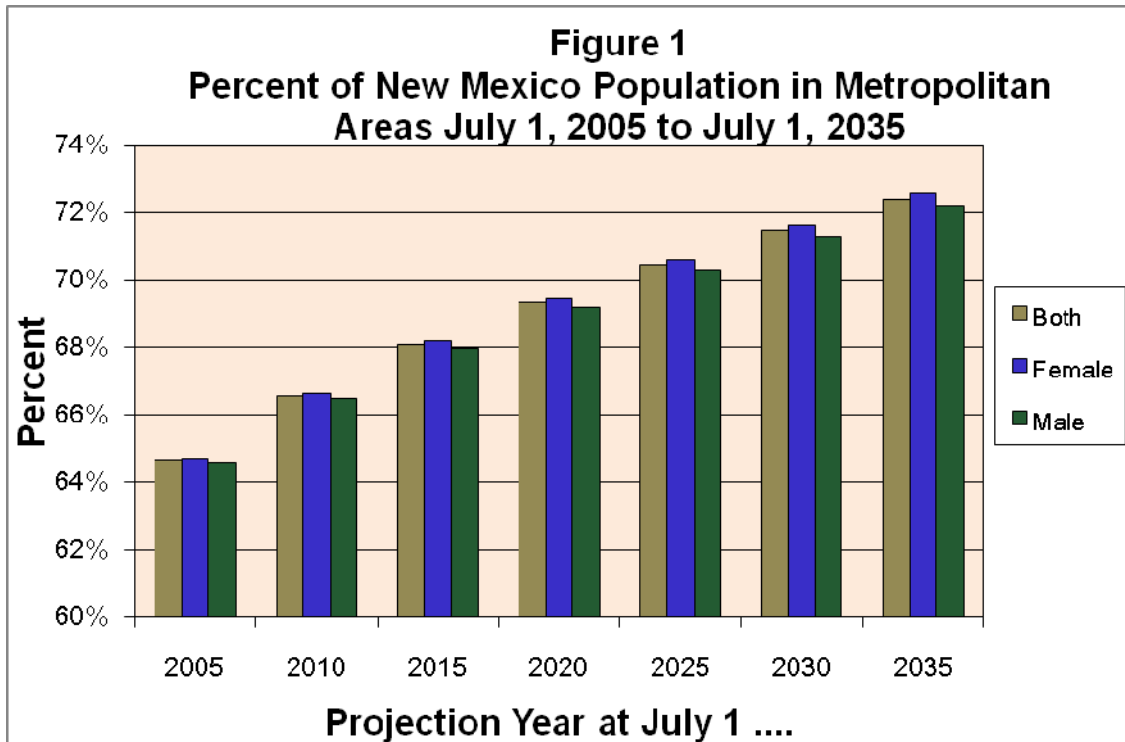


Figure 3
Projected State of New Mexico
Young and Old Dependency Ratios
Males: July 1, 2005 to July 1, 2035

