

CHAPTER TWO

The analysis of current and future population trends serves as a fundamental basis for many planning decisions. The size of the population, its composition, and spatial distribution can significantly impact future social, economic, and physical land use needs. An examination of the current and future population size as well as composition also serves as a reference point to predict the future demand for additional facilities and services.

PAST POPULATION TRENDS

It is necessary to examine past population trends for an area in order to understand future projections. In order to put these trends into context it is important to understand population shifts as they have affected the state as a whole. As documented in the *Atlas of Kentucky*, the mean center of population in the United States has shifted westward since the first national census in 1790. In fact, the mean population center for the United States was located in extreme Northern Kentucky in 1880. Since the first census, the population of Kentucky has never declined but has experienced periods of slow growth as shown in Figure 2-1.

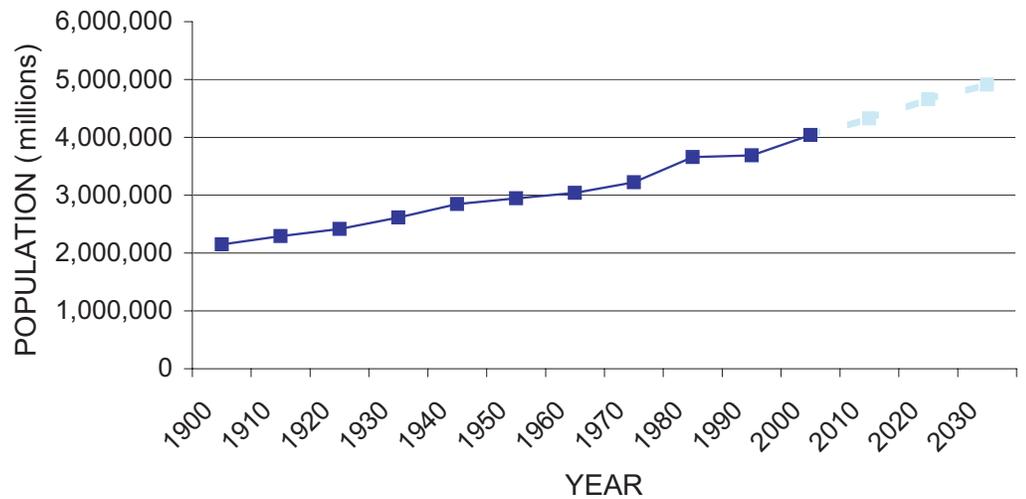
One of the most significant trends affecting population growth in Kentucky occurred between 1980 and 1990. During this time, the state's population increased by less than one percent (0.8%). This increase was extremely low compared to the national average increase of 10% during this same period. Lack of economic opportunities in the state relative to other states in the 1980's contributed to Kentucky's slow growth. During this period, many people sought employment in other states, mostly in the Sun Belt.

In 2000, the state's population totaled 4,041,769 which was a 9.63% increase from the year 1990. As of July 1, 2004, the Kentucky State Data Center estimated that the state had a population of 4,145,922, an increase of 2.3% since 2000. KSDC also estimates that Kentucky will continue to grow between 5.4%-7.8% through the year 2030. According to KSDC these projections, it is estimated that Kentucky will have a total population of 4,912,621 by 2030.

City of Columbia



FIGURE 2-1
Kentucky Population Trends



YEAR	POPULATION	% CHANGE
1900	2,147,174	-
1910	2,289,905	6.65%
1920	2,416,630	5.53%
1930	2,614,589	8.19%
1940	2,845,627	8.84%
1950	2,944,806	3.49%
1960	3,038,156	3.17%
1970	3,220,711	6.01%
1980	3,660,324	13.65%
1990	3,686,891	0.73%
2000	4,041,769	9.63%
2010	4,326,490	7.04%
2020	4,660,703	7.72%
2030	4,912,621	5.41%

Source: U.S. Census Data and University of Louisville, Urban Research Institute, Kentucky State Data Center, Population Forecasts (10/17/05)

Figures 2-2 and 2-3 depict the change in population for Adair County and the City of Columbia. The changes in population in Adair County from the year 1950 projected into the year 2030 are shown in Figure 2-2. From reviewing the chart it can be seen that Adair County has experienced moderate fluctuations in its population. These fluctuations stabilized in 1980 with the population consistently growing since this time. The period of greatest population growth (16.8%) occurred between 1970 and 1980. From 1990 to 2000, the population increased by 1,884 or 12.27% since the year 2000. As of July 1, 2005, the Kentucky State Data Center (KSDC) estimates that the population of Adair County had increased to 17,573 or 1.9%. In 2000 and 2005, Adair County ranked 63rd out of 120 counties in terms of population size.

