



Sand Mountain

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1.0 Introduction and Background

Churchill became a county on November 25th, 1861. It is one of the first nine counties in the state of Nevada. The name derived from Fort Churchill, a post office in Lyon County, established on October 9, 1860. The Fort was named in honor of General Sylvester Churchill, of Vermont, a Mexican War hero Brigadier General (1783 - 1862). Churchill County covers approximately 4,913 square miles (12,725 square kilometers) and accounting for approximately 4.4 percent of Nevada's total surface area of 110,548, (286,297 square kilometers).

Churchill County is the center of honey production for Nevada. The county seat is the city of Fallon. The turn of the century brought new hope for Churchill County as it's arid desert land became the focal point for the nation's most ambitious reclamation projects - the Newlands Project of 1902, named after Senator Francis Newlands. A system of canals and dams was created diverting water to create thousands of acres of farmland. This project gave birth to Fallon, one of the few communities in the state founded entirely on farming. Fallon also started as a Post Office, July 24th, 1896, and was the fourth county seat.

At the turn of the century Fallon was a "dusty crossroads" between St. Clair and Stillwater. The local Native Americans referred to it as "Jim's Town." Jim Richards operated his store very near Mike and Eliza Fallon's ranch house and post office, which had been established in 1896.

Soon rumors flew about a project to build a dam and canal to irrigate, or "reclaim", desert lands. Following the assassination of President McKinley in 1901, longtime conservationist Theodore Roosevelt became President. He soon signed the papers which established the Reclamation Act of 1902 and a federal reclamation system began — financed from the sale of public lands. The Reclamation Act also created the United States Reclamation Service (USRS).

After this national event, Fallon's dusty crossroads would never be the same! Mike Fallon sold his ranch to Warren W. Williams, who proceeded to have the land platted and began advertising the sale of lots. Williams laid out the west side of the new town, and named the central street after his native state of Maine. Other streets like, Bailey, Allen and Taylor were named for his friends.

While Williams was busy on the west side of town, John Oats laid out and platted the east side.

In 1903, the State Senator Williams pushed through legislation that formally moved the county seat from Stillwater to the new town of Fallon. Stillwater residents were not particularly pleased with this turn of events, but ultimately conceded defeat. Construction of a courthouse for the new county seat was completed in 1903, and many Stillwater businesses moved to Fallon.

From the very beginning of the new irrigation project, Fallon grew and prospered. Work began on the Truckee River with the building of Derby Diversion Dam in June of 1903. Construction of the 36 mile long Truckee Canal was begun in 1905. La-

hontan Dam was completed in 1914, and homesteaders flocked to the area, drawn by a national USRS advertising campaign.

Fallon was officially incorporated in 1908. It was the goal of the new city to provide the finest in services to its residents. With large groups of people expected to homestead the newly reclaimed farmlands, a population of 20,000 was projected in just a few years.

Unfortunately, the scope of the original reclamation project was never fully realized and the city's population grew at a slower-than-predicted pace. But grow it did, and in 1912 Fallon residents were thrilled when electricity, generated below the Lahontan Dam, reached the city.



The 1920s were the years in which "Hearts-O-Gold" cantaloupes were grown and shipped across the nation. For almost fifteen years, Newlands Project farmers had a near monopoly on cantaloupe sales in Nevada and northern California, for their jumbo-sized melons were of unmatched flavor and quality.

Turkeys raised on Churchill County farms gained a similar national reputation during these years. It was not uncommon for farmers to raise thousands of birds every year, some of which graced the Thanksgiving table at the White House!

Alfalfa has long been one of the most stable sources of income for area farmers. The altitude and moderately warm weather produce the high-protein hay favored by the dairies and feed lots. Today, the valley's farms produce an average of five tons per acre, with over 70% of the hay shipped out of state.



Fallon became the home of the Fallon Naval Air Station in 1942. In 1959, the runway was extended to 14,000 feet, and since 1972 the base has been a full-fledged Naval Air Station specializing in pilot training.

Fallon has long been known as the "Oasis of Nevada." This phrase was first used in 1948 by the Fallon Chamber of Commerce, and has stuck with the town since that time. Fallon and its surrounding countryside are truly lush agricultural and cultural havens in the rural Nevada desert.

1.1 Purpose

This report provides a baseline description of existing conditions in Churchill County as of 2008. The report provides information on social, economic, public services and facilities, and natural resources available in Churchill County and its communities. The report will be used to measure potential changes to Churchill County as a result of the high-level nuclear waste repository at Yucca Mountain and associated transportation activities. Additionally, material presented in the following chapters represents a compilation of previous investigations by Churchill County for Yucca Mountain oversight activities such as the Churchill County Rail Impact Evaluation, 2007. The baseline report contains information about population, labor force, employment, wages, fiscal conditions, natural resources, and land uses. The Yucca Mountain draft and final environmental impact statement contained very little information about Churchill County. This report will help supplement the lack of information developed by DOE. The baseline report will be updated periodically as part of Churchill County's on-going efforts to assess potential impacts associated with the Yucca Mountain Project.

In 2006, Energy Department officials considered a Northern Nevada route, known as the Mina corridor, as a promising path to the nuclear waste repository they want to build at Yucca Mountain. The Mina route passes through northwestern Churchill County including the Hazen area. Then in April, 2007 the Walker River Tribe Paiute withdrew their previous cooperation on a railroad route through its reservation. The Tribe currently owns the underlying land for the portion of the Mina Branch line which passes through the reservation. The Walker River Paiutes faced growing pressures from their membership and from neighboring communities that were becoming increasingly vocal against the possibility of nuclear waste traveling through Northern Nevada.

"After considering the information we had gathered to date and discussions with our membership, the tribal council made the decision not to continue with the Department of Energy's process," tribal Chairwoman Genia Williams said in a statement.

DOE's attention has been refocused to the 319-mile rail corridor to Yucca that originates at Caliente in Eastern Nevada and has been characterized as the "Caliente Corridor."

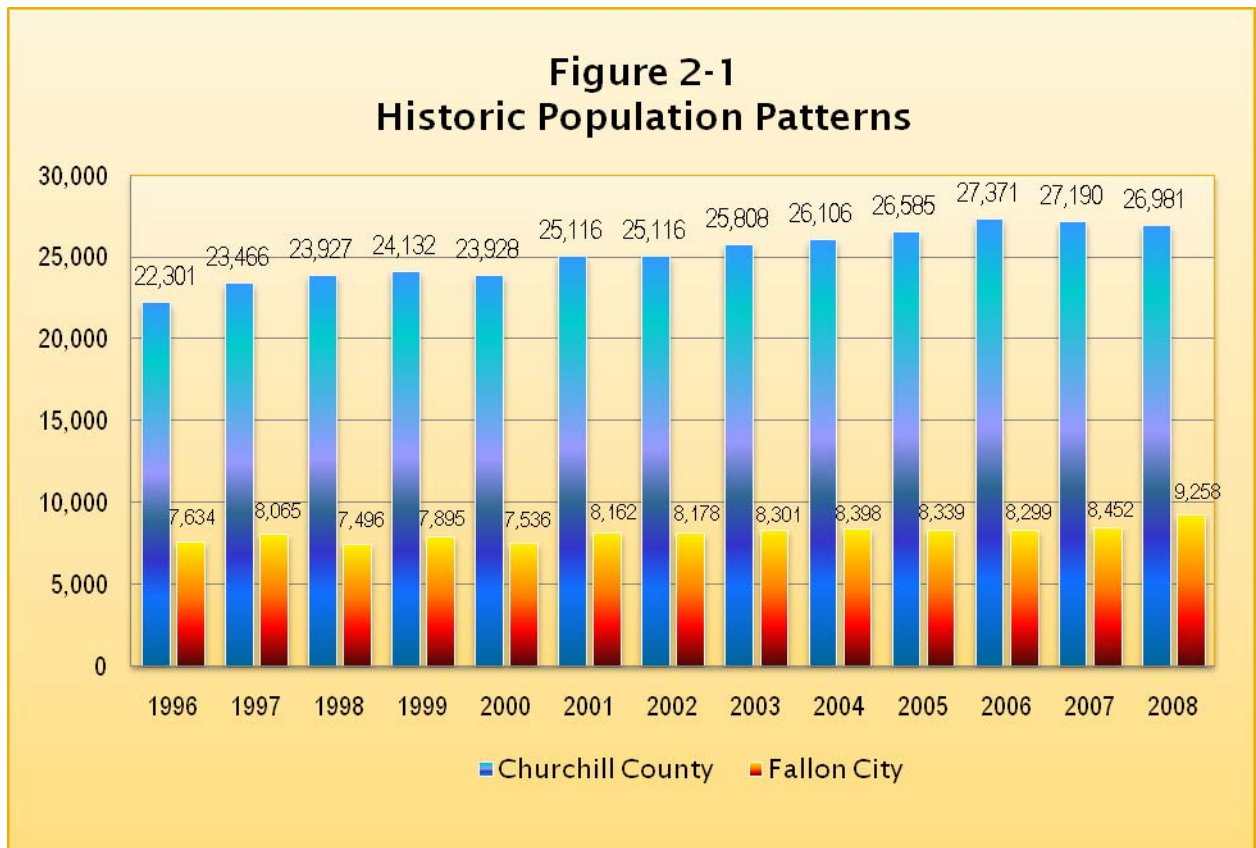
To many analysts, the east-west Caliente corridor figures to be more expensive and more challenging from an engineering and construction standpoint than the 209-mile north-south Mina route that would run along old mining town rail beds at spots. The base route under the Mina proposal, would cross Northern Nevada on a Union Pacific rail, turn south at Winnemucca, pass east of Fernley, through the growing communities of Silver Springs and Wabuska, through the Walker River reservation and to Hawthorne. Rail improvements and construction would proceed to Mina and near or through Tonopah and Goldfield, and south to the repository site near Amargosa Valley.

Nevada officials have stressed that nuclear waste from California likely would travel through Reno and Sparks, which sparked growing opposition locally.

2.0 Social and Economic Characteristics

2.1 Population and Growth in Churchill County

In 2000, the Churchill County population was 23,982 accounting for 1.2% of Nevada's total population of 1,998,257. Figure 2-1 shows historic population growth patterns for Churchill County and the City of Fallon. In 2008, the Churchill County population was 26,981, a slight decline from 2007 (Nevada State Demographer).



Source: US Census Bureau 2000, Nevada State Demographer

Table 2-1 contains the most recent forecast for Churchill County. The population forecast in Table 2-1 may be conservative given more recent growth occurring along the U.S. Highway 50 Corridor from Fernley, Nevada to Fallon. Since 2000, population growth has been accelerating in Churchill County and throughout areas adjacent to the U.S. 50 corridor. The community of Fernley, for example, has experienced rapid growth. From 2000 to 2003, the community of Fernley grew by 37 percent to 11,718 in 2003 according to the Nevada State Demographer's office.