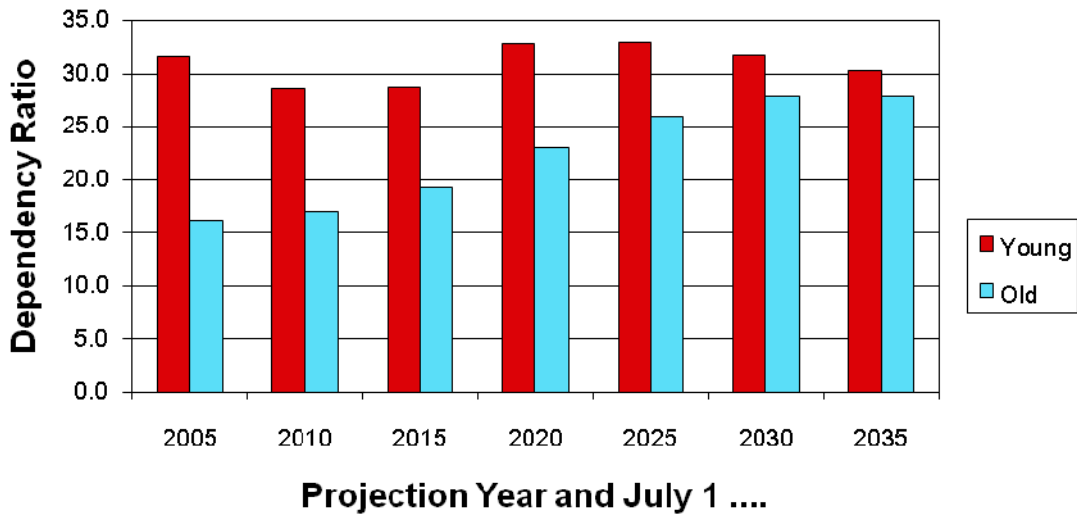
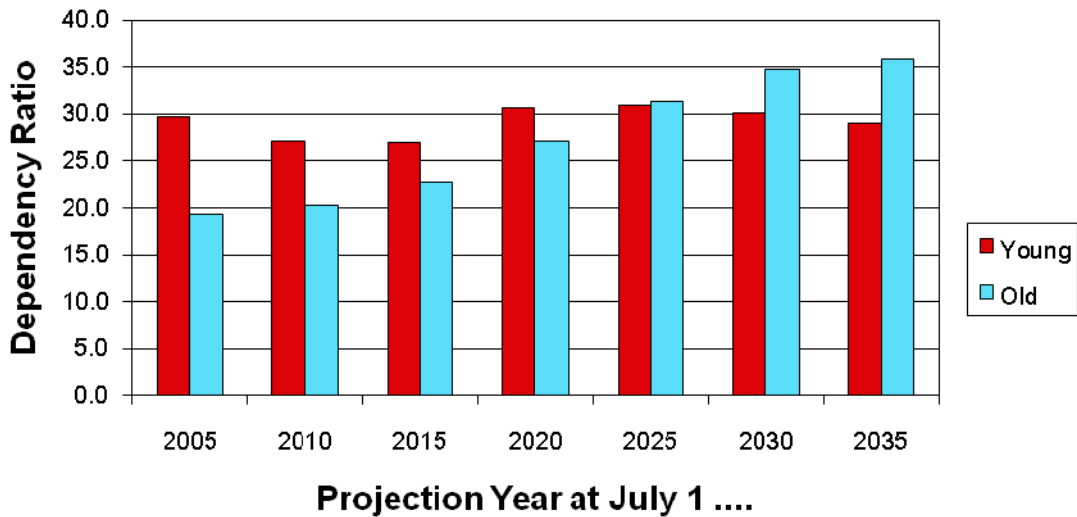
