CHAPTER 6: Population

Population Projections

A major consideration in the development of the comprehensive plan is the extent of future growth in Buffalo's population. Physical expansion of the city is greatly influenced by population growth as is the demand for all sorts of public services. If future population growth is properly anticipated, the City can be better prepared to address the needs associated with population growth and can better plan the physical development of the city.

In this chapter, historic population levels are presented and a variety of predictions of future population levels are examined. The most likely future population projections are identified.

Historic Population Levels

Since its inception, Buffalo has continued to grow except for two major declines, one following the Great Depression and World War II and the other during the energy bust of the late 1980's. The most recent estimate of Buffalo's population of 4,290 (July 2005) is the highest population level the city has ever attained. The previous all-time high was 4,108 persons in 1983. Compared to other communities in the region, Buffalo has had the most rapid rate of growth since 1990 (see Figure 1).

Future Population

In recent years, there has been a substantial amount of study about the future population levels of Buffalo and Johnson County. Numerous population projections prepared by different agencies have been made for Buffalo. Each projection indicates different ideas of what population changes might occur. Each predicts Buffalo's future population growth using different techniques and assumptions.

It is important for city planning purposes to estimate as accurately as possible the future population growth of Buffalo. To do this, the existing projections were examined in order to identify which projections are most realistic.

It should be noted that projecting future population levels is typically more difficult for smaller jurisdictions. For a small community like Buffalo, it is difficult to accurately predict the largest component of change—the number of new people that will move to the area in future years. For example, back in 1974 when Buffalo's population was about 3,550, many energy development projects were being proposed. At the time, the city's plan predicted that the city would grow to between 8,300 and 14,840 by 1985. As it turned out, the city's population grew to only 3,816 in 1985.

There are eight different population projections for Johnson County currently in existence. Each is based on various techniques that typically estimate future employment growth and translate that into population growth. Seven of the projections apportion a

fraction of county growth to the city without making employment projections specifically for the city. The eight projections are as follows:

- ***Joint Planning Project:*** Johnson County-City of Buffalo Joint Planning Project Comprehensive Plan Update, February 1999, prepared by Worthington Lenhart & Carpenter. This report produced a moderate growth scenario. High and low growth scenarios were also produced; however, the report considered the moderate scenario as the most accurate and that scenario is the one being used in this chapter. This is the oldest of the projections and is apparently not influenced by more recent energy development projects occurring or proposed for the northeast part of the state.

- ***Johnson County 2005 Land Use Plan:*** Johnson County's land use plan includes a population projection prepared in 2003. This projection is based on expected increases in employment.

- ***Moderate Growth Scenario:*** Prepared by the Wyoming Department of Administration and Information, Economic Analysis Division in December, 2005. The projection is based on demographic trends and economic variables.

- ***NPA Strong Growth Scenario:*** Prepared by NPA Data Services, Inc., in 2005 and appears in the Wyoming Housing Needs Forecast, a report put out by the Wyoming Housing Database Partnership.

- ***NPA Very Strong Growth Scenario:*** Prepared by NPA Data Services, Inc., in 2005 for the Wyoming Housing Needs Forecast. It assumes a more robust employment growth than the strong growth scenario.

- ***ENSR Lower Production Scenario:*** ENSR International in 2005 as part of a report for the BLM's Powder River Basin Coal Review. The scenario assumes a low coal production which is still a major increase over current coal production levels. The scenario attempts to account for potential future development activities in Campbell County and the surrounding counties (including Johnson County). The scenario is based on "current industry announcements, agency plans, economic trends and technological advances affecting major industry sectors" as of the end of 2004. The study predicts population growth due to increasing coal production as well as that which is due to other economic activity including other energy-related developments.

- ***ENSR Upper Production Scenario:*** Prepared by ENSR International in 2005 for the BLM's Powder River Basin Coal Review and is a variation of the Lower Production Scenario. It assumes a greater increase in coal production compared to the lower production scenario.

- ***Childcare Needs Assessment:*** The Wyoming Workforce Services Department published its Childcare Needs Assessment in 2006. It includes an employment based population projection for Johnson County. This is the most recent projection and it assumes that several energy-related developments will occur; construction of the

Basin Electric power plant near Gillette; planned coal mine expansions; continued expansion of coal bed methane development; and the coal gasification plant near Lake DeSmet.

These county-level projections are presented in the following graph (see Figure 2).

Note several observations:

- The different projections span differing time frames. Some have relatively short time frames, while the two NPA projections extend to 2030. Projections are less accurate as they predict farther into the future.
- The Childcare Needs Assessment predicts a much higher population in 2015 than any of the other projections.
- Both ESNR projections and the Johnson County Land Use Plan projection are quite similar.

The eight projections were evaluated by performing a linear regression analysis. This analysis technique uses a mathematical formula to produce a new population projection that is essentially an average of all the others. The advantage of using this technique is that it lets the user find which of the eight population projections is closest to the average of all the projections. The analysis indicates that NPA Strong Growth Scenario projection is almost the same as the average of the projections.

