

Chapter 1

REGIONAL CONTEXT

Boundaries establish the limits of political jurisdictions, but the impacts are not always confined within those limits. Regions encompass the broader geographical area in which communities are situated and function, often across municipal boundaries.

A comprehensive plan can present a more realistic picture of a community's issues and alternatives if it considers external factors that can affect its future. However, understanding the regional context of a community is not only about self-awareness, it is also about identifying ways in which communities can help each other across jurisdictions. Implementation is presumed to be more effective when the plans of neighboring communities and the broader region match because they create synergy and can potentially reduce land use conflicts that occur along political or administrative boundaries.

This chapter summarizes facts, trends, plans and programs that have relevance to the key issues affecting the communities in Doña Ana County and the City of Las Cruces. The section also presents an overview of the visions, goals and planning context of neighboring counties.



1.1 Regional Issues

1.1.1 Population migration to the southwest

Counties in the southwestern portion of the US are projected to experience a 15-100% gain in population by 2050.¹ The US Census Bureau expects that the population in New Mexico will be an additional 650,000 inhabitants by 2015. People from all over the country are expected to move to New Mexico, and make the State the second favorite location in the US, after California.² Based on a low density model, the impact of population growth on land consumption is “for every one percent growth in population, land will be absorbed by development at a rate of 10 to 20 percent.”³

White Sands Missile Range (WSMR) and Fort Bliss Military Base will be expanding over the next 6 years. The population associated with the WSMR is expected to increase by more than 130% by 2013 and that of Fort Bliss by 260%. This is expected to generate significant economic impacts in the services and construction industries, but also to create the need to establish strong planning policy to manage growth as it occurs.

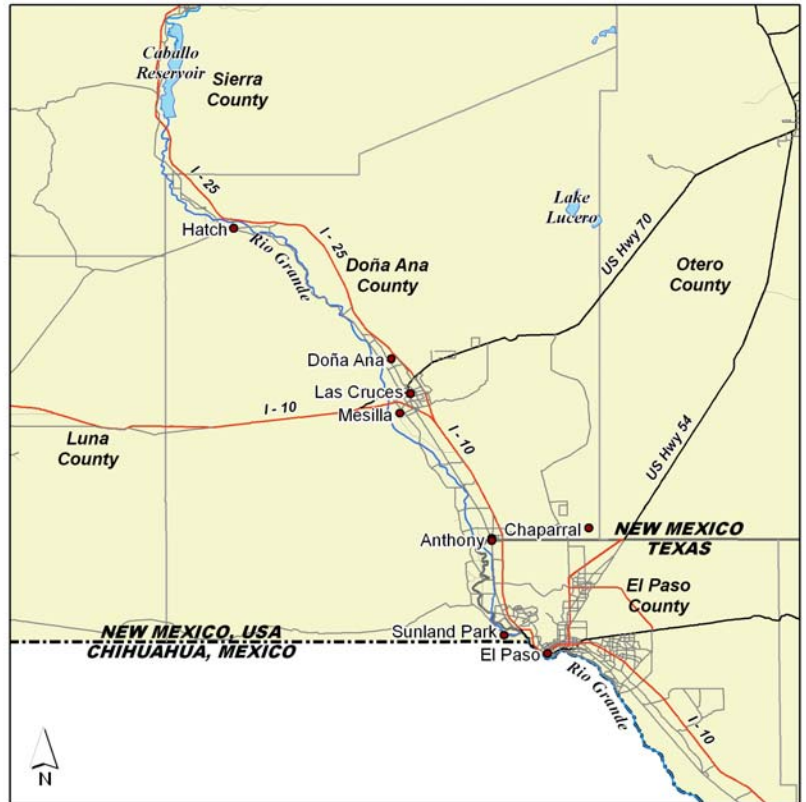


Figure 1-1 Map of the Region Surrounding Doña Ana County

Impact on housing demand

The trend in smaller household sizes will also affect the region, with impacts on housing demand. This implies that people will seek large suburban houses less, preferring instead smaller, more affordable and centrally located places, such as downtowns. This includes both young and older individuals, and is related to an increase in marrying later in life, fewer children, one-parent families and empty nesters.

