

Geography: Planning Implications and Recommendations
For The City of Las Vegas, Nevada

Final Paper Assignment

PLAN 365: Introduction to Urban Planning

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II. Defining the Scope of Planning

A. Infrastructure

Planning a city's infrastructure is applying scientific and engineering technology for communal living (Bame, PLAN 365 Lecture Outline, 2007). A city's infrastructure includes: water, waste, power/utilities and communication. If the city is a human body, then the infrastructure is the skeleton, it must be correctly in place in order for the city to live and grow.

B. Land Use

Land Use, or zoning, defines the purpose of the land. It provides a map to the "future", preserves the "past" and creates sustainability for the "present" (Bame, PLAN 365 Lecture Outline, 2007). However, it provides these regulations at a cost. Land Use involves politics and competing philosophies of "community vs. individual" (NIMBY).

C. Environmental Planning

The purpose of Environmental Planning is to protect the environment (Bame, PLAN 365 Lecture Outline, 2007). This requires finding a balance between human use and conservation of natural resources. Environmental Planning also includes manmade environments and environmental health, such as contamination, exposure and treatment.

D. Transportation Planning

Transportation Planning determines a city's quality of life in addition to, "coordinating resources, increasing accessibility to goods and services, reducing social and economic barriers

and increasing safety and reducing hazards" (Bame, PLAN 365 Lecture Outline, 2007).

Transportation Planning has to keep up with technology as the world becomes more connected.

E. Health and Human Services

Health Services, "prioritize for planning and policy, reduce cost of health care and improve quality of health care and quality of life" (Bame, PLAN 365 Lecture Outline, 2007: 13).

Human Services, "improve access to services to meet community needs, improve cost effectiveness of services, increase resources to community and increase coordination of services to reduce duplication and fragmentation and gaps"(15).

F. Emergency and Disaster Planning

The planning for this domain, "prevents or minimizes disasters, facilitates protection and evacuation, manages disasters and consequences and coordinates communication and resources to increase cost effectiveness of recovery" (Bame, PLAN 365 Lecture Outline, 2007: 11).

Emergency and Disaster Planning depends on the availability of resources and the type, scope and timing of the event.

III. Planning Implications due to the Geography of Las Vegas, Nevada

Las Vegas is located in the southwest region of the United States in south Nevada at 36 degrees 11'39"N, 115 degrees 13'19" W (www.Wikipedia.org, 2007). According to the United States Census Bureau, the city has a total area of 131.3 square miles. Only, .04% of that area is water. Las Vegas is located in an arid basin surrounded by mountains at an elevation of 2,030

feet above sea level. As befits a desert, the natural landscape is bare and sandy. However, due to human development within the city, lawns, trees and other non native greenery exist.

A. Infrastructure Planning Implications

Due to the open and flat geography of Las Vegas, the city's infrastructure has created a city of lights. Tourism is the economic base for Las Vegas. Large hotels and casinos require a complex infrastructure system for proper waste management and electricity (see Figures 1 and 2 below).

Figure 1. A Map of Las Vegas Sewer Lines



Source: Southern Nevada GIS Meta Data. (2007) City of Las Vegas Sanitary Sewer Lines. City of Clarke County. <www.accessclarkcounty.com> (Obtained: 05/02/07).

Figure 2. A Map of Las Vegas Street Lights



Source: Southern Nevada GIS Meta Data. (2007) City of Las Vegas Street Lights. City of Clarke County. <www.accessclarkcounty.com> (Obtained: 05/02/07).

Planning implications for infrastructure based on the geography of Las Vegas should include energy efficient ways to consume water and electricity. Such as solar power energy to generate the city's vast display of lights. In addition to lights, Las Vegas has many fountains,

moats and manmade waterways. For health reasons, a critical planning implication for the city of Las Vegas is to have a definite separation between waste water and potable water systems.

Although, people do not drink fountain water, it must use potable water since many people come into contact with the hydraulic attractions.

B. Land Use Planning Implications

The geography of Las Vegas does not provide natural boundaries for the city. Therefore, unless Land Use planning implications are made Las Vegas will continue to sprawl. Planning implications for Land Use need to require zoning for dense mixed use development. Figures 3 and 4, below show the sprawl of Las Vegas over 40 years.