**Table 2-1
Population Forecast for State of Nevada, Churchill County and Fallon**

Area	2008 Est.	2010	2015
State	2,623,050	2,806,940	3,125,677
County	27,962	28,673	29,949
Fallon	9,647	9,892	10,332
3% Population Forecast			
County	26,851	28,624	33,183
Fallon	9,258	9,818	11,386

Source: Nevada State Demographer Population Projections 2008-2028, Churchill County Water Resources Plan

Much of the growth in the Fernley area is occurring adjacent to the U.S. Highway 50 corridor. This growth is residential development as well as industrial growth in the Fernley business park. Currently, the City of Fernley has a population over 18,850 (Nevada State Demographer, 2006) with approximately 7,500 approved but not built residential lots and an additional 7,500 residential lots in the approval process. Combined the Fernley area population could exceed 51,000 by the time Yucca Mountain shipments are scheduled to begin. Nearly all the growth in the Fernley area will take place near major transportation corridors (U.S. 50) extending east toward Churchill County.

In Churchill County, most of the new growth including commercial/retail sites, industrial development and higher density residential development is expected to occur west of the City of Fallon within 1 mile of either side of the highway corridor. More recent population forecasts developed for the Yucca Mountain Transportation Impact Report shows population by segments along U.S. Highway 50 (See Table 2-2).

Both the Fernley area and Churchill County are experiencing very rapid increases in population. New business relocation, retiree migration and lower housing costs are driving the new surge in growth. As of the fall of 2005 almost 30 new subdivisions are under construction between Fallon and Fernley. More recently, a new master planned community and light industrial office commercial development has been proposed for the Hazen area. Mathews Ranch will consist of 2,200 homes and 1,920 acres of industrial and office commercial development. Undeveloped areas, which had maintained a rural atmosphere and low population density along U.S. Highway 50, are changing rapidly. The housing market collapse is having a material impact on growth. Many proposed subdivisions and residential developments remain idle through 2007 and 2008. Continued employment growth in the region will ultimately drive future population gains in the near future.

**Table 2-2
Population by Segments Along U.S. Highway 50 in Churchill County**

	2004			2010-2015			2015-2020		
	Housing Units	Pop.	Pop. Density	Housing	Pop.	Pop. Density	Housing Units	Pop.	Pop. Density
Total									
Corridor-1/2 mile	3,760	9,067	449	7,653	19,254	953	10,640	26,963	1,335
Corridor-1 mile	2,695	6,604	327	4,895	12,741	631	6,729	17,515	867
Corridor-North 1/2 mile	2,257	5,420	537	4,110	10,031	993	5,422	13,382	1,325
Corridor-North Mile	1,937	4,645	460	3,204	8,339	826	4,469	11,633	1,152
Corridor-South 1/2 Mile	1,503	3,644	361	3,543	9,223	913	5,217	13,581	1,345
Corridor-South 1 mile	758	1,959	194	1,691	4,402	436	2,259	5,881	582
Corridor North	4,194	10,065	498	7,313	18,370	909	9,892	25,016	1,238
Corridor South	2,261	5,603	277	5,234	13,625	674	7,477	19,462	963
Total	6,455	15,668	388	12,548	31,995	792	17,368	44,478	1,101

Source: Yucca Mountain Transportation Baseline Report, 2004

Table 2-3 contains a comparison of population characteristics between Churchill County and the State of Nevada from 1990 to 2000. Overall, Churchill County remains consistent with the State of Nevada in terms of population comparisons.

Table 2-4 shows a comparison of age distribution between Churchill County and the United States for 2000. Overall the population in Churchill County is very similar to the rest of the United States.

**Table 2-3
Population Estimates for Nevada, Churchill and Fallon by age distribution**

Area	Churchill County 1990	City of Fallon 1990	State of Nevada 1990	Churchill County 2000	City of Fallon 2000	State of Nevada 2000
Population Esti-	17,938	6,432	1,201,833	23,936	8,190	1,998,275
% Pop. 0 – 4 yrs	8.4%	8.7%	7.7%	8.0%	8.5%	8.1%
% Pop. Under 18	28.2%	26.8%	24.7%	20.0%	31.6%	26.4%
% Pop. 18 – 24 yrs	9.0%	10.0%	9.9%	8.3%	7.1%	9.0%
% Pop. 25 – 44 yrs	31.1%	31.8%	34.5%	29.8%	15.0%	31.5%
% Pop. 45 – 64 yrs	18.9%	16.0%	20.3%	22.7%	14.8%	23.0%
% Pop. 65 and over	12.8%	15.4%	10.6%	13.3%	12.2%	11.0%
% Pop. 85 and over	2.4%	3.5%	1.6%	6.1%	2.8%	2.2%
Median age	32.9	32.3	33.3	35.9	34.5	35

Source: US Census Bureau 2002

**Table 2-4
Population for Churchill County & the United States by Age, Yr 2000**

Geographic Area	Total Population	Percent of Total Population					Median Age
		Under 18 years	18 to 24 years	25 to 44 years	45 to 64 years	65 years and over	
U.S	281,421,906	25.7%	9.7%	30.2%	22.0%	12.4%	35.3
Churchill County	23,982	28.9%	8.1%	28.7%	22.3%	11.9%	34.7

Source: US Census Bureau 2002

2.2 Economic Activity

2.2.1 Labor Force and Unemployment

Table 2-5 shows the employment status in Churchill County over the last 9 years. Although total employment in the County has remained relatively constant, many residents travel to areas just outside the County for employment, most notably the Fernley Industrial Area.

**Table 2-5
Employment Status: 2000-2008**

Population 16 years and over	2000	2001	2002	2003	2004	2005	2006	2007	2008
Labor Force	11,990	11,830	12,290	12,160	12,120	12,420	13,030	13,323	13,433
Total Employment	11,240	11,070	11,650	11,506	11,560	11,900	12,450	12,706	12,621
Unemployed	750	760	640	600	560	520	580	617	812
Unemployment Rate	6.2%	6.4%	5.3%	4.3%	4.6%	4.2%	4.5%	4.6%	6.0%

Source: Nevada Employment Security Department

Table 2-6 shows the migration to work patterns for Churchill County in 2000. As shown in the Table 2-6, the majority of workers commute to neighboring Lyon County (Fernley industrial area) and Washoe County. New industrial development sites are also slated for western Churchill County in Hazen (See land use section). The development of new industrial sites at Hazen will contribute to future employment and population growth in Churchill County. Most of this development will occur adjacent to the U.S. Highway 50 corridor. The majority of the workforce commutes daily on U.S. 50 or U.S. 50A.

Table 2-6 Migration of Workers Residing in Churchill County but work elsewhere, Yr 2000	
Churchill	9,270
Douglas	64
Lyon	663
Mineral	53
Pershing	145
Washoe	504
Carson City	95
Other areas in Nevada	31
Areas Outside Nevada	144

Source: 2000 Census

Table 2-7 shows employment by type of industry. Employment opportunities in Churchill County are fairly well diversified across different industrial sectors.

Table 2-7 Industrial Employment by Type of Industry: Churchill County 2008		
INDUSTRY	Employment	Percent
Natural Resources and Mining	290	3.0%
Construction	780	9.1%
Manufacturing	440	5.1%
Trade, Transportation and Utilities	1,820	21.3%
Information	110	1.28%
Financial Activities	310	3.6%
Professional and Business Services	950	10.0%
Educational and Health Services	940	11.0%
Leisure and Hospitality	1,060	12.15%
Other Services	180	2.0%
Government	1,840*	21.5%
Total	8,540	100.0

*includes contract employees at Fallon NAS.

Source: Nevada Department of Employment, Training and Rehabilitation.

Future increases in employment in Churchill County are likely to occur in manufacturing, construction, trade and services.

Major Churchill County Employers

Major local employers in Churchill County include manufacturers, government (local and federal), Churchill Communications, health care (Churchill Banner Hospital), and agriculture. The U.S. Department of Defense with the operation of the Fallon Naval Air Station maintains a significant military and contractor workforce. Major employers in Churchill County are shown in Table 2-8.

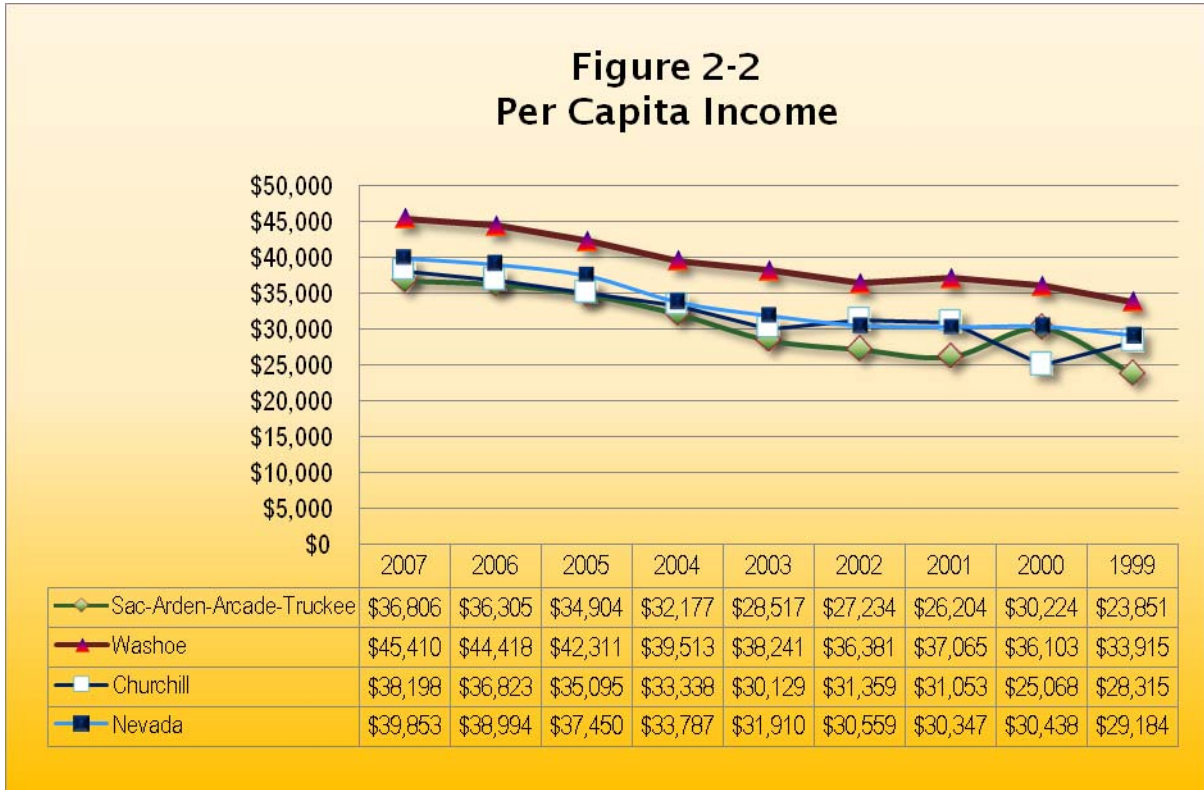
2.2.2 Wages and Income

Table 2-9 shows Churchill County wages as compared to those in the State of Nevada. One important difference in the wage levels is the service component. In Churchill County the wage levels in the service sector are influenced by support contractors operating at the Fallon Naval Air Station. Wage levels in other industrial sectors tend to be just below those reported for the State. The wage levels in various sectors of the local economy contribute to the level of income.