¹ Regional Plan Association. “America 2050: A Prospectus,” New York: September 2006. Pg. 3. Retrieved April 20, 2008 from www.America2050.org

² Growth New Mexico Impacts and Options, p. 2

³ Growth New Mexico Impacts and Options, p. 23

Impacts on public services

One aspect of population growth that will have a significant impact on future development, public services and transportation systems is the greater number of people over age 65. Reduced mortality rates and increased life expectancy will increase the percentage of the population that is aging. This is both a regional and national trend, and governments are trying to understand how people's needs will change and how government should address those needs. A special challenge will be meeting the needs of elderly populations in rural areas, where there is usually not enough density to support services cost-effectively. Disabilities, medical care, employment status and level of education are factors that affect the needs of the aging population. Trends show an increase in housing, medical care and transportation costs for the elderly population. The demand for housing will change and involve residential alternatives that include home care, assisted-living facilities and nursing homes.

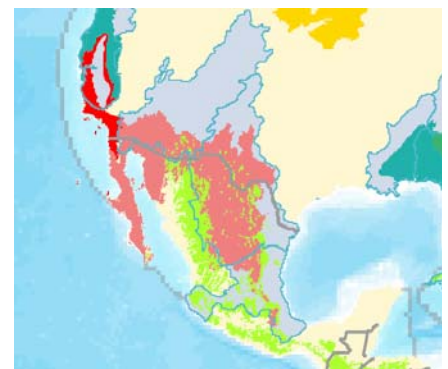
Impacts on the environment

Desert Habitat

Another impact of population growth will be habitat fragmentation and loss in the Chihuahuan Desert. This is significant for the following reasons:

- the US has a very small portion of the Chihuahuan Desert (about 70% of the desert is in Mexico)
- there are few or no long-term protection measures in place in the US or Mexico
- the Chihuahuan Desert is internationally significant. It is listed in the World Wildlife Fund's Global 200 Ecoregions, a group of "biologically distinct terrestrial, freshwater, and marine ecoregions of the planet" with "exceptional levels of biodiversity" for which the organization is developing landscape-scale conservation strategies.⁴

The Governor of New Mexico has proposed to protect the Chihuahuan Desert in the Otero Mesa, and the proposal includes designating a National Conservation Area (NCA) of more than 600,000 acres.⁵



The WWF's Global 200 Priority Ecoregions. The Chihuahuan Desert is included in the desert and xeric shrubland areas shaded in pink. Source: <http://www.worldwildlife.org/science/ecoregions/WWFBinaryitem4811.pdf>

⁴ World Wildlife Fund. Global 200 Ecoregions. Retrieved on July 8, 2009 from: www.worldwildlife.org/science/ecoregions/item1847.html

⁵ "New Mexico Energy, Minerals and Natural Resources Department's Protest of the Bureau of Land Management's Proposed Resource Management Plan Amendment (PRMPA) and Final Environmental Impact Statement (FEIS) for Federal Fluid Minerals Leasing and Development in Sierra and Otero Counties". February 6, 2004. Retrieved on June 9, 2008 from: <http://www.emnrd.state.nm.us/MAIN/OteroMesa.htm>

Water

Water has become an issue in the region due to rapid consumption of water and climate change. “All uses are seriously depleting available groundwater,” but the greatest consumption rates are attributed to agricultural irrigation and population increase.⁶ Flood control structures also limit the amount of water that flows through local waterways and consequently into groundwater supplies.⁷ In addition to this, we will be unable to rely on the weather to replenish water sources as usual. Climate change is making precipitation patterns more random, even in this arid to semi-arid desert region where precipitation patterns are naturally highly variable. For all of these reasons, getting competing users to conserve water and planning for a balanced distribution of water supplies will be two of the biggest future challenges for the region. Adding another layer of complexities in water resources planning is the existence of water rights throughout the region. Other water-related issues affecting the region are groundwater pollution, salinization and restoration of river habitat.⁸

Dependency on fossil fuels and alternative energy sources

According to the US Department of Energy - Energy Information Administration, New Mexico has about 677 million barrels of crude oil reserves. This will increase pressures throughout the region to exploit these reserves to supply the country’s energy needs as it tries to depend less on foreign oil. New Mexico is also one of the major gas-producing states in the country. This is important since the gas is “dry natural gas”, which is mostly composed of methane with few impurities. New Mexico is known to have approximately 17,020 billions of cubic feet of dry natural gas proved reserves. According to the US Dept. of Energy, many of these reserves are in the San Juan Basin, which is in the northwestern portion of New Mexico. Some reserves are known to be located in neighboring Otero County, which could potentially supply gas to portions of Doña Ana County.