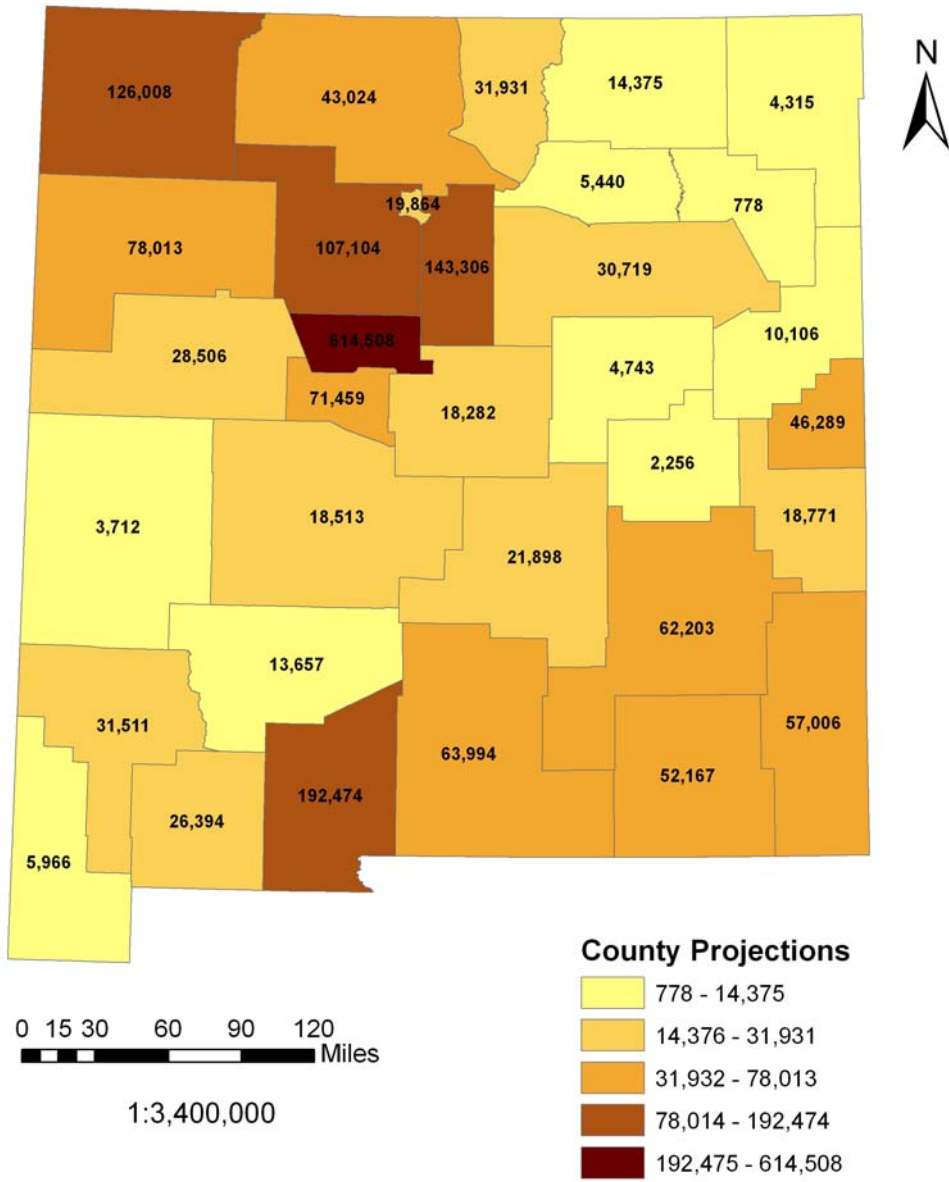