Employer	Employees
Churchill County School District	700 – 799
Banner Health Systems	300 – 399
Department of Defense Naval Air Station	200 – 299
L3 Comm/Vertex Aerospace	200 – 299
Wal-Mart	200 – 299
A&K Earthmovers	100 – 199
Churchill County	100 – 199
TIC The Industrial Company	200 – 299
LM Support Inc.	100 – 199
Chugach Support Inc.	100 – 199
Kennametal Inc.	100 – 199
State of Nevada	100 – 199
Sikorsky Support Services, Inc.	100 – 199
Northrop Grumman	100 – 199
Del-Jenn Inc.	100 – 199
CC Communications	100 – 199

Industry	Churchill County			State of Nevada		
	Avg. Emp	% of Total	Wages	Avg. Emp	% of Total	Wages
Total	8,702	100.0%	\$726	1,252,942	100.0%	\$827
Natural Resources/Mining	292	3.3%	\$510	14,613	1.2%	\$1,333
Construction	777	7.4%	\$923	116,470	9.3%	\$1,108
Manufacturing	435	5.4%	\$864	48,083	3.8%	\$956
Trade, Transportation, Information	1,970	23.8%	\$718	238,241	19.0%	\$708
Financial Activities	208	2.6%	\$843	16,133	1.3%	\$1,014
Professional Services	322	3.9%	\$547	61,666	4.9%	\$944
Education and Health Serv.	992	10.9%	\$911	152,634	12.2%	\$1,019
Leisure and Hospitality	1,699	19.6%	\$762	175,206	14.0%	\$893
Other Services	1,073	12.7%	\$296	334,534	26.7%	\$577
Government	177	1.9%	\$432	29,134	2.3%	\$603
	758	8.5%	\$939	64,846	5.2%	\$1,138

Figure 2-2 shows a comparison in per capita income between Nevada, Churchill County, and the Sacramento to Truckee Region from 1999 to 2007.



Source: U.S. Department of Commerce, Bureau of Labor Statistics

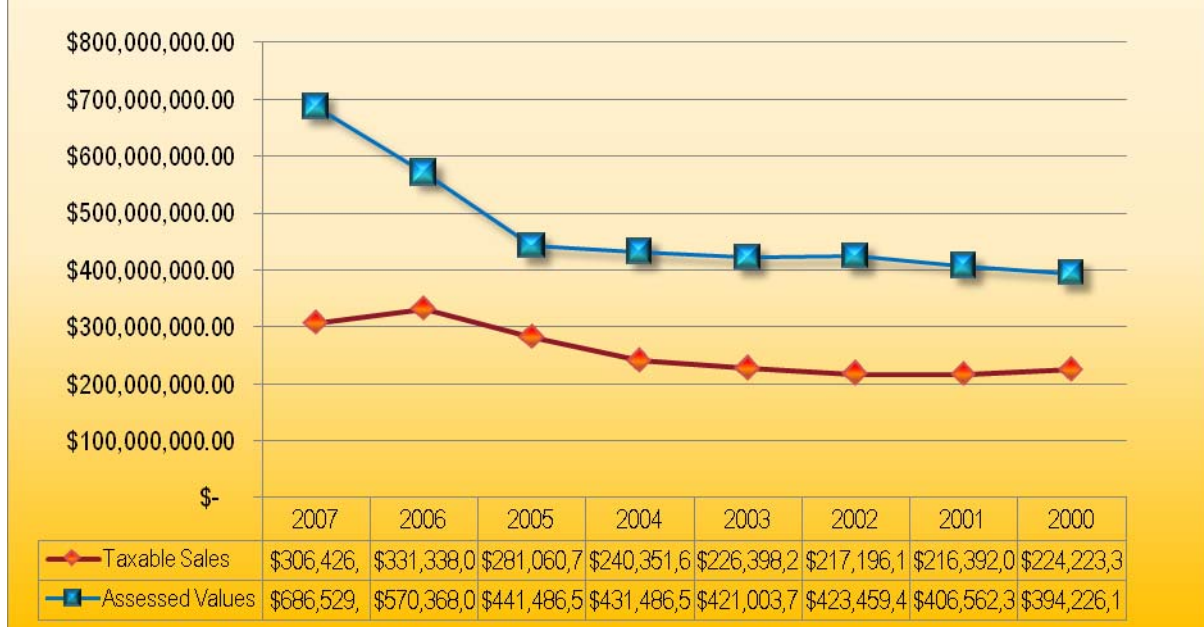
Per capita income for Churchill County remains below the overall State level.

The average service sector wage in Churchill County is substantially higher in Churchill County as compared to the State of Nevada. This difference is due to the federal private contractors performing support services at the Fallon Naval Air Station.

2.2.3 Taxable Sales and Assessed Value

In 2006 Churchill County taxable sales increased to an all time high of \$332 million. The following year taxable sales fell to \$294 million before rebounding to \$321 million by the end of fiscal year 2008-09 (Figure 2-3). The increase in taxable sales in Churchill County is due to improved and stable economic conditions in Churchill County where the unemployment rate lies significantly below the State's average.

**Figure 2-3
Churchill County FY Taxable Sales and Assessed Values**



Source: Nevada Department of Taxation & Churchill County Comptroller

2.2.4 Tourism/Visitation to Churchill County

The Churchill County area attracts visitor to the area for a variety of activities. Fallon is called the "Oasis of Nevada" and is surrounded by farms and ranches, and the Lahontan Valley Wetlands. Fallon offers many outdoor and year round l events including a summer farmer's market and the Hearts of Gold Cantaloupe Festival. The Navy's TOP GUN School is located here. And Fallon is a destination for meetings and small conventions. This section describes the major events and types of recreation for visitors.

A portion of Churchill County visitors attend special events in the Fallon area each year (Table 2-10). It is important to make this distinction because visitors who attend special events tend to spend more and stay longer as compared to overnight travelers passing through the area. The attendance figures in Table 2-10 include local residents and non-local visitors.

**Table 2-10
Fallon Major Special Events: 2008**

Churchill Arts Council Season	15,000
Desert Oasis Mule & Donkey Show*	5,000
Desert Oasis Music Festival & World Fast Draw Championship*	1,000
Donnie Waters Classic (Formerly Big 4 & 5)	900
Fallon Farmers Market	15,000
Fallon High School Rodeo	500
Fallon Senior Pro Rodeo	2,000
Fallon Stock Horse Spectacular	1,000
Fallon Trap Club Season*	1,200
Hearts of Gold Cantaloupe Festival	14,000
Hurricam's Car Show*	750
Nevada Motocross Championship	1,500
No Hill 100 Bike Tour	350
Octane Fest Motor Sports Festival*	8,662
Overland Hotel Chili Cook-off	500
Rainbow Ridge Mtn. Bike Challenge	250
Rattlesnake Raceway Season	10,000
Silver State International Rodeo	2,500
Spring Wings	1,000
Top Gun Drag Racing Season	27,500
Western States Roping & Barrel Races*	600
Total Attendance	109,212
* <i>New Event</i>	

Source: Fallon Convention and Tourism Authority – 2008

▪ **Conventions Hosted in Fallon**

This year the Fallon area hosted 7 conventions throughout the year over 21 one days with over 235 delegates and conventioners' stay in the local hotels either at the Holiday Express, the Best Western or the Comfort Inn.

- **Stillwater National Wildlife Refuge**

The Stillwater National Wildlife Refuge reported a total of 21,163 total visitors for the year 2006 (which also included the Stillwater Management Area). Hunters were counted at 4,010 which could be some of the same person counted twice on one day (coming in the AM, leaving and coming back during the PM). For the year 2007 the BLM is reporting a much lower number approximately 6,300 visitors stating they have changed their method of counting (Annual Performance Report). Although the hunter count was approximately 3,560 this is still relatively close to the 2006 visitor count.



- **Sand Mountain**

The sand dunes at Sand Mountain cover 4,795 acres of recreation area. Many people visiting the area also take time to explore the historic 1860 Pony Express station and Springs Desert Study Area. Estimates of Sand Mountain recreation use vary significantly, but Sand Mountain is one of BLM's most well used recreation sites. Recent visitor counts are much lower than in previous years with an approximate 8,000 to 10,000 visitors with an expected annual growth to only 4%. BLM offices stated fuel cost is most likely influencing the lower number of visitors.

- **Lahontan Reservoir**

Lahontan Reservoir and State Park is second most used facility in the Nevada system. In 2005 there were 365,333 visitors and through August, 2006 the count was at 318,801 visitors who utilize the reservoir for water sports, fishing, camping and day use. Competitive water sports functions are also held at the reservoir. Visitation will vary with water levels in the reservoir and warm weather. In 2007 the number of visitors has reduced slightly to 308,014 likely due to rising fuel costs.

RV Park Visitor

There are two RV parks located adjacent to the Highway Corridor. Occupancy can vary depending on the time of year. U.S. 50/95 serves as a north/south migration route for snowbirds. On average the total number of RV's in the parks is likely to range from 40 to 70 per day. Total annual RV space use could be between 14,600 and 25,500. With an average of 2 persons per RV rental would result in 29,200 to 51,000 overnight RV occupants.

Hotel/Motel Overnight Visitors

There are approximately 543 motel rooms in Churchill County. Overall occupancy rates fluctuate throughout the year with the average occupancy at approximately

47% for the year resulting in as many as 92,350 annual room nights. The occupancy rate is likely to rise and fall depending upon general economic conditions; however tourism continues to show a marked increase. The average number of persons per room is assumed to be 2 based upon visitor registration information collected from local motels. The total number of estimated overnight motel visitor's in Churchill County is 189,544, annually.

2.0 Transportation, Land Use, Water Resources and Public Facilities

3.1 Transportation

3.1.1 Corridor and Facility Description

- US 50

U.S. Highway 50 is a four-lane highway with two lanes in each direction east and west of Allen Road. The speed limit is posted for 45 miles per hour west of Casey Road, 35 miles per hour from Casey Road to Whitaker Lane and 25 miles per hour east of Whitaker Lane. Roadway improvements include paved shoulders, a center two-way left turn lane and a mix of graded shoulders, curb and gutter, and curb, gutter and sidewalk.