As noted above, most of the county-level projections (all except the Childcare Needs Assessment) were used to create projections for Buffalo. Because additional assumptions must be made to reduce the county-level projections down to city-level, the projections for the city are less accurate. The projections for Buffalo are presented in the following figure (see Figure 3):

Population Projections for Buffalo, Wyoming							
	2000	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**
Joint Planning Project	3,733		4,232		4,921		
Moderate Growth Scenario	3,900	4,324	4,580	4,852	5,137		
Johnson County Land Use Plan	3,900	4,256	4,607				
NPA Strong Growth Scenario	3,900	4,329	4,668	5,035	5,456	5,942	6,453
NPA Very Strong Growth Scenario	3,900	4,347	4,808	5,324	5,903	6,587	7,323
ENSR Lower Production	3,899		4,698	5,010	5,316		
ENSR Higher Production	3,899		4,717	5,042	5,360		

Note the following observations with regard to the Buffalo projections:

- The highest growth projection at the county level, the Wyoming Childcare Needs Assessment projection, is not available for Buffalo. Without such a projection, the NPA Very Strong Growth Scenario is the highest growth projection for Buffalo.
- The NPA Very Strong Growth Scenario predicts that by 2030, Buffalo will add 3,423 residents to nearly double in population. This represents a 2.9% annual increase or an 89% total increase.
- As with the county projections, the linear regression analysis indicates that the NPA Strong Growth Scenario is the closest to an average of all the projections. The NPA Strong Growth Scenario predicts that by 2030, Buffalo will add 2,553 residents over the 2000 population of 3,900. This represents a 65% increase in population over 30 years or a 2.2% annual increase.

Recommendations

- In preparing the comprehensive plan, it would be best to base the plan on a population projection that does not represent the extremes in terms of possible futures. It is possible that one of the more extreme population projections will turn out to be true. However, it is more likely that only some of the assumptions behind each projection will be accurate. Therefore, a projection that tends towards the center between extremes is probably more reliable.
- The NPA Strong Growth Scenario is represents an approximate average of the other projections. The Strong Growth Scenario is truly the most moderate of all the projections and should be considered as the basis for the plan.
- The NPA Very Strong Growth Scenario would also be a good basis for the plan, particularly if the coal gasification plant near Lake DeSmet is firmly expected to be built.

Both the NPA Strong Growth and Very Strong Growth projections are compared to historic population levels in the following figure (see Figure 4):