Figure 4
Projected State of New Mexico Young and Old
Dependency Ratios
Females: July 1, 2005 to July 1, 2035

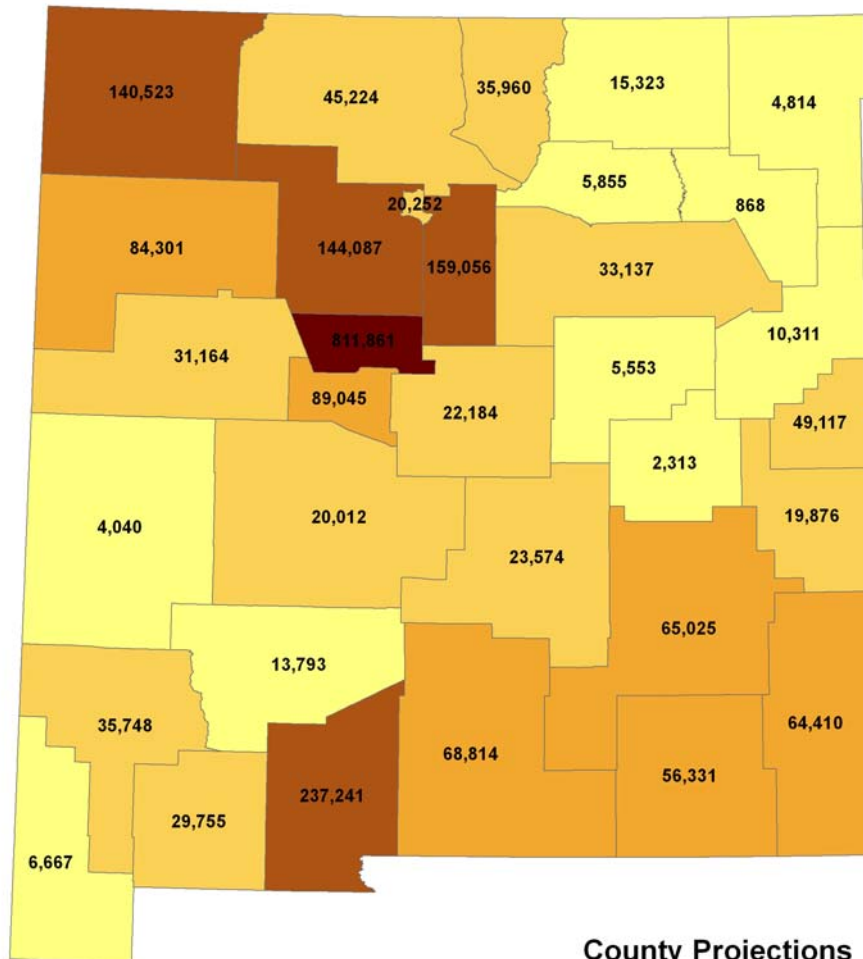


Map 1. County Population Projections New Mexico: July 1, 2005

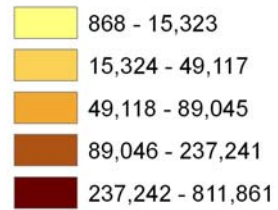


Note: Appendix E provides a map with county names on it.