3.1.2 Baseline Traffic Volumes

Existing traffic count data for U.S. 50 corridor was obtained from NDOT's Annual Traffic Report and is detailed in Table 3-1 below. NDOT has permanent count locations that track historical traffic data. Most of the historical traffic is for a 10-year period. Supplemental counts were gathered during the month of July 2004 and consisted of a.m. and p.m. peak hour traffic and 24-hour daily traffic counts. Vehicle classification and speed data was also gathered at each of the supplemental 24-hour daily traffic count locations (see Table 3-2). Table 3-3 shows peak hour traffic data at major intersection along the corridor.

**Table 3-1
NDOT Traffic Count Data**

NDOT Count Location	NDOT Counter Number	Historical AADT (Year)		Annual Average Increase (%)
Allen Rd - 0.1 mi N of SR-117 (Sheckler Rd)	0002	4,050 (1999)	4,650 (2006)	1.91
US-50 - 0.4 mi E of the jct of US-50 & US-50A	0003	6,150 (1993)	10,200 (2006)	5.49
US-50A - 0.5 mi W of the jct of US-50	0004	4,420 (1993)	7,300 (2004)	5.41
US-50 - 0.2 mi W of SR-117 (Sheckler Rd)	0005	6,750 (1993)	11,100 (2006)	5.36
SR-117 (Sheckler Rd) - 0.1 mi S of US-50	0006	1,250 (1993)	2,100 (2006)	5.67
US-50 - 0.1 mi E of SR-117 (Sheckler Rd)	0007	7,200 (1993)	11,000 (2006)	4.51
US-50 - 300' W of SR-715 (McLean Rd)	0008	8,900 (1993)	15,000 (2006)	5.81
SR-723 (Soda Lake Rd) - 0.1 mi N of US-50	0009	1,320 (1993)	2,500 (2006)	5.01
US-50 -100' E of SR-715 (McLean Rd)	0010	9,300 (1993)	14,900(2006)	5.01
SR-715 (McLean Rd) - 301' S of US-50	0011	1,410 (1993)	2,350 (2006)	5.55
US-50 - 0.1 mi E of Gummow Rd US-50	0012	11,600 (1993)	18,800 (2006)	5.17
Williams Ave -250' E of US-95 (S Taylor St)	0015	13,500 (1993)	16,900 (2006)	2.10
US-95 (S Taylor St) -150' S of US-50 (Williams Ave)	0016	9,000 (1993)	9,500 (2006)	0.5
US-95 (S Taylor St) - 0.2 mi N of SR-117 (Sheckler Rd)	0053	6,520 (1993)	7,050 (2006)	0.01
US-95 - 0.3 mi S of SR-117 (Sheckler Rd)	0074	5,110 (1993)	4,950 (2006)	1.22
US-50 (Williams Ave) - 0.1 mi E of Allen Rd	0126	16,300 (1993)	23,100 (2006)	2.36
N Taylor St - 340' N of US-50 (Williams Ave)	0134	4,700 (1999)	4,400 (2006)	-6.03

Source: Lumos & Associates, 2006

**Table 3-2
Supplemental Traffic Count Data, 24-Hour Road Segment Counts**

Road Segment Count Location	ADT (2004)	85 th Percentile Speed (mph)	Truck Percentage
Allen Road - 200 Yards South of US 50 – 7/21/04	5,967	32	12.1
Bottom Road -300 Yards South of US 50 – 7/14/04	1,960	43	9.4
Casey Road - 300 Yards South of US 50 – 7/14/04	1,011	42	8.0
Coleman Road - 200 Yards North of US 50 – 7/28/04	1,323	44	11.1
Gummow Drive - 300 Yards North of US 50	2,400	30	2.0
Rice Road - 200 Yards West of US 95 – 7/28/04	2,021	41	7.1
Sheckler Road - 200 Yards South of US 95 – 7/21/04	4,937	45	13.0

= Data adjusted or estimated by NDOT.

3.1.3 Accident Data

Accident data was requested from NDOT and made available for the three-year period of October 2000 through October 2003. Two types of accident data formats were requested. The first type is road traffic count the second is road segment accident data shown in Table 3-4.

3.1.4 Corridor Travel Times

Table 3-5 contains a travel time study. The study estimates the total corridor transit times from the Churchill/Lyon County line to a point just south of the City of Fallon on U.S. 95. The study indicates that total travel time is about 24 minutes for the 19.2 miles of corridor.



**Table 3-3
Supplemental Traffic Count Data, Peak Hour Intersection Counts**

Intersection Location	A.M. Peak Hour (total intersection volume)	P.M. Peak Hour (total intersection volume)
Allen Road / US 50	1,343	1,955
Bottom Road / US 50	1,151	1,552
Casey Road / Coleman Road	1,114	1,714
Gummow Drive / US 50	977	1,568
McLean Road / US 50	901	1,256
Sheckler Road / Robertson Road	874	1,135
Soda Lake Road / US 50	833	1,193
Tedford Road / US 50	1,472	2,306
US 95 / US 50	1,314	1,020
US 95 (Maine Street) / US 50 (Williams Road)	1,020	1,661
US 95 (Schurz Road) / Sheckler Road	662	928
US 95 (Taylor Road) / US 50 (Williams Road)	1,314	2,164
Whitaker Road / US 50	1,214	1,918

York Lane / US 50	898	1,317
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Source: Lumos & Associates, 2004

Table 3-4 US 50 Accident Data, October 2000 through October 2003								
US 50 Road Segment Accidents		Injuries		Fatalities		Property Damage Only		Total Severity Index
		# Inj.	Severity Index	# Fat.	Severity Index	# PDO	Severity Index	
Lyon Co. to Hazen	2.3 mi.	8	24	3	24	2	2	50
Hazen to US50A/50	6.9 mi.	16	48	2	16	12	12	76
US 50A/50 to Sheckler	3.9 mi.	30	90	3	24	38	38	152
Sheckler to McLean Rd	1.2 mi.	34	102	1	8	18	18	128
McLean Rd to Bottom/Casey Rd	2.4 mi.	26	78	2	16	35	35	129
Bottom/Casey Rd to Allen Road	0.5 mi.	14	42	0	0	44	44	86
Allen Rd to S. Taylor St	1.0 mi.	32	96	0	0	105	105	201
S. Taylor St. (Sheckler to US50)	1.0 mi.	14	42	0	0	42	42	84
US 50A/US 50		0	0	0	0	2	2	2
US50 at Sheckler Cutoff		4	12	0	0	3	3	15
US 50 at Soda Lake Road		12	36	0	0	3	3	39
US 50 at McLean Road		14	42	0	0	1	1	43
US 50 at Allen Road		13	39	0	0	36	36	75
US 50 at S. Taylor St		10	30	0	0	23	23	53
S. Taylor St. at Sheckler		0	0	0	0	5	5	5

Source: NDOT 2003

Table 3-5 - Travel Time Study			
First Trial			
Boundary	Time (a.m.)	Distance	Posted Speed
Rte 50A near Hazen at Churchill County Line	6:09		65
Rte 50/50A Intersection	6:18	9.2 mi.	55
Rte. 50 at Sheckler cut-off	6:23	3.9 mi.	55
Rte. 50 at McLean Rd.	6:24	1.2 mi.	55/45
Boundary	Time (a.m.)	Distance	Posted Speed
Rte. 50 at Casey/Bottom/Coleman	6:27	2.4 mi.	45
Rte. 50 at Allen Rd.	6:28	0.5 mi.	35
Rte. 50 at S. Taylor Street	6:30	1.0 mi.	25/35
S. Taylor Street at Sheckler Rd.	6:33	1.0 mi.	25
Total	24 min	19.2 mi.	
Second Trial			
S. Taylor Street at Sheckler Rd.	6:34		25
Rte. 50 at S. Taylor Street	6:36	1.0 mi.	25/35

Continued next page

Rte. 50 at Allen Rd.	6:38	1.0 mi.	35
Rte. 50 at Casey/Bottom/Coleman	6:39	0.5 mi.	45
Rte. 50 at McLean Rd.	6:42	2.4 mi.	45/55
Rte. 50 at Sheckler cut-off	6:44	1.2 mi.	55
Rte 50/50A Intersection	6:48	3.9 mi.	55
Rte 50A near Hazen at Churchill County Line	6:58	9.2 mi.	65
Total	24 min	19.2 mi.	
Third Trial			
Rte 50A near Hazen at Churchill County Line	7:01		65
Rte 50/50A Intersection	7:10	9.2 mi.	55
Rte. 50 at Sheckler cut-off	7:15	3.9 mi.	55
Rte. 50 at McLean Rd.	7:16	1.2 mi.	55/45
Rte. 50 at Casey/Bottom/Coleman	7:19	2.4 mi.	45
Rte. 50 at Allen Rd.	7:20	0.5 mi.	35
Rte. 50 at S. Taylor Street	7:23	1.0 mi.	25/35
S. Taylor Street at Sheckler Rd.	7:25	1.0 mi.	25
Total	24 min	19.2 mi.	
Fourth Trail			
Boundary	Time (a.m.)	Distance	Posted Speed
S. Taylor Street at Sheckler Rd.	7:28		25
Rte. 50 at S. Taylor Street	7:32	1.0 mi.	25/35
Rte. 50 at Allen Rd.	7:33	1.0 mi.	35
Rte. 50 at Casey/Bottom/Coleman	7:34	0.5 mi.	45
Rte. 50 at McLean Rd.	7:37	2.4 mi.	45/55
Rte. 50 at Sheckler cut-off	7:39	1.2 mi.	55
Rte 50/50A Intersection	7:43	3.9 mi.	55
Rte 50A near Hazen at Churchill County Line	7:52	9.2 mi.	65
Total	24 min	19.2 mi.	Posted Speed
Fifth Trial			
Rte 50A near Hazen at Churchill County Line	7:56		65
Rte 50/50A Intersection	8:05	9.2 mi.	55
Rte. 50 at Sheckler cut-off	8:10	3.9 mi.	55
Rte. 50 at McLean Rd.	8:11	1.2 mi.	55/45
Rte. 50 at Casey/Bottom/Coleman	8:14	2.4 mi.	45
Rte. 50 at Allen Rd.	8:15	0.5 mi.	35
Rte. 50 at S. Taylor Street	8:17	1.0 mi.	25/35
S. Taylor Street at Sheckler Rd.	8:19	1.0 mi.	25
Total	24 min	19.2 mi.	

Source: Lumos & Associates 2004

3.2 Lands

Similar to most Nevada communities, the federal government controls over 82 percent of the land in Churchill County. Approximately 13 percent of the land in the County is on the tax roll. Data in the following table is current as of March 2003.

Over the next several years the total amount of BLM land will likely decline. The BLM is preparing a new resource management plan for Churchill County. One of the key elements is to provide for the disposal of public lands primary west of the City of Fallon. As a result, all of the lands in and around the U.S. 50 corridor and the U.S. 95 corridor will be privately owned. Nearly all of the lands along the corridor from Fernley to Fallon and south of Fallon on U.S. 95 are privately owned.