However, exploration, drilling and abandonment of oil and gas wells are of concern because there are different kinds of environmental impacts associated with it, including air, noise and groundwater pollution, and surface disturbance. Oil and gas wells, refineries, gas processing plants and gas pipelines also produce Greenhouse Gases (GHGs); but there is little data to determine with certainty what the impact of these activities is. There is also a concern about the level of awareness amongst private landowners about their rights in relationship both to economically profiting or protecting themselves from these activities.⁹

Despite the great potential to grow the economy from these fuel source industries, the State of New Mexico is taking the initiative of promoting itself as an “investor-grade” location for renewable energy industries, particularly solar.¹⁰ In fact, New Mexico was ranked among the 10 states that are “doing the most to wean themselves from oil.”¹¹ One of the recent measures taken in support of this has been the creation of an Energy Innovation Fund, from which several institutions (such as NMSU) and private enterprises hope to take advantage. Universities throughout the southwest, including NMSU, are actively developing technology to make algae-based gasoline commercially viable. The Department of the Defense is also investing in this technology, which uses sunlight and seawater, sewage or pollution from power plants; and consumes less land than crops for other biofuels.

⁶ Retrieved July 18, 2008 from: http://geochange.er.usgs.gov/sw/impacts/society/water_demand/

⁷ Creel, B.J., et al. TR 305, Ground-Water Aquifer Sensitivity Assessment and Management Practices Evaluation for Pesticides in the Mesilla Valley of New Mexico. 1998. Retrieved June 4, 2008 from: <http://wrrri.nmsu.edu>

⁸ O'Donnell, Michael and Jonathan Rademaekers. “Water Use Trends in the Southwestern United States 1950-1990.” USGS. Retrieved on July 18, 2008 from: http://geochange.er.usgs.gov/sw/impacts/hydrology/water_use/

⁹ “Oil and Gas at Your Door? A Landowner’s Guide to Oil and Gas Development”. Second Edition. 2005. Oil & Gas Accountability Project.

¹⁰ Retrieved on July 10, 2008 from: <http://www.emnrd.state.nm.us/main/reta.htm>

¹¹ Natural Resources Defense Council. “Fighting Oil Addiction: Ranking States’ Vulnerability to Oil Price Spikes.” Retrieved on August 20, 2008 from: <http://www.nrdc.org/energy/states/fstates.pdf>

Furthermore, the Governor of New Mexico has personally opposed oil and gas drilling on BLM land in Sierra and Otero Counties because of the impacts it would create in the Chihuahuan Desert, where there are unique black grama grasslands and potential groundwater contamination of the Salt Basin. Preserving this desert habitat is a priority because of its national and international recognition and the fact that only 2.5% of the Chihuahuan Desert in the US and Mexico is formally protected.¹²

Transportation

Changes in the region's transportation system will be crucial for environmental and economic reasons. The Final Report of the New Mexico Climate Change Advisory Group states "the transportation sector is expected to be the leading source of overall greenhouse gas (GHG) emissions growth from 2000 onward." According to this report, half the growth in GHG emissions will come from diesel used for freight. The other half will come from gasoline use, as a result of population increase and the accompanying increase in the number of people driving cars.¹³ This problem will be compounded as a result of the widespread use of older cars throughout the region and in Mexico.

The regional transportation system will also affect the region's future economic growth. Future economic growth will depend on the degree of intermodal connectivity to transportation systems across the country and the international border. The most cost-effective alternative for moving freight between places 200-500 miles apart is expected to be high speed rail. Commuter rail connected to highways and airports will also become an important transportation alternative. It will be significant in New Mexico, which has been recently ranked as the 6th most vulnerable state in terms of the degree to which increases in gas prices affect citizens. According to a report from the Natural Resources Defense Council, drivers in New Mexico spent 5.66% of their income on gasoline in 2007.¹⁴ There are expectations that the federal government will invest in rebuilding rail infrastructure, as it did in the 1950s to create the Interstate Highway System.¹⁵

Industrial Pollutants

Rapid population growth and increased trade and manufacturing on both sides of the border have the potential for environmental impacts such as industrial waste, pesticides, air and water pollution. The expected increase in the number of old vehicles makes air quality one of the greatest environmental concerns in the region.¹⁶ The potential reopening of the ASARCO copper smelter in El Paso, TX would have impacts in regional air quality as well. Illicit dumping is another problem, but there are efforts to create permitted landfills in the region. Hazardous wastes from Texas and Mexico are being received in regional landfills in Doña Ana County, such as the one in Sunland Park. The industrial park in Santa Teresa has been identified as a transfer point for industrial waste, but personnel must be trained to handle chemical emergencies before the facility can be used for this purpose. The New Mexico Environment Department and the US EPA have been working together with authorities in Mexico to address public health and environmental issues on the border. The program is called Border 2012 and it is a 10-year bi-national effort.¹⁷