Map 2. County Population Projections New Mexico: July 1, 2015



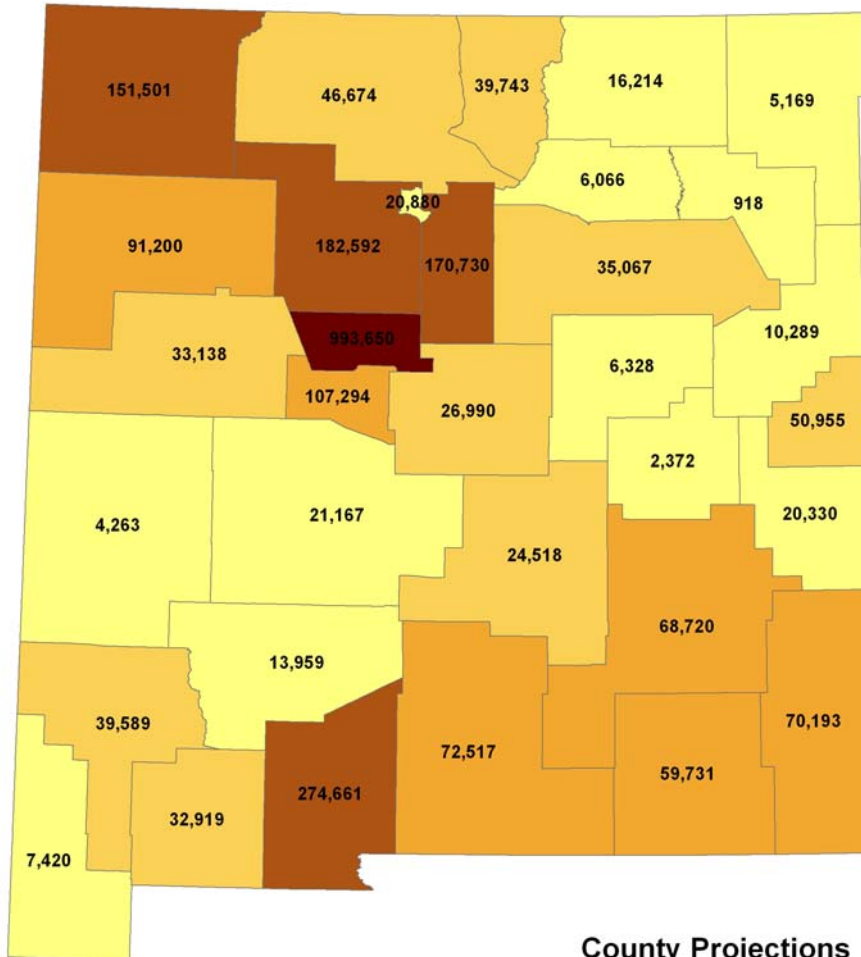
County Projections



0 15 30 60 90 120
Miles

1:3,400,000

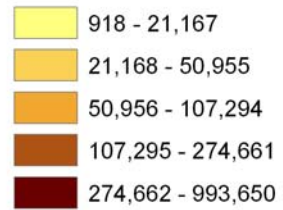
Map 3. County Population Projections New Mexico: July 1, 2025



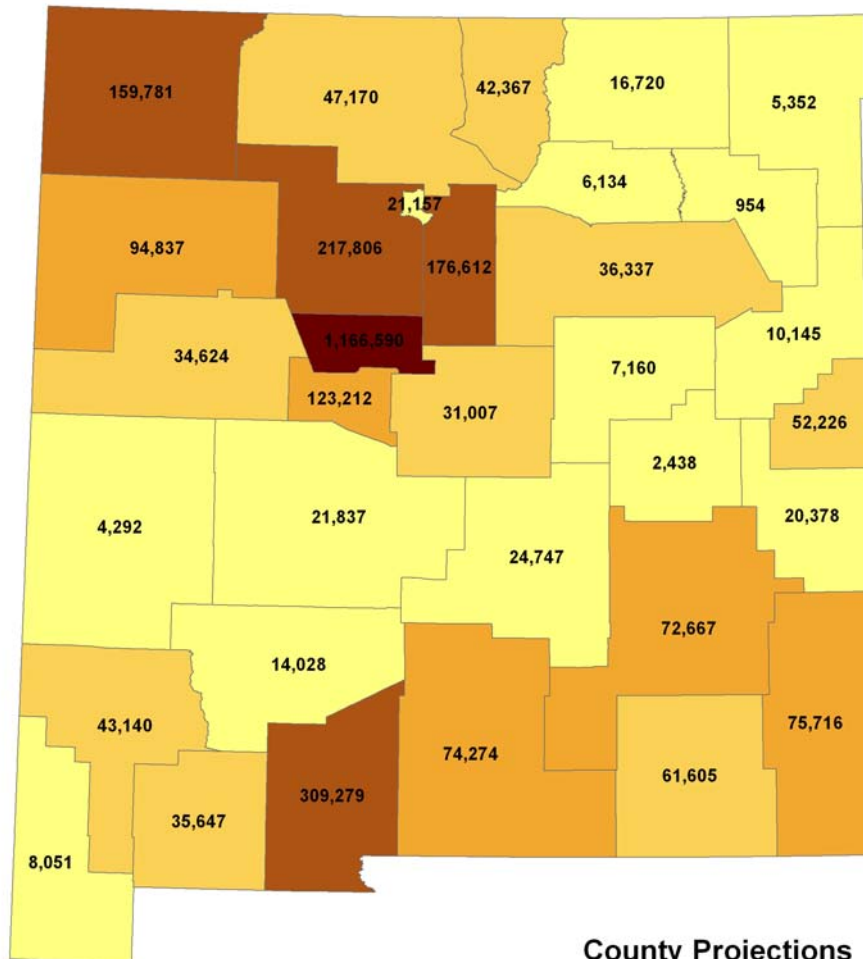
0 15 30 60 90 120 Miles

1:3,400,000

County Projections



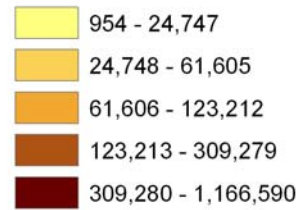
Map 4. County Population Projections New Mexico: July 1, 2035