Figure 2-3 shows the census population for City of Columbia from the years 1960 to 2000. The chart also depicts moderate growth projections for the city through the year 2030. From reviewing Figure 2-3, it can be seen that the population of Columbia has consistently increased over the past forty years, while the population of Adair County has fluctuated and even lost population during this time. The population trend for the City of Columbia, the county seat, has been steadily increasing at various growth rates. Over the past forty years, the period of most rapid growth occurred from 1960 to 1970 when the city experienced a 43.4% increase in population. From 1990 to 2000, the city experienced a 4.4% increase in population. As of July 1, 2005, the Kentucky State Data Center estimated the population of the city to be 4,174. This is a 4.0% increase from 2000. According to the KSDC estimate, the City of Columbia ranks 83nd out of 421 cities in Kentucky in terms of population size.

FUTURE PROJECTIONS

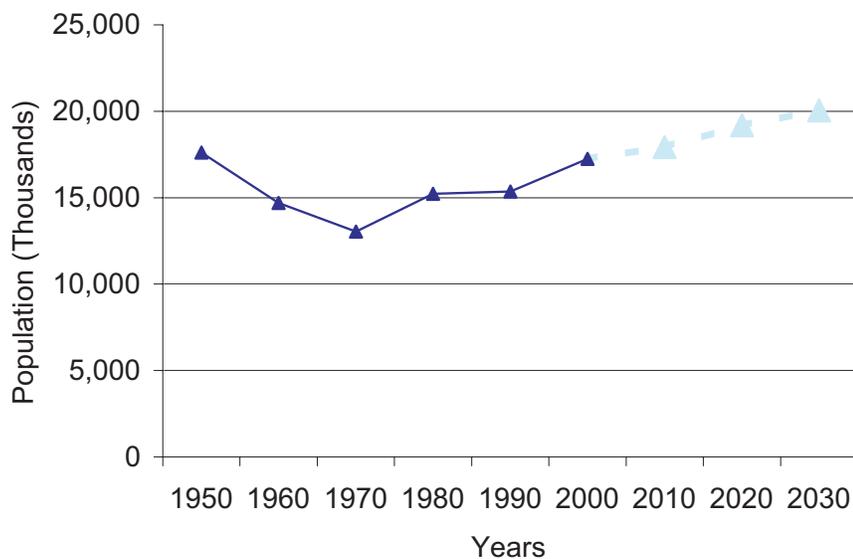
Population projections are derived from statistical analysis that considers both recent and historic population trends. Population forecasts for counties such as Adair are generally accurate while those for cities like Columbia are generally considered less accurate due to the possibility of annexations. Such possibilities could significantly alter the population of an area in a short period of time.

City of Columbia



Population

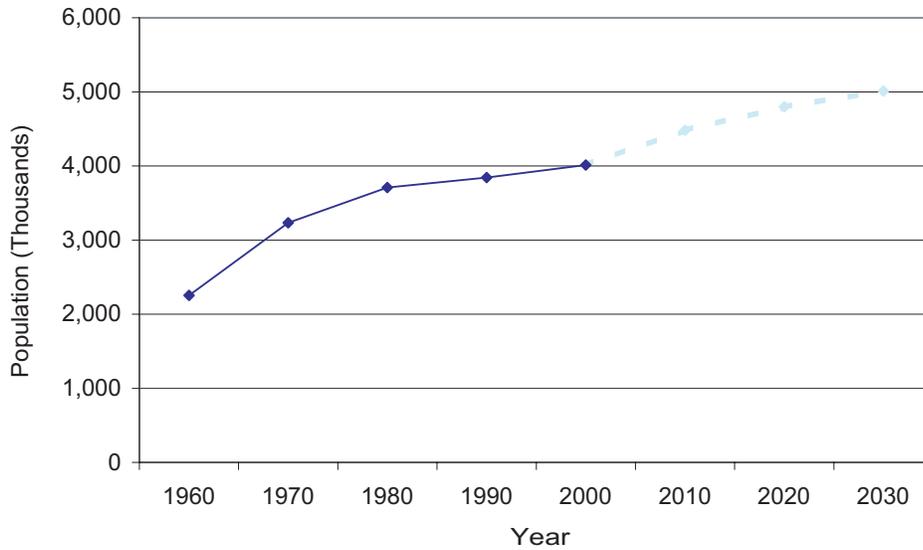
Figure 2-2
Adair County Population



YEAR	POPULATION	% CHANGE
1950	17,603	
1960	14,699	-16.50%
1970	13,037	-11.31%
1980	15,233	16.84%
1990	15,360	0.83%
2000	17,244	12.27%
2010	17,925	3.95%
2020	19,187	7.04%
2030	20,045	4.47%