Figure 1 ⇩

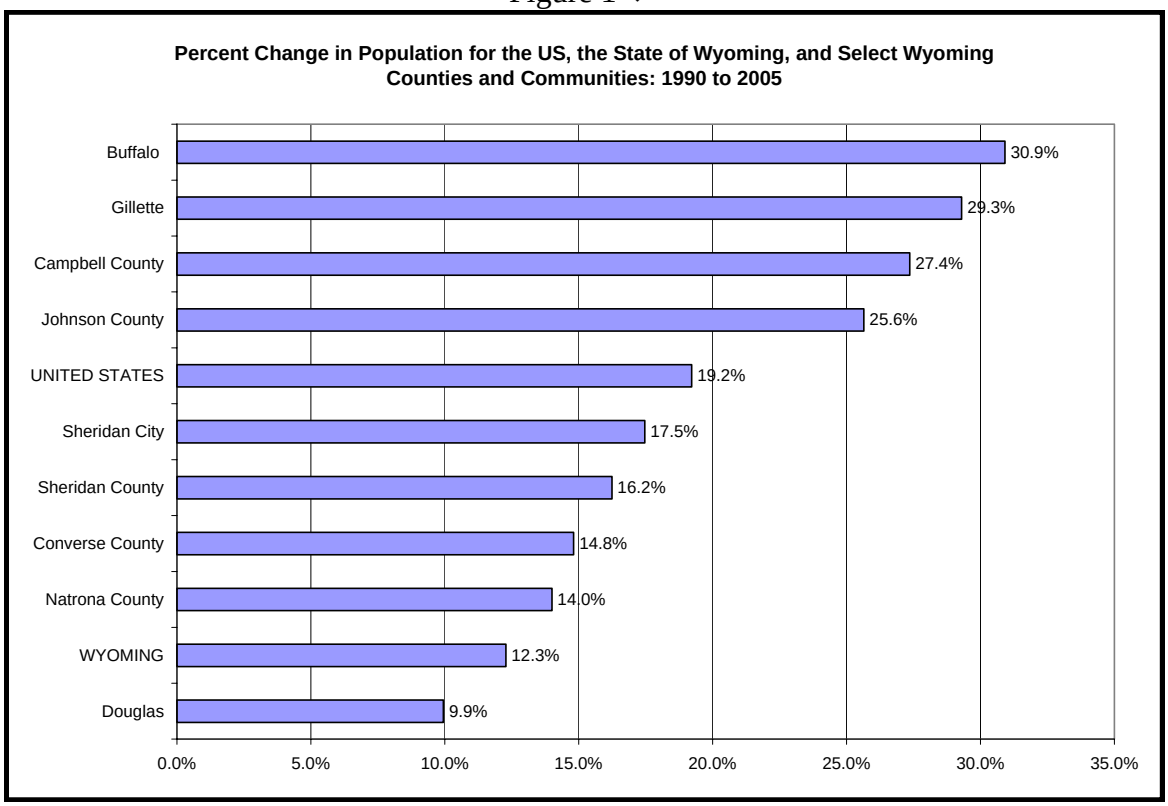


Figure 2 ⇩

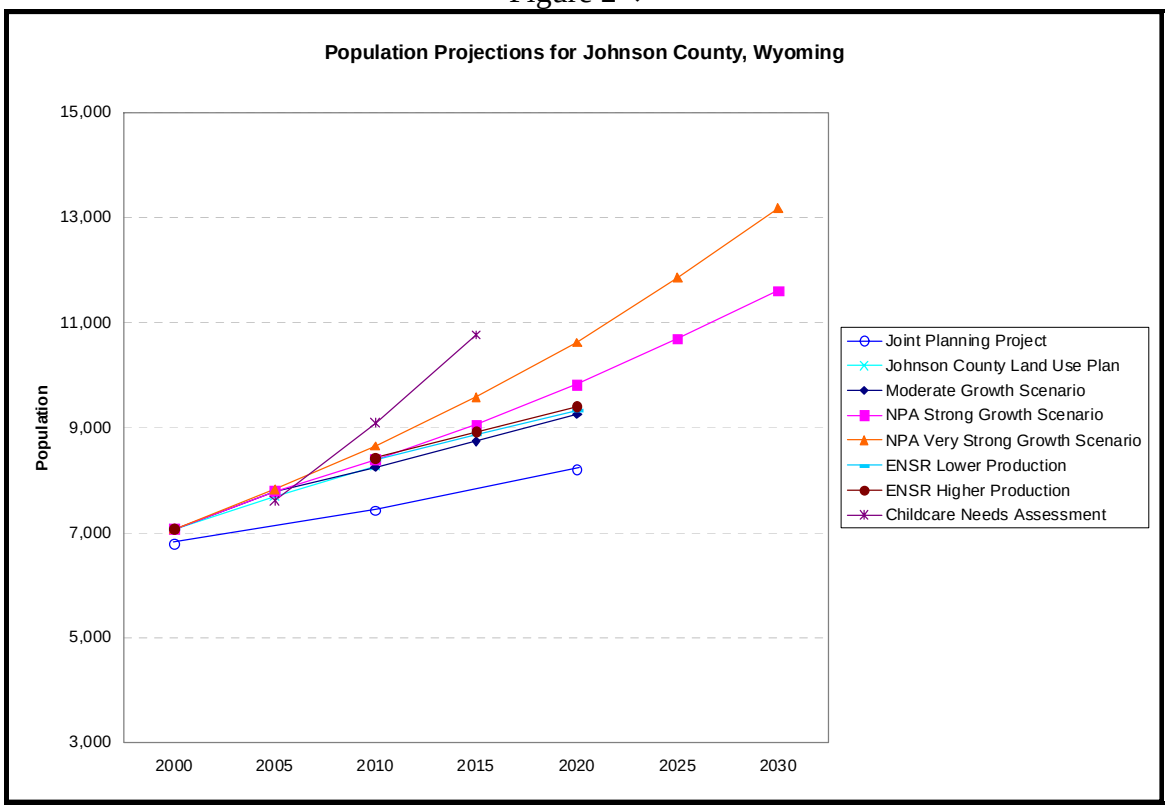