Land Area	Acres	Percent of County
Federal	2,705,841	86%
BLM	2,608,958	83%
Bureau of Reclamation	8,347	.27%
Military and Other	13,817	.44%
US Government (Including Postal)	45,620	1.45%
Tribal	50,890	1.62%
State	8,113	.25%
Local Government	35,349	1.12%
TCID	4,275	.14%
Private Lands	423,346	13.46%
Total County	3,144,320	

Source: Churchill County Master Plan 2003.

3.2.1 Corridor Land Use

Existing Land Use: Fallon to Leetville Junction

Lands along the highway corridor from Fallon to the Leetville junction are privately owned. There are a variety of land uses including residential, commercial, agricultural and industrial throughout the corridor. Residential along with commercial land uses dominate the corridor within the City of Fallon and immediately to the south and west. The County's principal commercial activity is adjacent to the U.S. 50 and U.S. 95 corridor. The majority of the population lives within 1 mile of either side of the highway corridor. Commercial land uses along the U.S. 50 corridor extends several miles to the west of the City of Fallon. Open space agricultural lands are being converted to more intensive residential and commercial use. Recent efforts by Churchill County to develop municipal water and wastewater utility will result in more intensive commercial and residential land uses resulting in higher density development along the U.S. 50 corridor. Some industrial land uses occur in the Trento

Lane area associated with two existing manufacturers who are major employers in Churchill County.

By the time Yucca Mountain shipments are scheduled to begin (after 2010), the U.S. 50 corridor will probably experience significant development between the City of Fallon to Leetville Junction at Hazen. Figure A-1 Appendix A shows the location of proposed developments in Churchill County.

Hazen Area Land Use and Zoning

Much of the current land use from Leetville Junction to the County line is open space undeveloped, agricultural lands and very low density residential development. However, major changes are planned for this area with the proposal for an industrial park and major residential subdivision of approximately 2,500 homes east and north of Hazen. This new development will occur adjacent to the U.S. Highway 50 corridor. Hazen Townsite is also located adjacent to the highway.

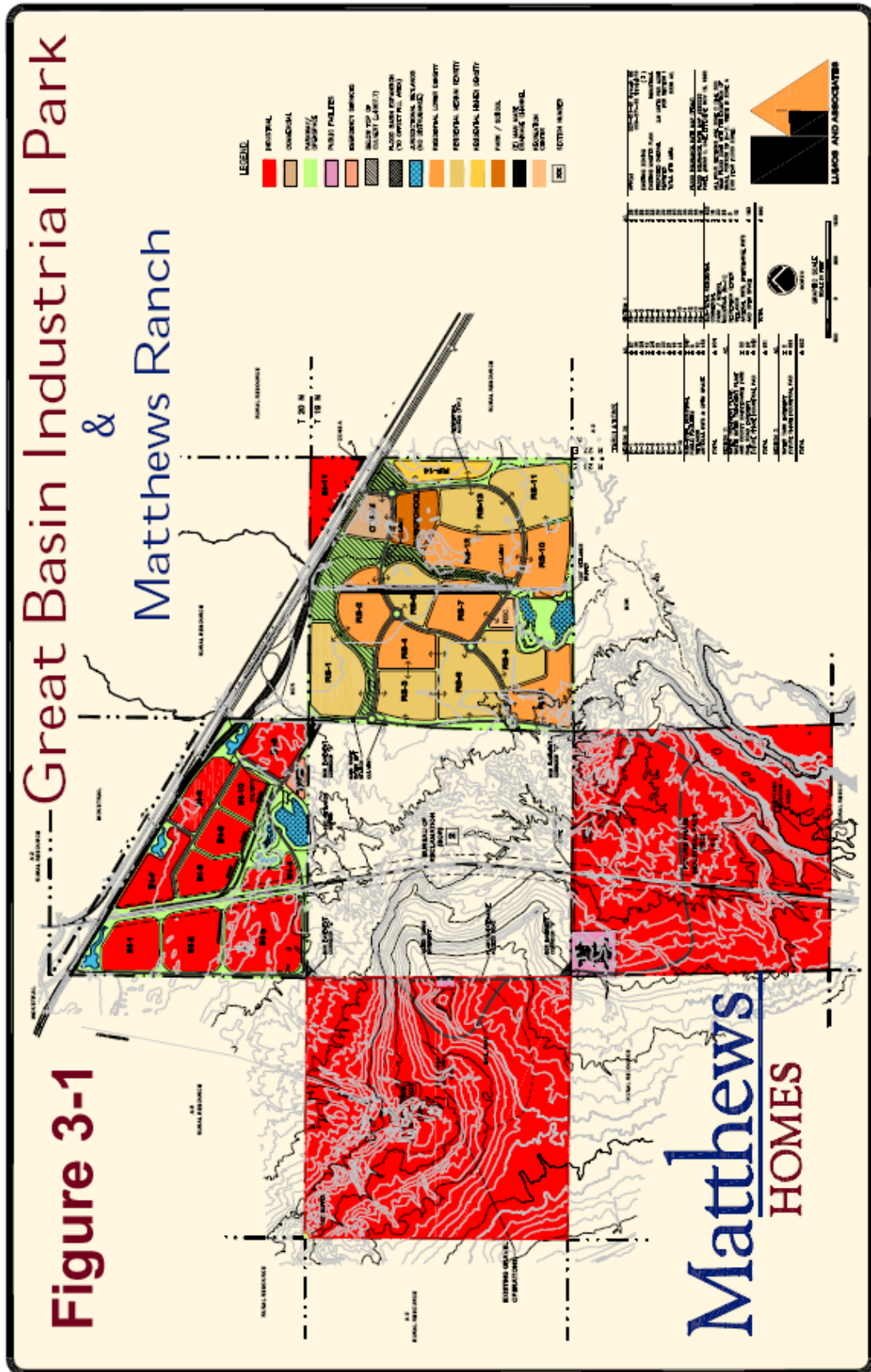
Matthews Homes (“Matthews”) owns four sections of land in unincorporated Churchill County (“County”), Sections 1, 3 and 11 in Township 19 N. Range 26 E. and Section 35 in Township 20 N. Range 26 E. totaling 2338 acres. Matthews is seeking to develop all four sections as an industrial planned unit development (“PUD”). At final build out, the development will have 2200 residential units, 15 acres of commercial development, 20 acres for a school and park site, 25 acres of public facilities (water treatment and wastewater treatment plants, emergency services and vehicle maintenance facility) and approximately 1600 acres of industrial development. The overall project is known as *Great Basin Industrial Park and Matthews Ranch*. Matthews received County approval for the PUD in June 2006 and intends to start grading the overall site in June 2007 (Figure 3-1 – Great Basin Industrial Park and Matthews Homes).

Matthews will construct Sections 1 (mixed-use) and 35 (industrial) first. Section 1 consists of the residential units, park and school site, recreation center and commercial area. Matthews anticipates 300,000 square feet of commercial space to be utilized for general office and retail uses. Total square footage for the school and recreation center has not been determined. Matthews anticipates Section 35 having approximately 4.9 million square feet of industrial buildings and the emergency services facility.

Great Basin Industrial Park

& Matthews Ranch

Figure 3-1



The emergency service facility will provide building space for the Churchill County Sheriff's Department and Churchill County Fire Department. Final building square footage has not been determined. Once Section 35 is developed, Matthews will begin construction of Sections 3 and 11 with industrial development, as the market dictates. Matthews anticipates the industrial sections developing in a linear fashion, but the schedule may be accelerated if warranted.

As part of the project, Matthews is constructing a wastewater treatment plant and a water treatment plant on Section 11. Both plants will be dedicated to Churchill County. Initial construction for both plants will occur in Phase I of the development and construction during this Phase will be done in sub-phases. Expansion of the facilities will occur in Phase 2 and Phase 3 as needed. A Churchill County maintenance yard will be located next to the plants, and Sierra Pacific Power Company will build a substation in this area as well. To mitigate traffic impacts, Matthews will construct an interchange on Section 36 Township 20 N. Range 26 E. Appendix B Figure B-1 contains the proposed Mathews Ranch Project.

The town site area is 157.41 acres. This includes approximately 74 acres of railroad and highway right of way leaving approximately 83 acres for development and streets. The area of 33 block is divided into small parcels, the configuration and size of these parcels varies due to the irregular shape of the Townsite and dissection by the railroad and highway, but the majority of parcels are rectangular with a standard size of 50' x 130'. With the exception of parcels 10-284-01 and 10-284-02 (bounded by Tahoe, Utah, Canal, and Townsend), which are zoned M1 - Industrial, the remainder of the Townsite is zoned A3 - Agricultural. Contiguous property to the north of the Townsite is zoned M1. The remaining property to the north is zoned RR - Rural Reserve. Property to the south is zoned either A3, where ranching is in operation, or RR. To the northeast are sections zoned RR, and in the southeast are large parcels zoned RR and M1. With the exception of the existing ranches and the remaining homes of the Townsite, the vast majority of land in the Hazen area is undeveloped.

With the expansion of U.S. 50 alternate to four lanes from Fallon to Fernley more growth can be expected. Eventually the corridor is likely to have very limited areas of open space by the time Yucca Mountain shipments begin. Much of the open space is likely to be converted from undeveloped lands to residential, commercial and industrial applications.

3.3 Water Resources

3.3.1 Existing Water Resources

Surface Water: The sole source of surface water for Lahontan Valley is provided by the Truckee and Carson rivers. Historically during a 43 year period (1925 - 1967), the Truckee River, with large yearly fluctuations, furnished on an average 51% of the water stored in Lahontan Reservoir. The remaining amount was supplied by the Carson River.

In more recent times (1983 - 1995), due to court decisions and Federal mandates, the Truckee River contribution to Lahontan Reservoir has been reduced to about 38%. During drought years (1988, 1990, 1991, 1992 and 1994), however, the Truckee River contributed an average of 62% of the water received by Lahontan Reservoir. In 1988 the Truckee River provided 81% of the water received by Lahontan reservoir. Upon recognizing current and future upstream demands (Cui-Ui spawning glows and Truckee Meadows M & I growth) on the Truckee River, the diversion into the Truckee Canal may be further reduced. The impact of these threatened reductions in diversions from the Truckee River will be especially severe during drought years due to Lahontan Valley's dependence upon the supplemental flows from

Truckee River in drought years when Carson River flows are low.