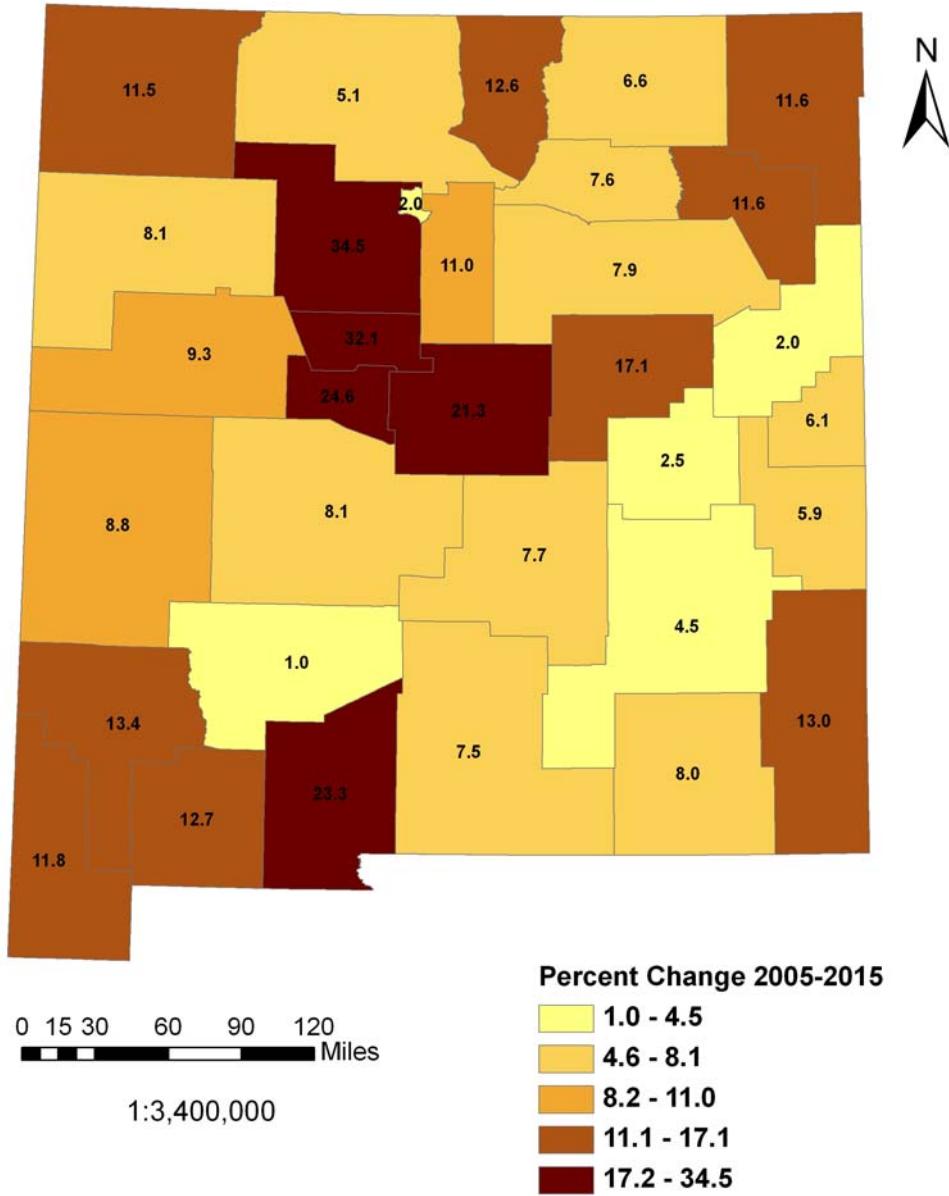
0 15 30 60 90 120 Miles

1:3,400,000

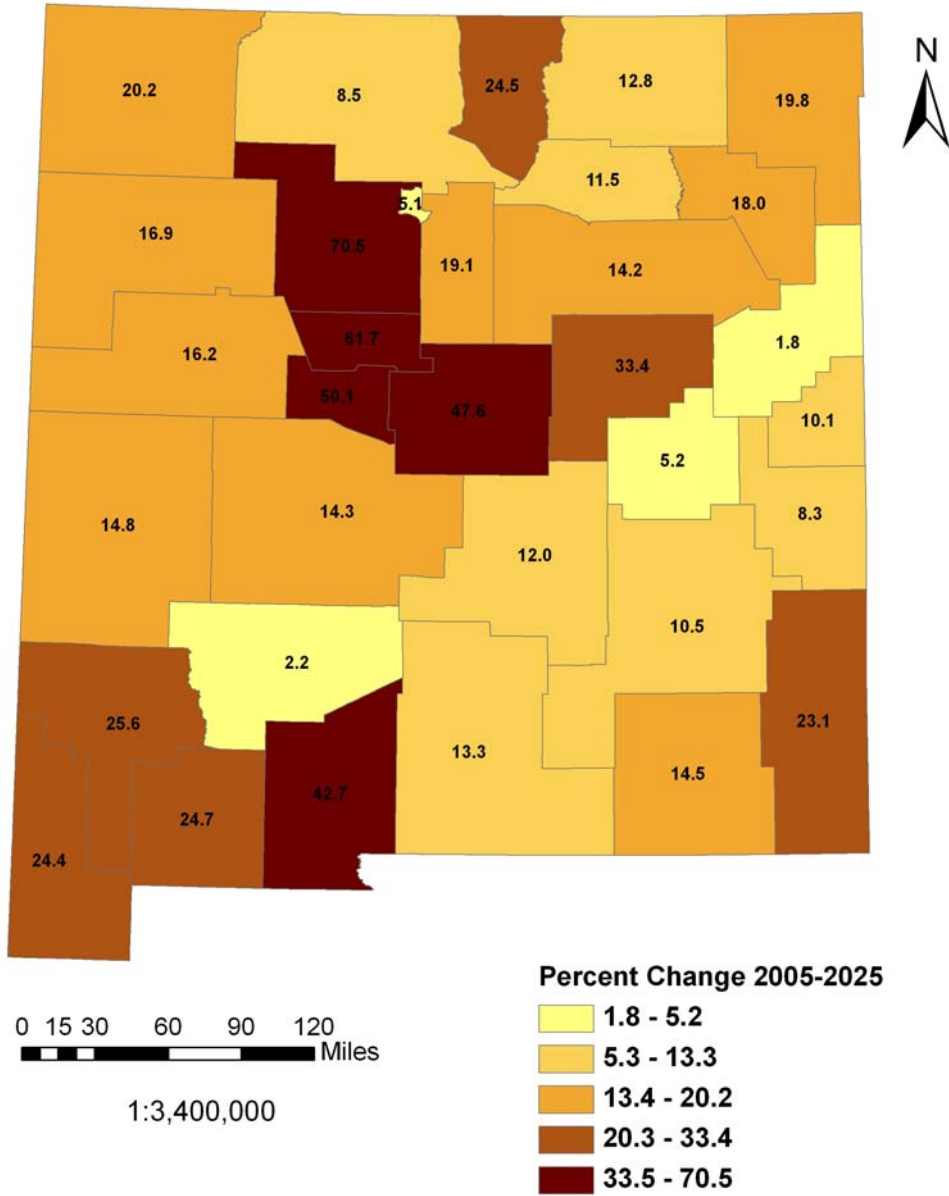
County Projections



Map 5. New Mexico Percent Change 2005 - 2015



Map 6. New Mexico Percent Change 2005 - 2025



Map 7. New Mexico Percent Change 2005 - 2035