Figure 3 ⇩

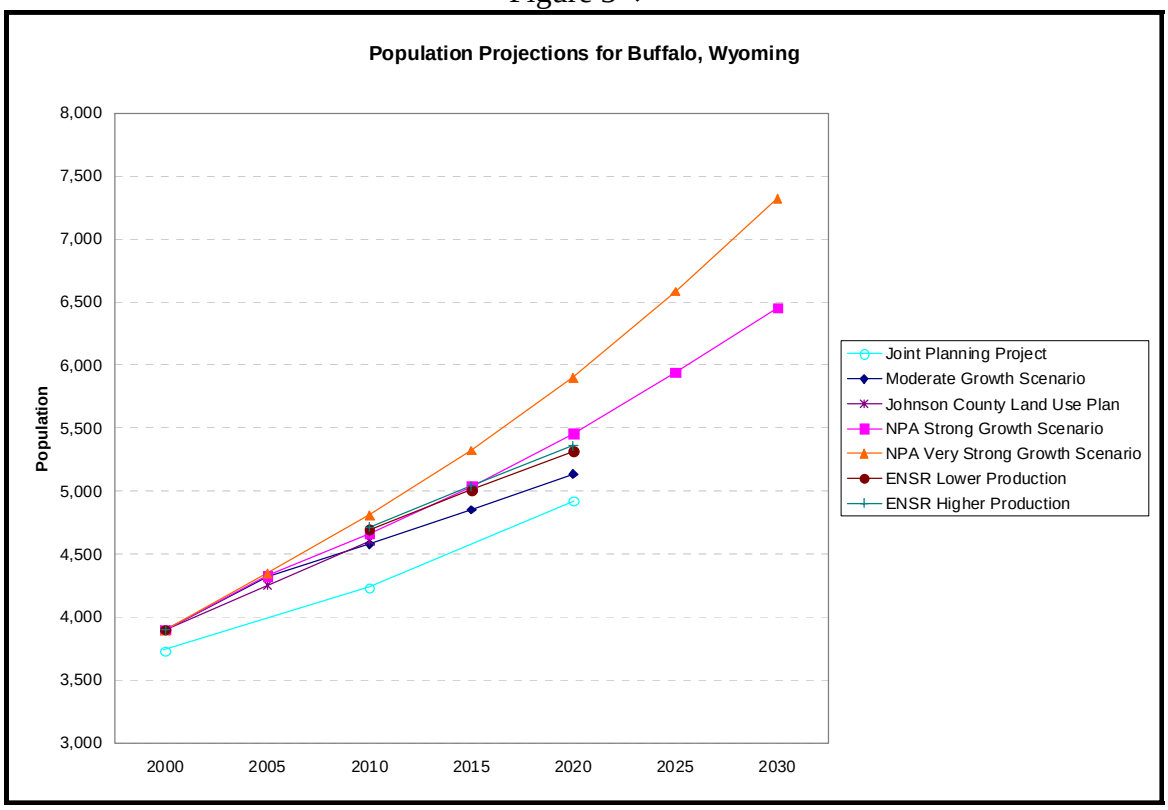
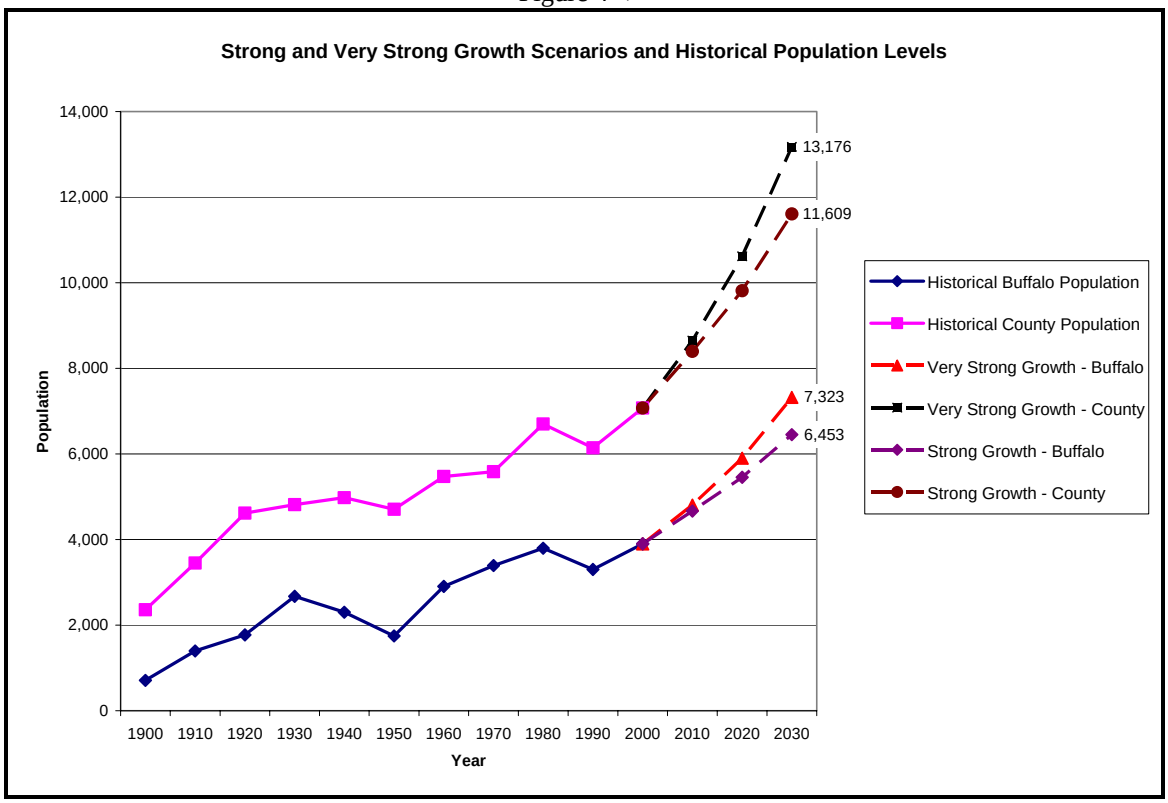