Upon the enforcement of the elements of P.L. 101-618 (OCAP, Cui-Ui Recovery, Wetlands Acquisitions of water rights, Naval Air Station Conservation, Project Delivery Efficiency increase, etc.) in addition to the effects of the Truckee River Water Quality Agreement, Bench & Bottom Decision and Transfer/Petition (A.B. 380) actions, Pyramid Lake Paiute Tribe's application for Truckee River Decree Claim Nos. 1

and 2 water rights, the potential

cumulative reduction in irrigation diversions into the Project may vary from 381,000 to 437,000 acre feet(AF). Based upon a diversion rate of 406,000 AF as set forth in the 1967 OCAP, these respective reductions represent a 94% to 108% reduction in Project diversion for irrigation. According to U.S. Fish & wildlife Service estimates for preserving the wetlands in Lahontan Valley, about 100,000 to 147,000 AF irrigation rights may be acquired. These wetlands acquisitions alone represent an agreement of about 53%

to 79% of the irrigated acreage within the Carson Division. Assuming all of these actions will act in a cumulative manner, the demand reduction threatens to exceed the total available water supply of the Project. The potential impacts of reducing Lahontan Reservoir storage capacity by 56% as supplied by the Truckee River, Recoupment of 1,500,000 AF from the Project, granting the Pyramid Lake



Paiute Tribe (PLPT) Truckee River un-appropriated water and the Truckee River Operating Agreement (TROS) will further reduce the water supply of the Project and Lahontan Valley.

Lahontan Valley Ground Water: Ground water recharge, resulting directly from precipitation (rain and snow) within the Carson Desert Basin (Lahontan Valley) is estimated at about 1,300 AFA (Glancy & Katzer, 1975). This recharge from the Stillwater Mountain range is estimated to occur only on the eastern side near the Stillwater Wildlife Area. This recharge, therefore, does not contribute to the recharge of the western and central portions of the Valley where the majority of potable wells are located. The estimated ground water recharge resulting from infiltration of Project irrigation water varies from 50,000 AFA to 1000,000 AFA (Maurer, 1994).

If P.L. 101-618 is fully implemented thereby reducing the Project diversions for irrigation by conservatively 94%, the amount of recharge to ground water may be decreased by about 47,000 AFA to 94,000 AFA, leaving only about 3,000 AFA to 6,000 AFA for recharge. (Note: 50,000 AFA \times 0.94 = 47,000 AFA, leaving 3,000 AFA for recharge to 100,000 AFA \times 0.94 = 94,000 AFA, leaving 6,000 AFA for recharge.) The State Engineer has permitted about 20,000 AFA of ground water in Lahontan Valley and another 11,000 AF is consumed by statutorily permitted approximates 31,000 AFA. The ground water resource may therefore be significantly over-drafted by approximately 25,000 AFA to 28,000 AFA (31,000 AFA - 6,000 AFA to 31,000 AFA - 3,000 AFA). Due to the uncertainty surrounding future Project diversions and the proposed wetlands buy-out and their effects on ground water recharge, the State Engineer in August of 1995, curtailed (Order No. 1116) further development of ground water in the Lahontan Valley, excepting small, quasi-municipal wells pumping 4,000 gallons per day or less. This order has essentially curtailed any further large-scale, quasi-municipal or commercial development within the Valley. Small subdivisions relying upon single dwelling domestic wells, however, are still permitted in the County at this time.

Surface Water Quality: The water quality of Lahontan Reservoir is generally good, having turbidities ranging from 5.5 to 14.0 NTU and total dissolved solids (TDS) less than 300 milligrams per liter (MG/L) with moderate color and alkalinity. Limitations include seasonal algae accumulations, an arsenic concentration of about 17 part per billion (ppb), the presence of trihalomethanes that are precursors to carcinogenic trihalomethanes, and pathogenic organisms including Cryptosporidium, Giardia, and others which can be deactivated and/or removed by conventional treatment, including ozone. The Truckee Canal water supply is also of good quality, having average measured turbidities of 7.0 NTU, total dissolved solids of 200 ppm and arsenic concentrations 14 ppb (NDEP, 2000).

Lahontan Valley Ground Water Quality: the basaltic aquifer meets current State of Nevada drinking water standards, excepting for arsenic, which typically occurs in concentrations of about 100 ppb. The maximum contaminate level (MCL) for arsenic is now set at 50 ppb. This MCL however, has lowered to 10 ppb, effective in 2006. Arsenic can be removed by wellhead treatment using a relatively expensive process of a modified coagulation/filtration process.

The shallow and intermediate aquifers in the Valley may have arsenic concentrations of 20 to 333 ppb and manganese concentrations of 0.24 to 1.22 ppm. The current MCLs for arsenic and manganese are 50 ppb and 0.10 ppm, respectively. Both constituents can be removed on a wellhead basis by the MCF system or for larger plant capacities by conventional treatment methods similar to those for surface treatment.

About 34% of the domestic wells sampled in the valley exceed the current MCL (50 ppb) for arsenic, while about 29% of the wells exceed the MCL for manganese. Since the MCL for arsenic will be reduced to 10 ppb, however, about 68% of all wells will exceed this newly adopted MCL.

3.4 Public Facilities

The effective population density within the corridor generally increases due to a number of public facilities (Table 3-7). There are six elementary schools, one middle school, and one high school within 1-mile of the highway. There are approximately 4,500 children enrolled in schools within 1-mile of the highway centerline. Of the 21 facilities listed in Table 3-7 most are located within one-quarter mile of the highway corridor.

In addition to the public facilities adjacent to the corridor, Churchill County utility systems can be found just west of Fallon. Figure A-1 shows the current service area where future urban development is likely to occur. Most of the higher density urban development will occur within 1 mile of U.S. 50. Figure A-1 also shows planned residential development in the utility service area.

Table 3-7 Public Facilities Adjacent to Highway Corridor	
Fallon Urban Area	Number in Corridor
Elementary Schools	6
Middle/Secondary Schools	1
High School	1
Fire Station	1
Library	1
Community College	1
Hospital	1
Courthouse & City Planning	2
Community Center	1
Museum	1
County Fairgrounds	1
Parks	3
Total Facilities	21

3.5 Housing Conditions

Much of the tremendous growth occurring western Nevada communities is now beginning to impact the Fallon area and western Churchill County. The area has maintained relatively stable job and population growth over the last several years. Agriculture, operations at the Fallon Naval Air Station and to a lesser extent manufacturing stabilize the local economy. Additionally, many Fallon area residents commute to the Fernley industrial park, Reno/Sparks, and Carson City for employment opportunities. Over the last year there has been considerable interest in new single-family residential development. Several new subdivisions and planned unit developments are proposed. As many as 5,000 new residential building lots could be created in the Fallon area along with new development in the Hazen area. The development of new industrial sites in the County could draw additional jobs and business activity. Most of the new high density residential development is occurring within 1 or 2 miles of U.S. Highway 50.

Churchill County has recently enacted development policies that require sewer and water utilities for higher density residential development and commercial/industrial uses. In the interim period, growth has been somewhat muted because of new residential development on small lots of less than 5 acres in size now require municipal sewer and water services. Up to eight new high density residential subdivisions proposed by local and regional builders are in various stages of development. Expected population increases in the Fallon area are probably an extension of strong demand and growth occurring in the neighboring Fernley area. After several years of limited appreciation in housing prices, there appears to be a strong upward trend in the cost of residential structures as well as vacant developable lands in Churchill County.

Retirees provide another component of growth for Fallon. A small community with reasonable housing prices, a good quality of life, and proximity to metropolitan areas adds to the attractiveness of Fallon for retirees. Many former civilian employees and military personnel associated with the Fallon Naval Air Station retire in the area.

Tables 3-8, 3-9, 3-10, 3-11, and 3-12 show recent housing sales values in Churchill County, the median prices, average price and price per square foot is also shown in each table.

Table 3-8 Churchill County Single Family Detached Housing Sales-Small Lot (1) 1/05-9/06						
			Affordable Home Price By Household Size (2)			
	Price	Income Level	1 person	2	3	4
Low Sale Price	\$30,000	Median Income	\$120,275	\$137,457	\$154,639	\$171,821
High Sale Price	\$509,000	Affordability Gap (3)	\$58,725	\$41,543	\$24,361	\$7,179
Median Price	\$179,000					
Average Price	\$186,601	80% of Median	\$105,900	\$121,029	\$136,157	\$151,286
Avg. Price/Sqft	\$128.35	Affordability Gap (3)	\$73,100	\$57,971	\$42,843	\$27,714
Housing Sales	Units Sold	Percent of Total	Cumulative Percent			
< \$100,000	43	7.9%	7.9%			
\$100K-\$150K	128	23.6%	31.5%			
\$150K-\$200K	155	28.5%	60.0%			
\$200K-\$250K	137	25.2%	85.3%			
\$250K-\$300K	50	9.2%	94.5%			
\$300K-\$350K	15	2.8%	97.2%			
\$350K-\$400K	11	2.0%	99.3%			
\$400K+	4	0.7%	100.0%			
Total Sales	543	100.0%				
Percent of sales affordable to a 4 person households by Income Level						
Median Income		64.0%				
80% of Median Income		46.0%				

-
-
- (1) Small lot denotes parcels of less than 1.0 acres in size
 - (2) Affordable Home price is 30 percent of household income and includes principal, interest, tax, and insurance
 - (3) Affordability gap is the difference between the median home sales value \$179,000 and the price a household could afford.

**Table 3-9
Churchill County Single Family Detached Housing Sales-Large Lot (1) 1/05-9/06**

	Price	Income Level	Affordable Home Price By Household Size (2)			
			1 person	2	3	4
Low Sale Price	\$50,000	Median Income	\$120,275	\$137,457	\$154,639	\$171,821
High Sale Price	\$950,000	Affordability Gap (3)	\$134,725	\$117,543	\$100,361	\$83,179
Median Price	\$255,000					
Average Price	\$256,138	80% of Median	\$105,900	\$121,029	\$136,157	\$151,286
Avg. Price/Sqft	\$144.54	Affordability Gap (3)	\$149,100	\$133,971	\$118,843	\$103,714
Housing Sales	Units Sold	Percent of Total	Cumulative Percent			
< \$100,000	9	3.7%	3.7%			
\$100K-\$150K	8	3.3%	6.9%			
\$150K-\$200K	42	17.1%	24.0%			
\$200K-\$250K	59	24.0%	48.0%			
\$250K-\$300K	73	29.7%	77.6%			
\$300K-\$350K	32	13.0%	90.7%			
\$350K-\$400K	12	4.9%	95.5%			
\$400+	11	4.5%	100.0%			
Total Sales	246	100.0%				
Percent of sales affordable to a 4 person households by Income Level						
Median Income		14.6%				
80% of Median Income		8.5%				
(1) Large lot denotes parcels of more than 1.0 acres in size						
(2) Affordable Home price is 30 percent of household income and includes principal, interest, tax, and insurance						
(3) Affordability gap is the difference between the median home sales value \$171,820 and the price a household could afford.						