Figure 3. Arial Photograph of Las Vegas in 1964

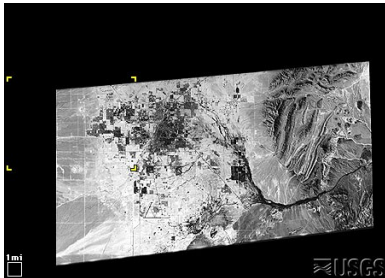


Figure 4. Arial Photograph of Las Vegas in 1994



Source for Figures 3 & 4: United States Geological Services. (01/12/01). Earthshots: Satellite Images of Environmental Change. United States Geological Survey.
<<http://edc.usgs.gov/earthshots/slow/LasVegas/LasVegas>> (Obtained: 02/21/07).

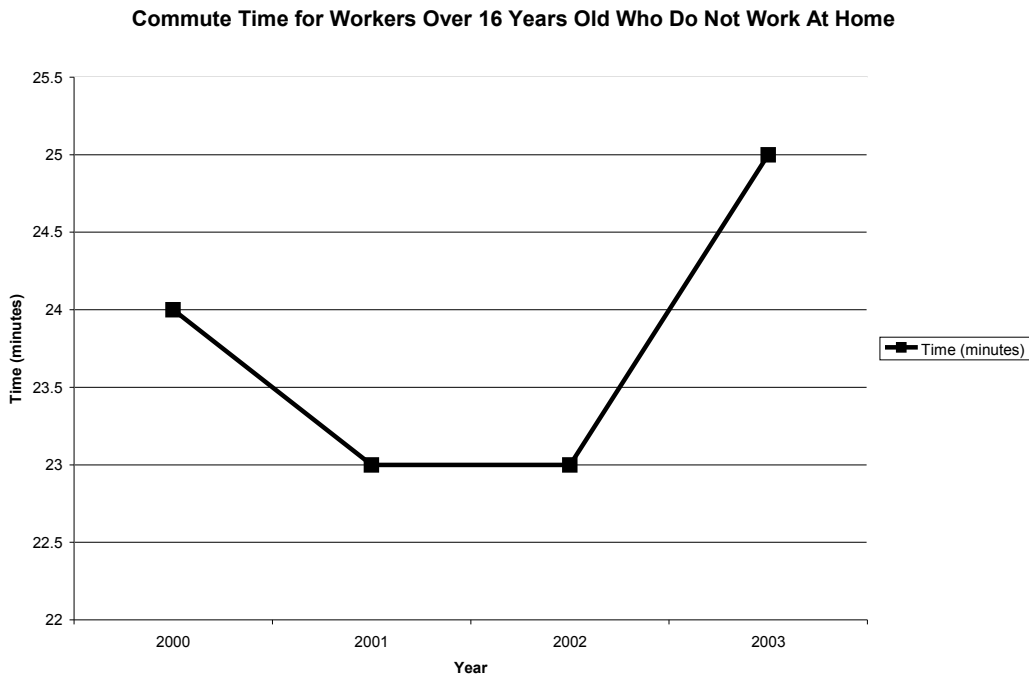
C. Environment Planning Implications

Human growth, development and over consumption has caused a drought in the Las Vegas area (Bell, 2003). This water shortage shows how future planning implications need to reduce human use of natural resources. A recommendation for future environmental planning implication is to pass policy that encourages xeriscaping. Currently, Las Vegas is using water at a non sustainable rate, causing land subsidence which will continue if not addressed (see attached Figure 5 on page 14 and Figure 6 on page 15).

D. Transportation Planning Implications

Sprawl development of Las Vegas makes the automobile the primary form of transportation. Building more dense and creating non motorized transportation opportunities is a recommendation to reduce commute times. If transportation planning implications are not addressed then the commute time for Las Vegas will continue to increase; as the commute time increases the quality of life decreases.

Table 1. Commute Time for Las Vegas, Nevada



Source: United States Census Bureau . (2007) Fact Sheet 2000. [United States Census Bureau.](http://factfinder.census.gov) <<http://factfinder.census.gov>> (Obtained: 02/20/07).

E. Health and Human Services Planning Implications

Las Vegas' economy thrives off of tourism. The City's hotels and casinos attract millions annually. Due to the high number of visitors in Las Vegas, it is critical from a health planning aspect, that Las Vegas adopts the following recommendations.