Figure 4 ⇩



Population Characteristics

Age Distribution

The 2000 US Census provides information on the age of the population. The median age of people living in Buffalo in 2000 was 44 years which is about nine years older than the U.S. national median of 35 years. Compared to the nation and the state, Buffalo had more people over age 50. Among younger age groups, Buffalo generally had fewer people. However, the 10 to 19 year age group in Buffalo was proportional to the national figures; young people in this age group make up about 14 percent of the total population in both Buffalo and the nation. (See Figure 5)

The State of Wyoming publishes predictions on the future age characteristics for counties. The county level is the smallest unit of analysis for available projections of future age distributions. Nevertheless, there are trends in the county populations that will apply to Buffalo:

- Future changes to the population show the ripple effect of the aging, baby boom generation; and
- In general, the population will tend to be older overall than it is now.

The state estimates that Johnson County, including Buffalo, will see the over-50 age groups increase the most by the year 2020. The largest increase is expected among 60 to 69 year olds; this age group will increase by 91 percent over 2000 levels. Among younger age groups most will increase only to a small degree. However, the under 10 years age group and the 20 to 29 age group will increase significantly (26 and 32 percent respectively). (See Figure 6)

Households and Families

In the past decade, Buffalo's population underwent a number of significant changes that mirror similar changes that have occurred at the state and national levels. These changes generally include:

- Fewer families with children living in the home
- More single-person households (persons living alone)
- Smaller household sizes

These trends are related to a number of long-term demographic changes such as lower birth rates, aging of the baby boom generation, and greater longevity.

The Census Bureau tracks sample statistics about the numbers of different types of households. Households are the people living in a single housing unit and do not include people in group housing, such as retirement homes and college dormitories.

In the nation and the Western US region, there have been slow but persistent changes in household composition over several decades. These trends are likely to continue into the future. Similar trends are evident in Buffalo when comparing 1990 and 2000 data:

- In the 1990's, households without children present increased more rapidly than households with children.
- Non-family households, such as one person living alone increased significantly.

(See Figure 7)

Household size, or the average number of people living in housing units, has decreased over the long term in Buffalo (see Figure 8) This is consistent with state and national trends. This decline in household size helps produce the effect of housing growth rates that exceed population growth rates.

Coincident with decreasing household size, the numbers of single person households (one person living in a housing unit) has been increasing in Buffalo (see Figure 9). This is one of the big factors behind the decrease in average household size.

During the 1990's in Buffalo:

- The proportion of owner-occupied housing units that are inhabited by a single person (a household of one) has increased significantly (to 29%).
- The proportion of renter-occupied housing inhabited by a single person also increased (to 49%).
- The proportion of housing in Buffalo occupied by single persons is somewhat higher compared to the rest of the state. (In Wyoming, single person households were 19% of the state's owner occupied housing and 32% of renter occupied housing.)

Conclusions

Several demographic factors will coincide to change the nature of Buffalo's future population. These include the relative aging of the population, fewer families with children, smaller household sizes, and more single-person households.

The changing nature of the population should be a consideration in planning for public services. Housing opportunities in Buffalo will need to cater increasingly to the needs and preferences of an older population with proportionately fewer children. These changes may result in greater demand for condominiums, single level floor plans, housing unit with fewer bedrooms. Buffalo's future land use plans and zoning requirements should allow and even facilitate a wide variety of housing types.