¹² Retrieved on July 8, 2008 from:

<http://www.emnrd.state.nm.us/MAIN/Administration/News/otero%20mesa%20appeal%20June%202004.htm>

¹³ New Mexico Climate Change Advisory Group. December 2006. Pg. 2-9

¹⁴ Natural Resources Defense Council. "Fighting Oil Addiction: Ranking States' Vulnerability to Oil Price Spikes." Retrieved on August 20, 2008 from: <http://www.nrdc.org/energy/states/fstates.pdf>

¹⁵ Regional Plan Association. "America 2050: A Prospectus," New York: September 2006. Pg. 12. Retrieved April 20, 2008 from www.America2050.org

¹⁶ Retrieved on July 11, 2008 from: <http://www.epa.gov/usmexicoborder/issues.html>

¹⁷ Retrieved on July 11, 2008 from: <http://border.nmenv.state.nm.us>

International Trade and Security

Gang violence, violence against US Border Patrol agents, drug smuggling, firearms, human trafficking and illegal immigration are common problems along the border region of the US and Mexico. These kinds of activities tend to occur in metropolitan areas where there are large and active storage facilities, regional and national transportation and distribution centers, such as those in the Santa Teresa-El Paso-Juárez border region.¹⁸ Future population growth and expansion of industrial areas in this region could develop side-by-side with increases in criminal activities. Specific information about efforts to curb this situation is not available due to security reasons; however, authorities continue their intelligence, surveillance and enforcement activities at the border. A framework for inter-agency and intergovernmental collaboration was created by the federal government after September 11, 2001. The framework is described in the National Infrastructure Protection Plan, which was created to help federal, state and local authorities and the private sector to protect critical infrastructure and key resources in several sectors, including postal, shipping and transportation systems.¹⁹

1.2 Planning in Adjacent Communities

1.2.1 Otero County

Otero County is facing a range of pressing issues involving water, energy and waste management. These issues may be compounded as the population continues to grow. According to the US Census Bureau, Otero's total population in the year 2000 was 62,298. According to the population projection shown in the Otero County Comprehensive Plan, the population is expected to grow at a rate of 4-5% a decade from 2010 to 2030. At that rate, the population is expected to reach 70,000 by 2030.

Water

Water issues in Otero County include water conservation, groundwater salinity and groundwater pollution. The county's two groundwater basins, the Tularosa and Salt Basins, have high concentrations of salt. The amount of water in the basin affects how much salt is dissolved in the water. This constrains the use of groundwater for potable water, unless it is desalinated. Irrigated agriculture is also limited because many crops do not tolerate high salinity. To conserve water, the County is proposing a reduction of the state acre feet groundwater depletion rate and is planning to develop greywater reuse systems locally.

In terms of wastewater, the County is concerned that outdated septic systems in rural areas could be contributing to groundwater pollution. The County is evaluating wastewater management options, including wastewater treatment plants. Otero County and Doña Ana County are exploring the possibility of extending wastewater treatment infrastructure into the Otero County portion of Chaparral.

Land Use, Economic Development and Growth

Three major land use issues in Otero are the expansion of landfills, planning for growth without negatively affecting military activities in the area, and exploration for fuel sources. The County's solid waste management system is at capacity. Expanding both the existing landfill and the recycling program are the County's preferred means of addressing the issue. The community opposes the landfill expansion because it sees it as an environmental justice issue.

White Sands Missile Range and Holloman Air Force Base are key players in the county's economy. The County is aware of its need to diversify the local economy and not rely on the military for long-term

¹⁸ Retrieved on July 11, 2008 from: www.usdoj.gov/dea/concern/18862/southwest_border.htm

¹⁹ Dept. of Homeland Security. National Infrastructure Protection Plan. Retrieved on August 20, 2008 from: http://www.dhs.gov/xprevprot/programs/editorial_0827.shtm

economic stability because any expansion or reduction in military bases is highly dependent on national politics. However, the County still wants to position itself as a military-friendly community.