- City healthcare services provide visitors easy and immediate access to emergency level healthcare
- Healthcare and human services plan for new future services as the population of Las Vegas increases
- Healthcare and human services are ethical on politics of "voice vs. representation" to balance the demand of services for both visitors and residents of Las Vegas

F. Emergency and Disaster Planning Implications

Ironically, skyscrapers can serve two roles during an emergency. They can either alleviate or contribute to the disaster. The large amount of hotel rooms in Las Vegas make it an ideal city for evacuees. On the other hand, skyscrapers in Las Vegas are the largest single threat to emergency and disaster planning officials and their equipment (Hilton, 2007). The flat landscape of Las Vegas is conducive to tall buildings. Therefore, emergency and disaster planning officials should be well trained to deal with an event within a skyscraper. In addition to having the emergency response workers trained, it is equally important that the city of Las Vegas has access to the correct equipment to handle the emergency within a skyscraper.

IV. Planning Implications for Population Growth of Las Vegas

Since 1950 Las Vegas has been growing at a significantly faster rate compared to the rest of the United States (See Table 2 below). However, due to the geographical characteristics of Las Vegas the square mileage of the City is increasing proportionally with the population growth which creates sprawl (see Table 3 below). A significant planning implication and recommendation that impacts all of the domains is for the city of Las Vegas to reduce sprawl and grow more dense within the city area rather than expanding the City's square mileage.

Table 2. Las Vegas and the United States Population Growth

Las Vegas, NV			United States		
Year	Population	Change	Year	Population	Change
1950	24,624	162%	1950	151,325,798	n/a
1960	64,405	162%	1960	179,323,175	19%
1970	125,787	95%	1970	203,302,031	13%
1980	164,674	31%	1980	226,542,199	11%
1990	258,295	57%	1990	248,709,873	10%
2000	478,434	85%	2000	281,421,906	13%

Source: Maynard, Lee; et al. (2007) PLAN 365 Paper 2. Project City Profile.

Table 3: Comparison of Population and Square Mileage in 1960 and 1990

City of Las Vegas	1960	2000	% Change
Sq. Mile	25	113	400
Population	64405	478434	600
Density	2576	4234	100

Source: City of Las Vegas. (2007) History. [City of Las Vegas.](http://www.lasvegasnevada.gov/FactsStatistics/history.htm)
 <<http://www.lasvegasnevada.gov/FactsStatistics/history.htm>> (Obtained: 02/20/07).

A. Infrastructure Planning Implications for Population Growth

Because the population growth for the city of Las Vegas is increasing significantly faster than the United States Las Vegas is going to have to be at the forefront of creating new infrastructure. Based on the City's population growth and change in square mileage since 1960, Las Vegas should improve existing infrastructure and infill the city rather than continuing to create sprawl with its new growth.

B. Land Use Planning Implications for Population Growth

Tourism is Las Vegas' economic base. With the Baby-Boomer generation in retirement, it is recommended that Las Vegas develop the city to attract this specific target market which is the ultimate 'footloose' industry of G.R.A.M.P.I.E.S (G= growing numbers of, R= retired, A= active, M= monied, P= people, I= in, E= excellent, S= shape). However, it is recommended that Las Vegas, as a tourism based town, constantly make planning implications to re-invent itself so the

City will continue to attract the constantly changing preferences of tourists. Land Use is critical in creating a city's sense of place.

C. Environment Planning Implications for Population Growth

The environmental sustainability of Las Vegas is in serious danger according to the City's population growth. The high increase in population growth has caused over consumption of water resources in the Las Vegas Area. A revolution of the 'American Dream' requiring green grassy lawns and single unit family homes must occur by the residents of Las Vegas. This will conserve valuable water that is currently unnecessarily wasted on non native landscaping and create more permeable surfaces for aquifer recharge zones. If Las Vegas does not adopt these 'free' recommendations the City will find itself paying a high price for water.

D. Transportation Planning Implications for Population Growth

The current increase of population growth for Las Vegas is putting a large amount of new cars on the City's roads. If the standard road maintenance procedures, of widening the road, take place, the quality of life will decrease for the City (Dumbaugh, 2007). It is recommended that Las Vegas creates more dense development that provides opportunity for non motorized transportation on trails and greenways. In addition to being more environmentally friendly, this form of transportation can bisect the 'Super Blocks' created by hotels and casinos that automobiles are forced to drive around.

E. Health and Human Services Planning Implications for Population Growth

The increase in population to Las Vegas will create a demand for specific health and human services based on the demographical characteristics. However, since Las Vegas attracts many tourists, in addition to its residents, the City must meet the needs of its visitors. These two groups have different demographic characteristics and needs. Therefore, planning implications for population growth must evaluate the trends and demographics for future generations. For example Generation X, the creative class, is more mobile than previous generations. This mobile group of people will not visit the same healthcare provider regularly. Therefore, based on population growth trends for Las Vegas, healthcare providers should tailor services to the upcoming generation's lifestyle.