Figure 5 ⇩

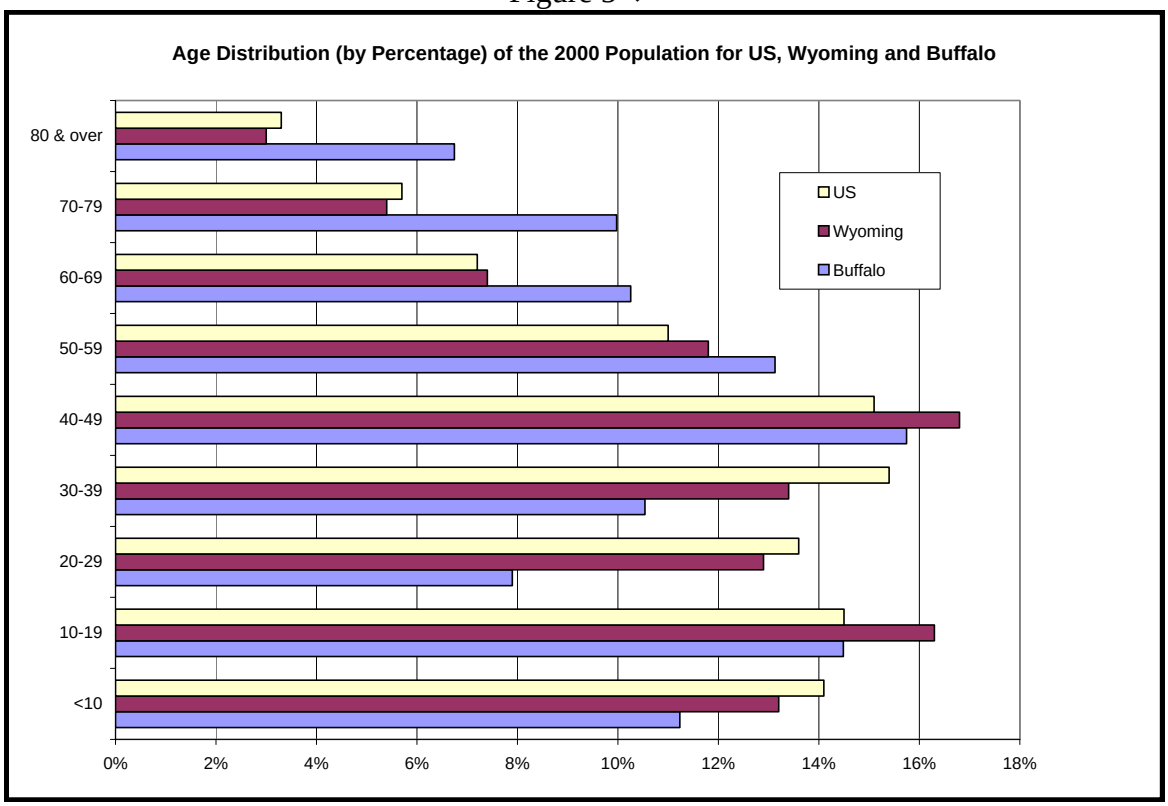


Figure 6 ⇩

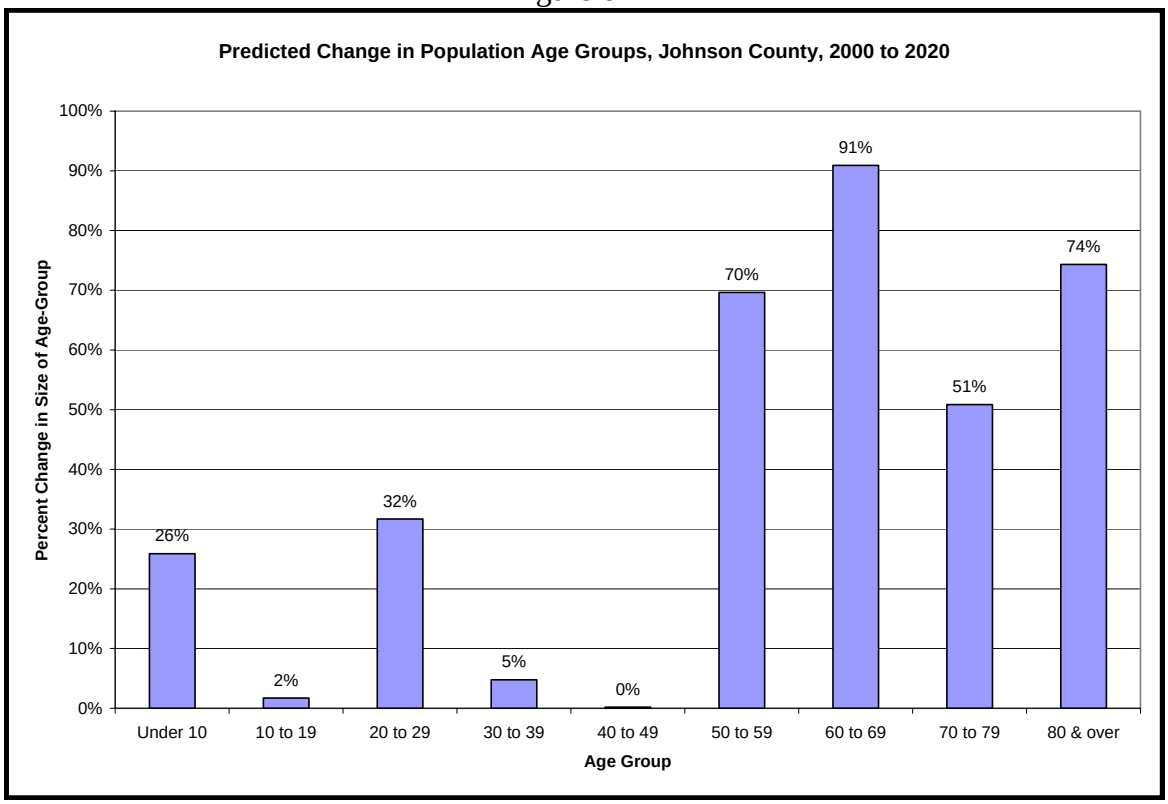


Figure 7 ⇩

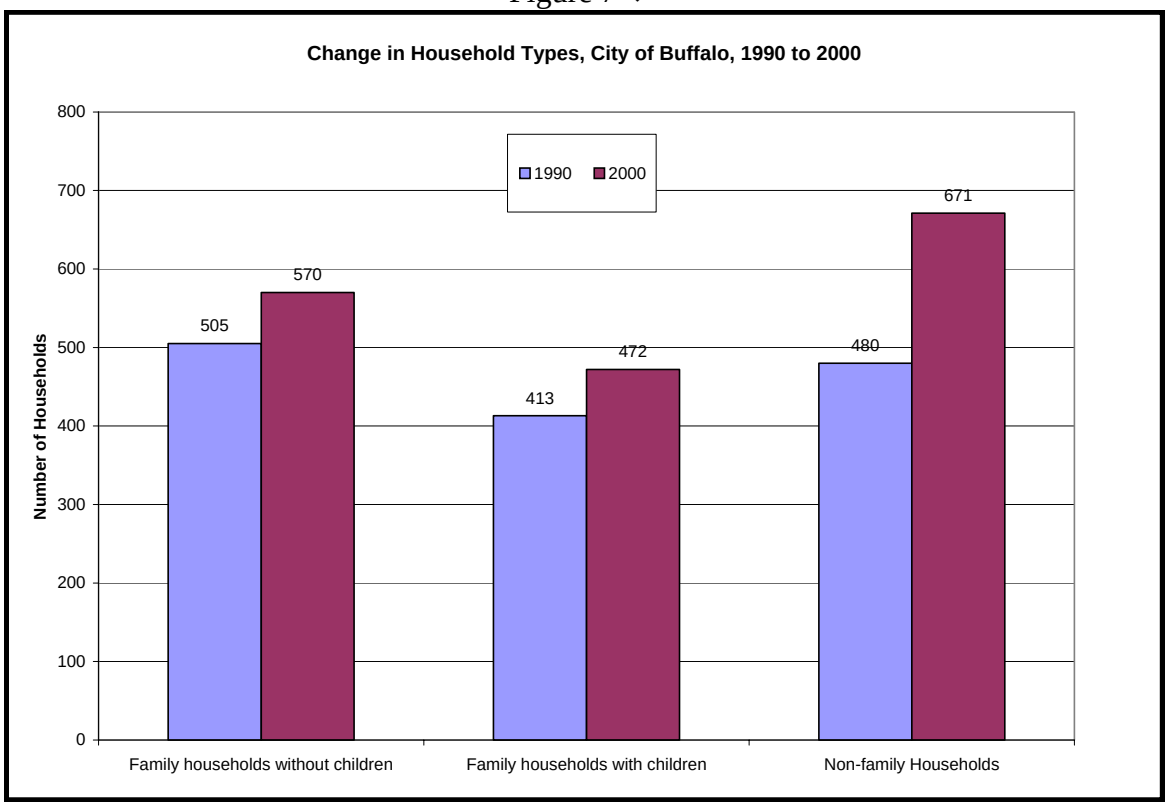


Figure 8 ⇩

