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The Impact of a Water-Imposed Interruption of Growth in the Las Vegas Region

Prepared for

Las Vegas Valley Water District

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Excerpts from pages 104 - 108:

Short Term Impacts

- X "... Imagine that in the year 2006 the Las Vegas Valley Water District announced that, due to its inability to secure alternative sources of water, the growth in the Las Vegas metropolitan area at the historical average of five percent could no longer be supported. Planned construction which has not reached the water hookup stage would be halted. Immediately, one-third of the construction projects would be stopped, and those on the drawing board scrapped. With adequate water, employment in Clark County would have increased from 752,731 in 2005 to 773,143 in 2006. With the water shortage, the REMI model predicts that employment would decline to 690,031 workers in 2006. This represents a 10.75 percent dip below what employment would have been with sufficient water..."
- X "... As expected, the decline would be instigated by reduced construction expenditures, with construction employment falling by 60.6 percent in 2006 from 48,811 (with ample water) to 17,269 (as the result of a water-shortage-induced limit to growth)..."
- X "... employment in finance, insurance, and real estate in the first year of the crisis would decline from 54,210 workers with plentiful water to 48,490 workers with a water shortage—a decrease of 10.55 percent. Retail trade would fall by fourteen percent below where it would be with plentiful water. Wholesale trade would decline by a corresponding 12.14 percent. While the decline in service employment would lag the other sectors, by 2016 service employment would be 11.71 percent below where it would have been without a water shortage. By the year 2029, service employment would be eighteen percent below where it would have been had water supplies remained adequate..."
- X "... a decline in economic growth correlates highly with increased per capita property taxes. With local government tax revenues heavily dependent on property and sales taxes and with gaming revenues retarded by aborted casino construction, the specter of a water shortage bodes ill for state and local government finances. The prospect of a government financial crisis in 2006 causes the reduction of employment by government agencies in Clark County from 84,596 with plentiful water to 79,723 in the event of a water shortage. By the year 2020, this initial 5.76 percent decline would balloon to a 20.46 percent reduction in state and local government employment."

"The employment effects of a water-induced cessation of growth would be deep and wide. Real disposable personal income-purchasing power measured in 1990 dollars--would fall \$2.7 billion below its potential in 2006. This 10.25 percent drop more than doubles to 23.2 percent by the year 2020. The income decline accompanies the reduction in real gross regional product-- the value of all goods and services produced locally also measured in 1990 dollars. In 2006, a water-induced building moratorium would reduce output 14.47 percent below potential. This gap widens to 23.87 percent by the year 2020."

"As local income and employment decline, people migrate. Out-migration would increase apartment and housing vacancies, dropping rents and diminishing property values. Because population adjustment would lag behind employment reductions, the loss of employment opportunities would increase the unemployment rate and retard real wage growth. While total employment would decline 10.75 percent in 2006, population would fall behind its potential by only 5.76 percent. The decline in population (population is predicted to fall from 1,272,700 in 2005 [Paulson notes: we're already over 1,500,000] to 1,222,180 in 2006, a four percent decline) would be divided between out-migration, and deterred in-migration."

"Instead of a projected population growth in 2007, a water shortage results in a population decline 38,907. With income falling faster than population, per capita disposable income would be 4.76 percent lower because of water-shortage-induced limits to growth. In 2006, a water shortage would cost the typical person \$983 in income; this translates into a loss of \$3,932 for a family of four."

Long Term Impacts

"An unplanned water shortage would have devastating effects on the Las Vegas Valley economy in the short term. Yet we have fashioned an essentially optimistic scenario--one that allows market forces to assuage the grimmest consequences of short sided water waste. If a water-shortage-encouraged conservation--especially with the introduction of higher water rates for residential and commercial users--some growth could be rekindled by 2010 or later. Nevertheless, construction employment would always remain below its forecast level for 2005, the year before the crisis. We forecast that the gap between construction employment with and without adequate water would peak at 69.5 percent in the year 2009..."

"Employment in transportation and public utilities--e.g., electric power, natural gas, interstate trucking--would be modestly influenced by a water shortage in 2006, falling by a mere 3.4 percent below potential. However, the gap between employment with and employment without adequate water would continue to increase for this sector until it lagged its potential by over ten percent in 2035."

"Employment in finance, insurance, and real estate--a sector that is closely tied to construction activity--would fall 10.55 percent below potential in 2006. This gap would steadily increase, nearly doubling in size to a 19.74 percent shortfall in 2035." Retail and wholesale trade are also closely associated with population. In 2006, the employment gap due to water shortage would be fourteen and twelve percent for retail and wholesale, respectively. By 2035, this gap would increase to nearly 20 and 18.44 percent, respectively."

"Many Las Vegans are employed in service jobs. Although the impact of the water shortage on the service sector would be slow to build, with small declines through the end of the decade, service employment would eventually fall more than 18.6 percent below its potential in 2035."

"When we aggregate all employment effects (see table 4.1), we find that a water shortage would cost residents of Clark County 62,700 jobs between 2005 and 2006. In addition, 20,412 jobs that would have been created from growth between 2005 and 2006 would be lost. To be sure some of these jobs would have been filled by migrants to Las Vegas; however, a substantial number would have gone to local residents. High school and college graduates and others entering the labor force would be most affected. Without new job creation and having to compete with experienced, unemployed workers, Las Vegas youth would be forced to look elsewhere for employment."

Impacts to State of Nevada

"As goes Clark County, so goes the state of Nevada. We show in Table 4.7 that a water shortage in Clark County would adversely influence the rest of the state of Nevada. A major economic disruption in Clark County—which will contain 62.1 percent of state employment and 63.3 percent of state population by 2005—would send shock waves throughout the state. A water-shortage interruption of growth in 2006 would add 56,191 persons to Nevada's unemployment rolls. Such a jump would severely strain the unemployment compensation system. Increased numbers of claimants for public assistance would be expected while tax revenue would decline sharply. The revenue shortfall would create a fiscal crisis, requiring either a sharp decline in government services or a drastic increase in tax rates, or both [Pauson notes: Gov. Kenny Guinn's billion dollar tax hike is being considered in this session of the Legislature]. By year 2015 employment by state and local governments would be 12.19 percent below its potential. This downturn would fall to a 13.35 percent gap in the year 2020. The decline in personal disposable income would be greater than the decline in employment or population, reaching 15.67 percent low in 2020. As a result, per capita income in the state of Nevada would be \$629 lower in 2006, and would decline further to a drop of nearly 4 percent per year in 2032. Thus, state per capita income would not recover for many years."