F. Emergency and Disaster Planning Implications for Population Growth

Recommendations for Emergency and disaster planning due to the population growth for the city of Las Vegas are:

- Increase in the number of emergency and disaster relief employees for Las Vegas
- Table top practice exercises dealing with an increased population during an emergency or disaster
- Prepare surrounding cities to handle an increased amount of evacuees in an emergency or disaster

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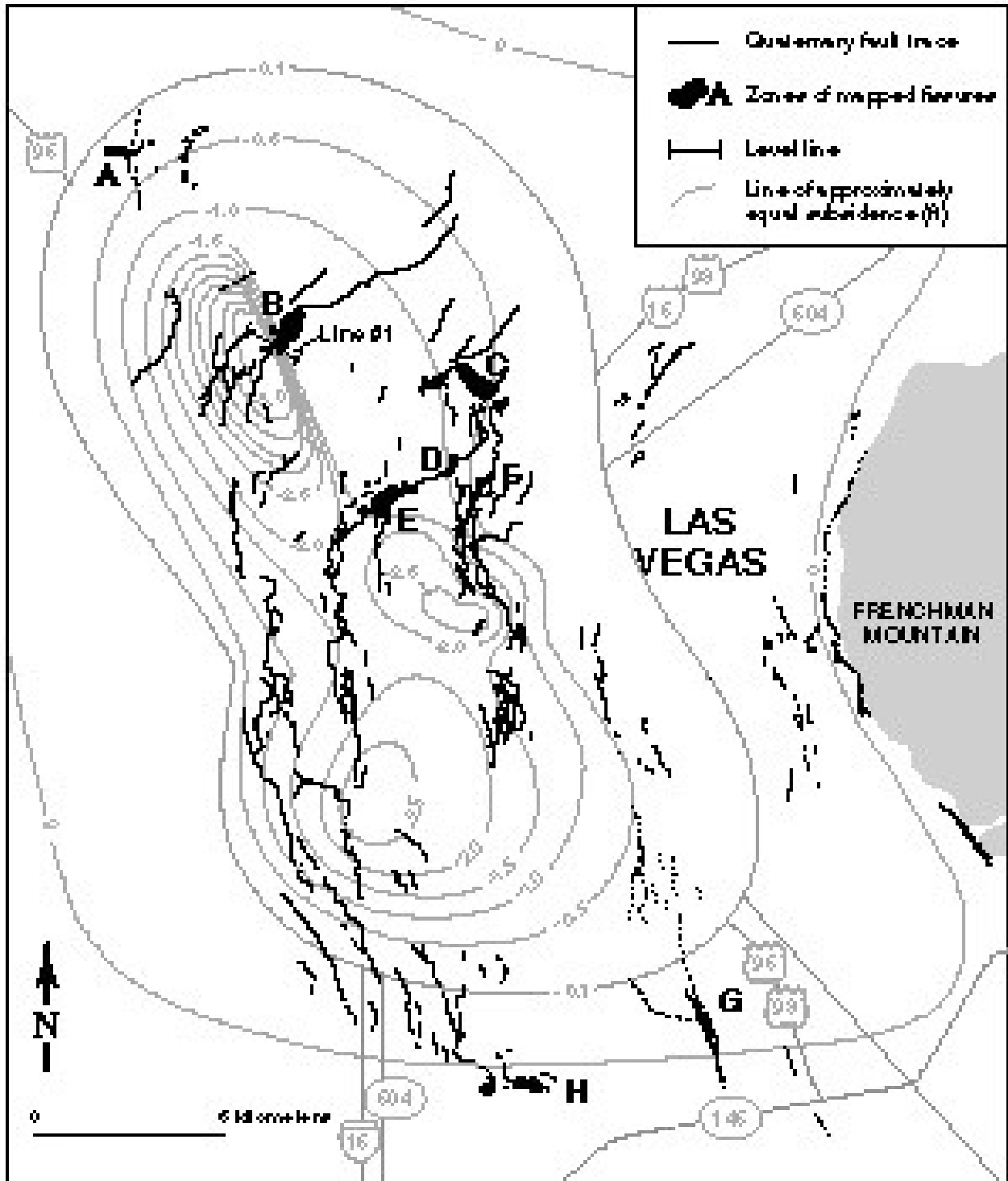