Otero County is rich in hydrocarbons and minerals, which are sources of fuel for electricity and heating, but the ability to extract them depends on who owns surface and mineral rights. Much of the land where these resources exist is owned by the BLM, but in some cases private property exists on BLM lands. In many of those cases, the BLM controls the exploration and development of those resources. The public's concern is that the agency could infringe on private property rights. The County plans to adopt an ordinance to protect extraction rights and the local tax base because it recognizes the future energy needs of the region and country.

1.2.2 *Sierra County*

Sierra County, NM lies immediately north of Doña Ana County. The City of Truth or Consequences is the county seat, and the City of Elephant Butte is another urban and recreational center. Sierra County's population has been growing since the 1990s. The US Census recorded a county population of 13,365 in 2000. Projections estimate that total population will reach 22,672 by 2030.²⁰ In addition to natural growth, further growth may occur as a result of economic development activities within the county that may have regional and national impact. Examples of such economic activities are the development of Spaceport America and Hot Springs Motorcourse.

Infrastructure

A key planning issue for Sierra County is fixing or replacing existing infrastructure within municipalities. Old electric utility infrastructure causes frequent power outages. The public water and wastewater treatment facilities need updating as well. Although rural areas may continue to use septic systems, septic systems in denser areas need to be eliminated due to the high risk of contaminating groundwater. Truth or Consequences and Elephant Butte have plans to reuse treated wastewater for irrigation, parks, golf courses and construction. They also plan to compost the sewage sludge.

Another important task is ensuring that new development does not exceed current infrastructure capacity. The area's topography presents severe constraints in some communities. Paved roads and sidewalks are needed as well because there are no sidewalks and dirt roads are very susceptible to erosion. There is no public transit, but there are no plans to start one. These improvements were deemed necessary to stimulate future economic development in the county's larger communities.

Economic Opportunities

Spaceport America will be the first commercial/tourist spaceport in the US. Funding for the \$198 million construction project will come from taxes collected from Sierra and Doña Ana Counties. Collecting taxes from various counties requires the formation of tax districts according to state statutes, and this is something that has raised issues throughout the region. A portion of the taxes will be directed to science and technology education in both counties. Construction of a terminal and hangar facilities should be completed by 2010.²¹

²⁰ City of Elephant Butte Comprehensive Plan.

²¹ "Doña Ana County Commission Approves Spaceport." Retrieved on August 20, 2008 from: <http://www.spaceportamerica.com/news/press-releases/18-spaceport-press-articles/151-dacc-approves-spaceport.html>

The Hot Springs Motorcourse is a multi-use development that will bring NASCAR racing to the western US. The proposed development includes two industrial parks for light manufacturing and research and development, residential subdivisions, retail centers, a luxury RV complex, and a resort hotel, spa, golf course, tennis courts and conference center.²² The development is targeted to support the Spaceport, NASCAR racecourse and the Truth or Consequences Municipal Airport.

Spaceport America and Hot Springs Motorcourse are expected to expand and diversify Sierra County's local economy, which is said to depend heavily on summer tourism associated to Elephant Butte Lake and State Park. These developments are expected to draw more local retail and services, lessening the need for county residents and visitors to drive away to Albuquerque, Las Cruces or El Paso to acquire most goods and services.

Tourism

Local economies in Sierra County depend largely on seasonal tourism. The County has the state's two largest reservoirs, Elephant Butte and Caballo Lakes, which draw more than a million people a year. Water sports, fishing and camping are the main activities. However, the summer is the only tourist season, and if lake levels continue to decline tourism may become unsustainable.

Recently, NM State Parks has been approached by developers who are interested in building a hotel and full-service marina on Elephant Butte Lake. However, the streetscape in the City of Elephant Butte has been deemed to need significant improvements if it is to take advantage of the lake views and create a more pleasant environment for visitors.

In addition to the lakes, Sierra County offers hot springs, particularly in the City of Truth or Consequences. Unfortunately, the springs are not marketed properly and visitors are often unable to locate spas. There is also a lack of convenience stores and services, which forces visitors to leave the community. Despite limited retail locations, the cities of Sierra County believe that having few big box stores is one of their strengths.

Major trails are also available in Sierra County. The Gerónimo Trail Scenic Byway connects the Gila National Forest to Elephant Butte, Truth or Consequences, Hillsboro, Kingston and Winston. The Camino Real National Historic Trail passes through Sierra County as well. Future economic development projects in Sierra County include creating a regional network of trails that connect to scenic byways and state parks.

²² "Proposed Economic Enterprise for New Mexico: A Master Plan for A Mixed Use Development." May 28, 2008. Retrieved on August 20, 2008 from: www.scedo.org