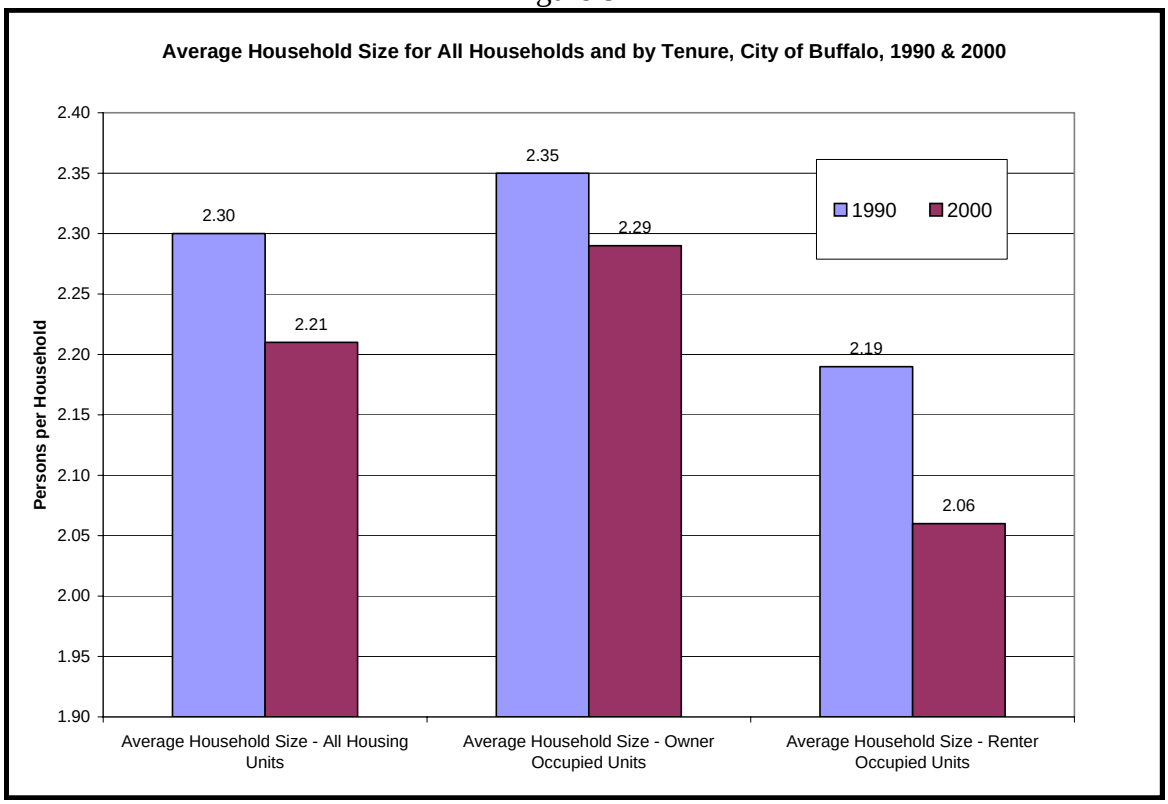
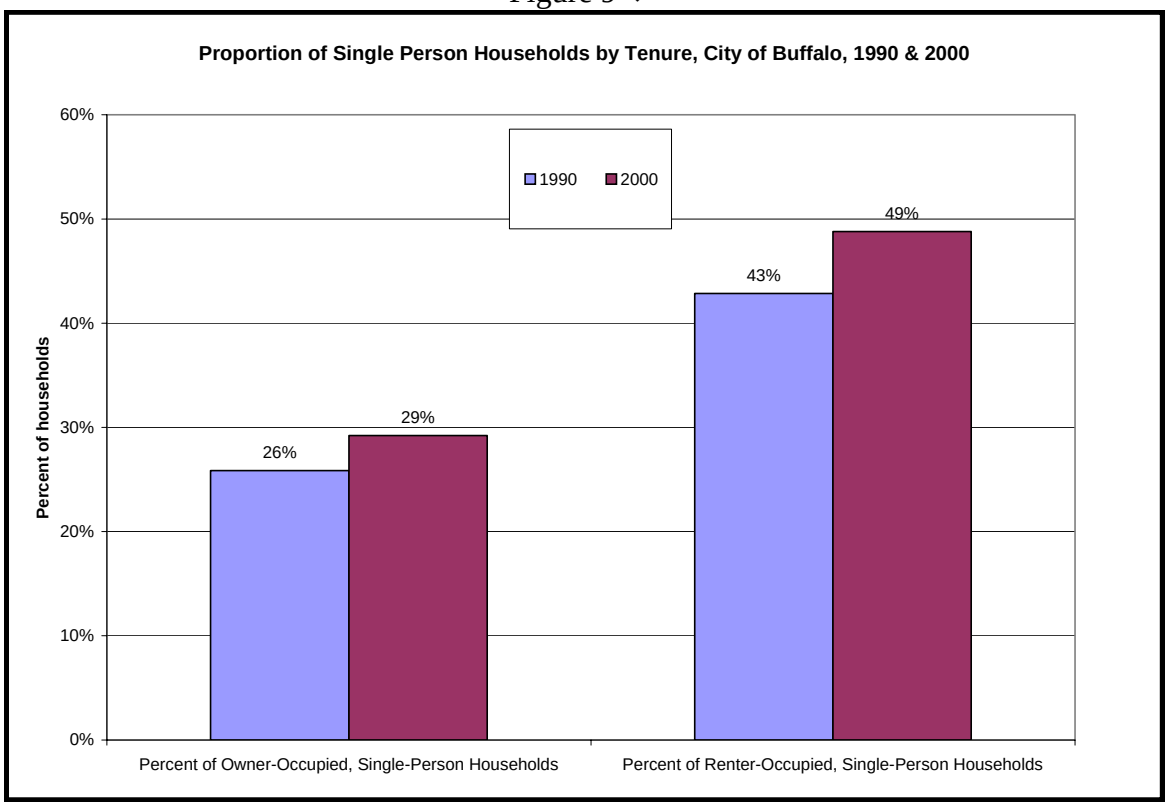


Figure 9 ⇩


Proportion of Single Person Households by Tenure, City of Buffalo, 1990 & 2000
60%
50%
40%
30%
20%
10%
0%
Percent of households
1990
2000
26%
29%
43%
49%
Percent of Owner-Occupied, Single-Person Households
Percent of Renter-Occupied, Single-Person Households