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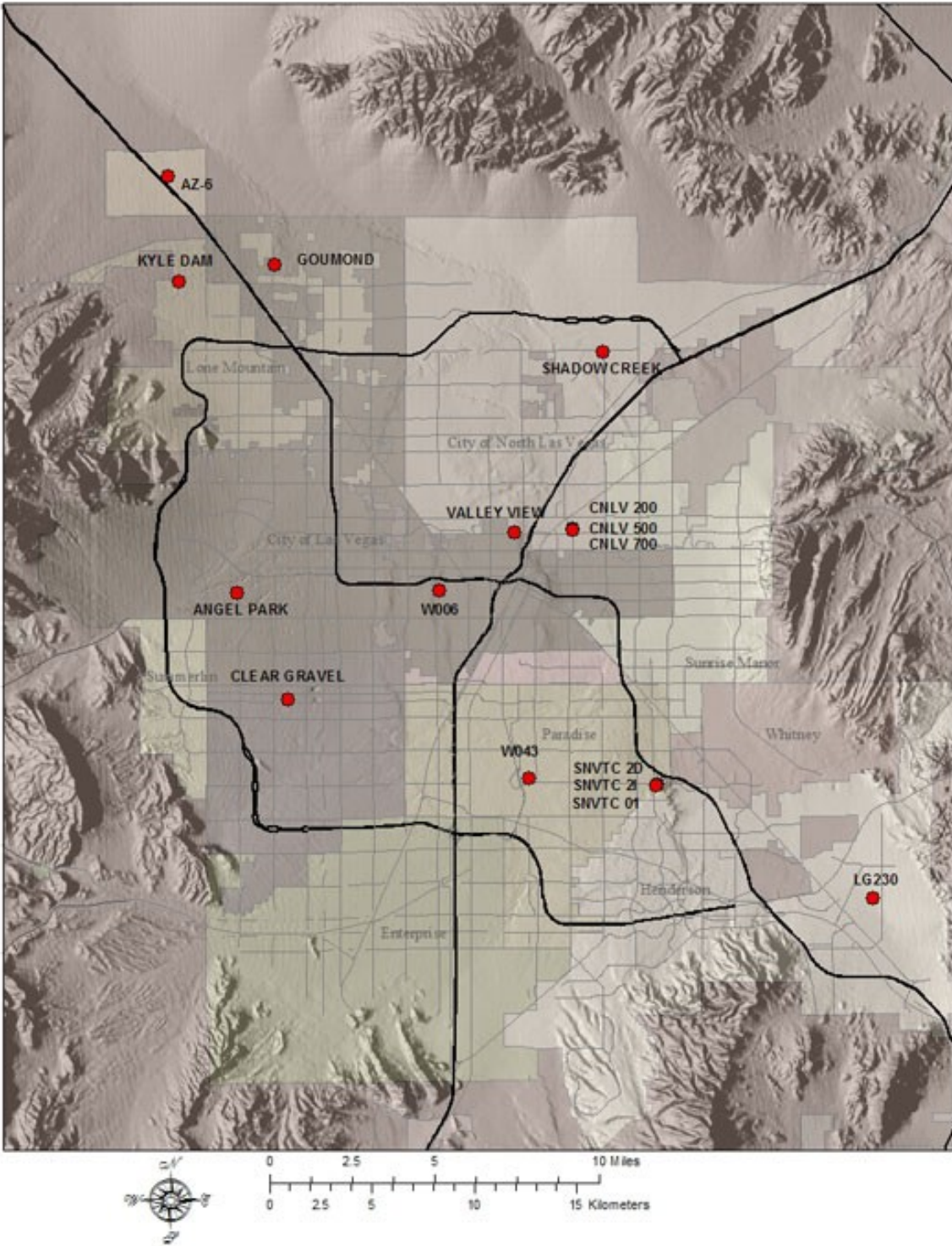
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Figure 5. Fissure Zones In The Las Vegas Area Showing Subsidence



Source: Bell, John. (2003). Las Vegas Valley: Land Subsidence and Fissuring Due to Ground-Water Withdrawal. United States Geological Survey.

Figure 6. Map of Groundwater Sources in the Las Vegas Area



Source: Source: Bell, John. (2003). Las Vegas Valley: Land Subsidence and Fissuring Due to Ground-Water Withdrawal. United States Geological Survey.