Table 3-10 Churchill County Single Family Detached Housing Sales-All Sales (1) 1/05-9/06						
			Affordable Home Price By Household Size (2)			
	Price	Income Level	1 person	2	3	4
Low Sale Price	\$30,000	Median Income	\$120,275	\$137,457	\$154,639	\$171,821
High Sale Price	\$950,000	Affordability Gap (3)	\$83,525	\$66,343	\$49,161	\$31,979
Median Price	\$203,800					
Average Price	\$208,281	80% of Median	\$105,900	\$121,029	\$136,157	\$151,286
Avg. Price/Sqft	\$132.63	Affordability Gap (3)	\$97,900	\$82,771	\$67,643	\$52,514
Housing Sales	Units Sold	Percent of Total	Cumulative Percent			
< \$100,000	52	6.6%	6.6%			
\$100K-\$150K	136	17.2%	23.8%			
\$150K-\$200K	197	25.0%	48.8%			
\$200K-\$250K	196	24.8%	73.6%			
\$250K-\$300K	123	15.6%	89.2%			
\$300K-\$350K	47	6.0%	95.2%			
\$350K-\$400K	23	2.9%	98.1%			
\$400K+	15	1.9%	100.0%			
Total Sales	789	100.0%				
Percent of sales affordable to a 4 person households by Income Level						
Median Income		36.5%				
80% of Median Income		25.6%				
(1) All sales including single family detached on small and large lots.						
(2) Affordable Home price is 30 percent of household income and includes principal, interest, tax, and insurance						
(3) Affordability gap is the difference between the median home sales value \$171,820 and the price a household could afford.						

**Table 3-11
Churchill County Mobile Home Sales 1/05-9/06**

	Price	Income Level	Affordable Home Price By Household Size (2)			
			1 person	2	3	4
Low Sale Price	\$21,000	Median Income	\$120,275	\$137,457	\$154,639	\$171,821
High Sale Price	\$660,000	Affordability Gap (3)	-\$375	-\$17,557	-\$34,739	-\$51,921
Median Price	\$119,900					
Average Price	\$124,110	80% of Median	\$105,900	\$121,029	\$136,157	\$151,286
Avg. Price/Sqft	Na	Affordability Gap (3)	\$14,000	-\$1,129	-\$16,257	-\$31,386
Housing Sales	Units Sold	Percent of Total	Cumulative Percent			
< \$100,000	98	38.9%	38.9%			
\$100K-\$150K	85	33.7%	72.6%			
\$150K-\$200K	44	17.5%	90.1%			
\$200K-\$250K	15	6.0%	96.0%			
\$250K-\$300K	4	1.6%	97.6%			
\$300K-\$350K	3	1.2%	98.8%			
\$350K+	3	1.2%	100.0%			
Total Sales	252	100.0%				
Percent of sales affordable to a 4 person households by Income Level						
Median Income		14.6%				
80% of Median Income		8.5%				
(1) Small lot denotes parcels of less than 1.0 acres in size						
(2) Affordable Home price is 30 percent of household income and includes principal, interest, tax, and insurance						
(3) Affordability gap is the difference between the median home sales value \$171,820 and the price a household could afford.						

**Table 3-12
Churchill County Single Family Detached Housing and Mobile Home Sales (1) 1/05-9/06**

	Price	Income Level	Affordable Home Price By Household Size (2)			
			1 person	2	3	4
Low Sale Price	\$21,000	Median Income	\$120,275	\$137,457	\$154,639	\$171,821
High Sale Price	\$950,000	Affordability Gap (3)	\$69,225	\$52,043	\$34,861	\$17,679
Median Price	\$189,500					
Average Price	\$188,015	80% of Median	\$105,900	\$121,029	\$136,157	\$151,286
Avg. Price/Sqft	na	Affordability Gap (3)	\$83,600	\$68,471	\$53,343	\$38,214
Housing Sales	Units Sold	Percent of Total	Cumulative Percent			
< \$100,000	150	14.4%	14.4%			
\$100K-\$150K	221	21.2%	35.6%			
\$150K-\$200K	241	23.2%	58.8%			
\$200K-\$250K	211	20.3%	79.1%			
\$250K-\$300K	127	12.2%	91.3%			
\$300K-\$350K	50	4.8%	96.1%			
\$350K-\$400K	24	2.3%	98.4%			
\$400K+	17	1.6%	100.0%			
Total Sales	1041	100.0%				
Percent of sales affordable to a 4 person households by Income Level						
Median Income		37.7%				
80% of Median Income		48.1%				
(1) All sales including single family detached and mobile homes.						
(2) Affordable Home price is 30 percent of household income and includes principal, interest, tax, and insurance						
(3) Affordability gap is the difference between the median home sales value \$171,820 and the price a household could afford.						

In recent year's housing prices in Churchill County have increased substantially. The median value of the home sold in Churchill County from October 2003 to October 2004 was approximately \$140,000 (Churchill County Assessor's Records). More recently the median value of single-family detached homes has moved up to \$153,000. By the 4th quarter of 2004 the median sale price rose to \$162,000. For the entire year the median price of a single-family home was \$147,000 (Northern Nevada Regional MLS, 2004)

Based upon County Assessor records, the highest recorded sales price was \$565,000. The majority of sales occurred between \$100,000 and \$200,000. About 20 percent of the sales were for homes above \$200,000. An entry level home, which is defined as a 3 bedroom and 2 baths with approximately 1,300 to 1,800

square-feet, generally starts at \$200,000. For Calendar Year 2007, the median price for real property mobile homes and single family dwellings was \$197,000 with an average price of \$221,050. For single-family dwelling units alone the median price was \$200,000 with an average price of \$216,136. Average price per square-foot was \$136.70.

Table 3-13 contains sales information for 2007 and 2008. Recent trends show declines in housing values consistent with state and national trends.

Table 3-13 Churchill County Single Family Detached Housing Sales (1) 2007 and 2008						
	2007	2008				
Low Sale Price	\$33,000	\$25,000				
High Sale Price	\$720,000	\$500,000				
Median Price	\$200,000	\$170,000				
Average Price	\$216,136	\$182,131				
Avg. Price/Sqft	Na					
		2007				
Housing Sales	Units Sold	Percent of Total	Cumulative Percent	Units Sold	Percent of Total	Cumulative Percent
< \$100,000	25	6.9%	6.9%	18	8.1%	8.1%
\$100K-\$150K	53	14.7%	21.6%	60	27.1%	35.2%
\$150K-\$200K	94	26.1%	47.7%	64	28.95%	64.2%
\$200K-\$250K	76	21.1%	68.8%	44	19.9%	84.2%
\$250K-\$300K	51	14.2%	83.0%	19	8.6%	92.8%
\$300K-\$350K	36	10.0%	93.0%	12	5.4%	98.2%
\$350K-\$400K	12	3.3%	96.3%	1	.3%	98.5%
\$400K+	13	3.6%	100.0%	3	1.4%	99.9%
Total Sales	360	100.0%				
(1) All sales including single family detached						

Overall housing affordability has changed very little in Churchill County until recently. The ratio of the median value of a single-family home to the median family income was 2.72 in 2004 increasing from 2.3 in 1995. More recently the ratio had increased to 3.8. In 2008 the ratio of median value of a single family home to median family income declined to 2.72 in 2008. Table 3-14 shows a comparison of housing costs for Churchill County and surrounding communities.

**Table 3-14
Housing Affordability Measures Western Nevada Communities: 2004**

Community	2004 Median Sales Value	2004 S.F. Entry-level Housing Costs	2004 Housing Affordability for 80% of Median Inc. (1)	Affordability for Median Income (2)	2004 Ratio of Median Price To Median Inc. (3)	2004 Median Inc. Affordability
Carson City	\$298,000	\$210-260K	\$142,800	\$178,500	5.34	\$119,500
Churchill	\$154,000	\$150K+	\$140,709	\$175,860	3.00	-\$21,860
Douglas	\$371,633	\$250K+	\$166,430	\$208,214	5.71	\$163,419
Lyon	\$207,000	\$180+	\$129,000	\$161,200	4.11	\$45,800
Mineral	\$53,000		\$124,357	\$155,430	1.09	-\$102,430
Pershing	\$79,500	\$65K+	\$130,000	\$162,430	1.56	-\$82,930
Storey	\$259,700	\$200K+	\$172,429	\$215,500	4.34	\$44,200

Source: Northern Nevada MLS, County Assessor's Records, U.S HUD.

Housing affordability assumes no more than 30 percent of gross income spent on housing related costs including PITI and essential utilities.

Single family detached home price that is affordable to a household at 80 percent of the 2004 median household income assuming not more than 30 percent of gross income is spent on related costs.

Single family detached home price that is affordable to a household at the 2004 median household income assuming not more than 30 percent of gross income is spent on related costs.

Single family detached home price that is affordable to a household at the 2004 median household income assuming not more than 30 percent of gross income is spent on related costs.

2004 median price of a single family detached home divided by the 2004 median income.

Difference between the 2004 median single family home sales value and (2).

3.6 Agriculture and Alternative Energy Resources

Agriculture

Churchill County maintains a relatively large agricultural sector centered on the Newlands Irrigation Project. Within the County there are approximately 50,000 acres of irrigated cropland. The principal agricultural commodities are alfalfa hay, cattle, dairy, and to a lesser extent other grass hay, corn, winter wheat, and specialty table crops. Wine is now being produced in the Lahontan Valley.

In 2004 the total market value of agricultural products was just over \$50 million. There were nearly 500 farms in Churchill County. The cattle inventory has fluctuated

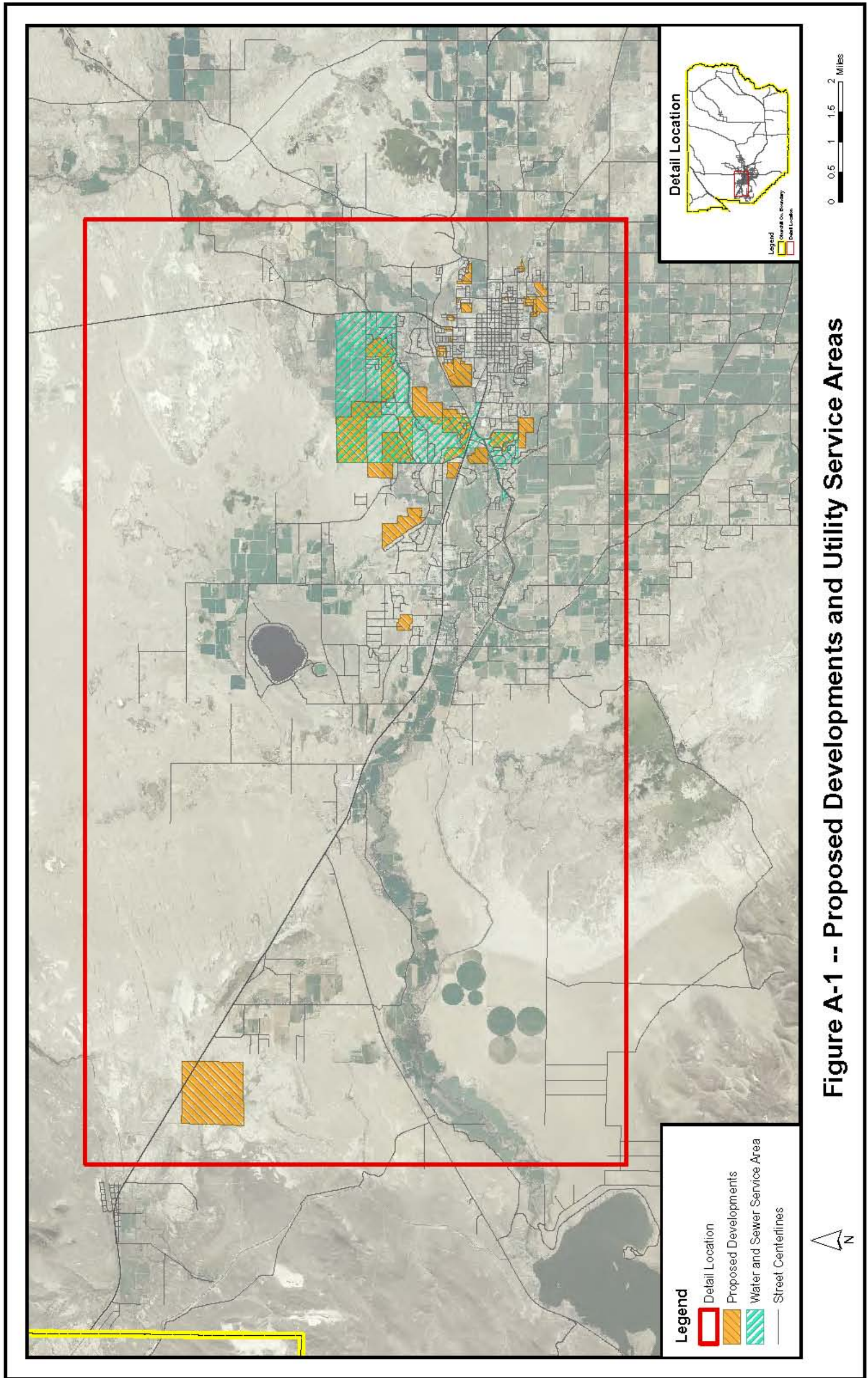
tuated overtime between approximately 50,000 to 40,000 head. Total tons of hay produced is approximately 150,000 annually depending upon hydrologic conditions and the availability of water for irrigation. In 2003 there were approximately 13,000 head of milking cows producing about 19,200 pounds of milk each.

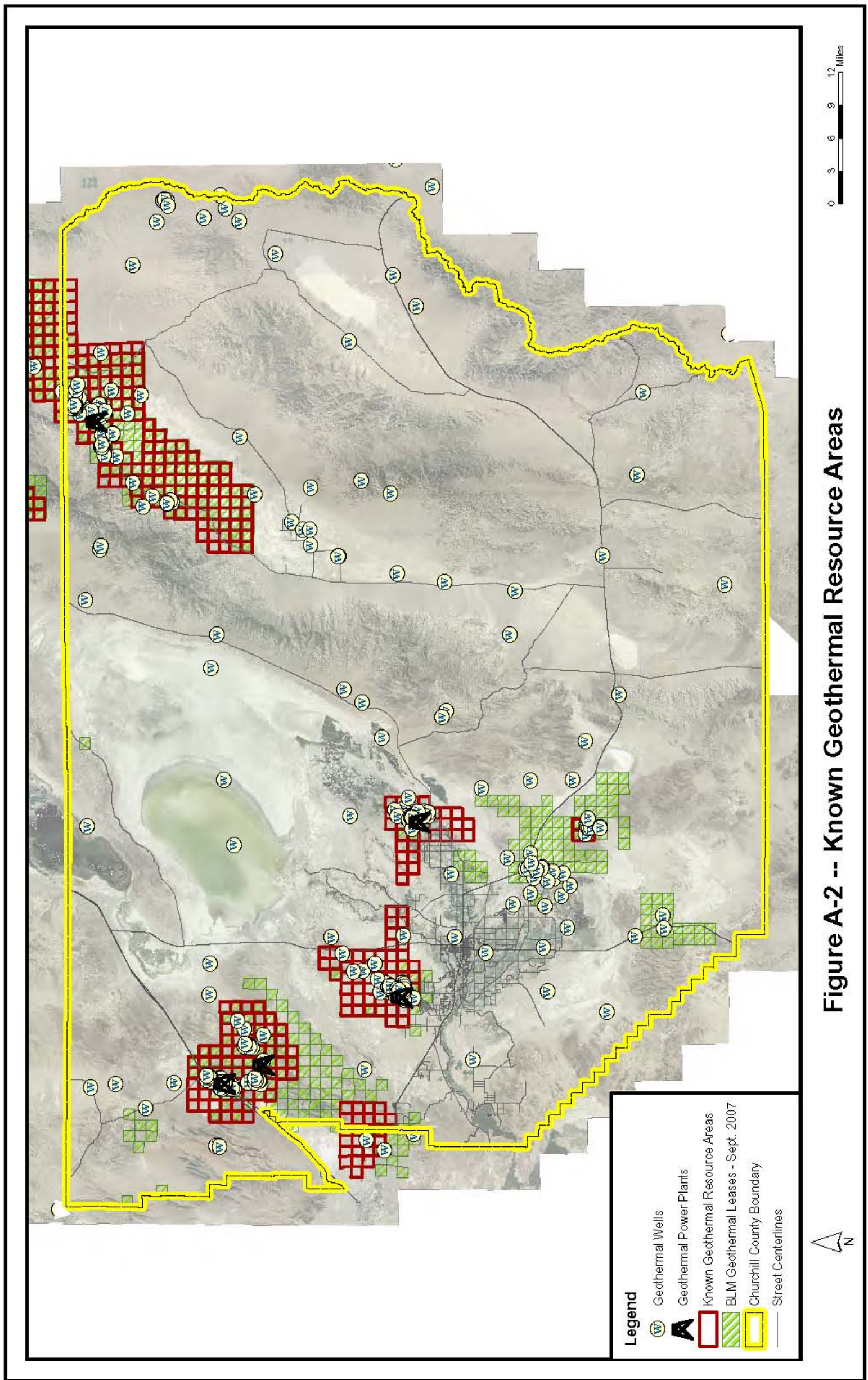
Alternative Energy Resources

Churchill County has significant geothermal resources. As shown in Figure A-2 there are several known geothermal resource areas within the County. Currently, Churchill County has 6 geothermal plants producing 109 mega-watts, approximately one-third of the geothermal power produced in Nevada. There are several additional planned projects in Churchill County adding about 100 mega-watts.

Churchill County also has the potential for wind and solar energy development. Figure A-3 shows areas in Churchill County with potential for wind and solar energy development. To date there is no wind or solar energy projects planned for Churchill County.







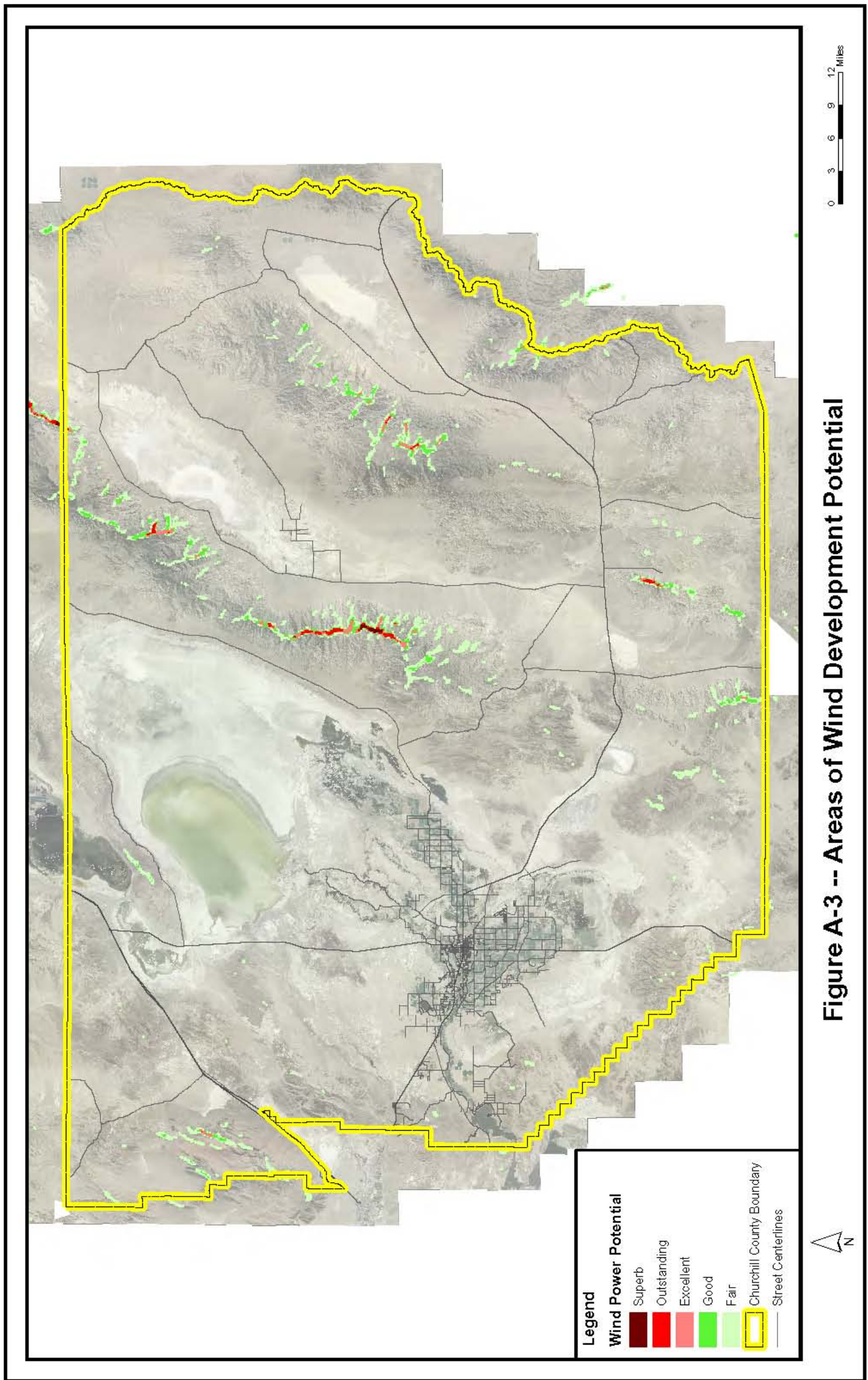


Figure A-3 -- Areas of Wind Development Potential