Source: 1950-2000 Census, University of Louisville Urban Research Institute, Kentucky State Data Center, Population Forecasts, Middle Growth Series (October 17, 2005)

Figure 2-3
City of Columbia Population



Year	Population	% Change
1960	2,255	
1970	3,234	43.4%
1980	3,710	14.7%
1990	3,845	3.6%
2000	4,014	4.4%
2010	4,481	11.6%
2020	4,797	7.1%
2030	5,011	4.5%

Source: 1960-2000 Census, University of Louisville, Urban Studies Institute, County Population Forecasts (October 17, 2005)

City of Columbia



Population

Population projections for Adair County are shown on Figure 2-2. These projections are obtained from the University of Louisville Urban Studies Institute which produces projections of Kentucky state and county resident populations by age and sex. The projections used for the development of the comprehensive plan were current as of October 17, 2005 and replace all previous forecasts produced by the Institute. They are the latest official population forecasts since the 2000 U.S. Census and are revised periodically.

Forecast assumptions for future fertility, survivorship, and migration are derived from the range of cohort rates shown for the components during the 1990-1995 and 1995-2000 periods. For each series there are county migration rates by age and sex. Fertility assumptions, measured by age specific birth rates, were derived for each county. Lower birth rates were used in the low projections, and higher birth rates were used in both the middle and high projections. Projections of future population growth were derived from detailed analysis of county level demographic components of change such as births, deaths, and migration and are based on a cohort-component method. State projections are obtained by summing the county projections. For each county, resident population birth cohorts by sex and five-year age groups through the age of 85 and above are projected forward in five-year age intervals. Age-sex cohorts are aged forward from a beginning age (x) to an ending age (x+5) by adjusting for migration and survivorship. Resident live births over the five-year period are derived from the projected size of the female population and county-level-age-specific birth rates.

As can be seen on Figure 2-2, the Kentucky State Data Center projects Adair County's population to moderately increase over the next 30 years at a rate of approximately 5.41% to 7.72% percent for each ten year period from 2000 to 2030. By the year 2030, the Middle Growth series projects the Adair County population to reach 23,113.

It is important to note that Adair County is being influenced by the same population trends as the United States overall as well as much of western civilization which is entering a period of little or no growth. The birth rate is substantially lower than in earlier periods. Although the death rate has declined, more deaths are occurring, as there are more elderly persons in the popula-

tion. In essence, the number of deaths is approaching the number of births. In Kentucky, the rate of natural increase of the population has decreased by 70% since 1960 and is currently below the U.S. rate. Migration is now the key component of growth in the state's population and the determinant of major swings in population growth rates over the last four decades. From 1995 to 2000, Adair County had 1,055 births, 897 deaths and a net migration of 897 or five percent. KSDC estimates that the number of deaths will exceed the number of births in Adair County by the year 2025.

The Kentucky State Data Center does not issue population projections for cities. City populations can be projected as a proportion of the county population. Figure 2-3 shows population projections for the City of Columbia based on the projections for Adair County. Since 1970, the number of persons within the City of Columbia has consistently accounted for 23% to 25% of the county's population. Due to numerous transportation improvements in the area and city plans to annex additional land, future projections (as shown in Figure 2-3) assume that the city will account for 25% of the county's population in the future. Using this method, the projections suggest that the population of the city will steadily increase at the same rate as the county over the next 20 years. This means that the city's population is projected to reach 4,481 by the year 2010 and 4,797 by the year 2020. By 2030, the population of Columbia is expected to reach 5,011 persons.

RURAL TO URBAN SHIFT

Prior to the year 2000, the U.S. Census classified a county's population as either "urban", "rural farm" or "rural non-farm" (suburban). These classification's were based upon the location of an individual's home and the amount of income that is earned from agricultural activities. Using this method and 1990 Census information it was estimated that Adair County was 25% Urban, 55% Rural Non-Farm and 20% Rural Farm. Obviously, the City of Columbia was considered to have a 100% urban population. Therefore the majority of the residences for the population of Adair County (with the exception of the City of Columbia) was concentrated in rural areas just beyond city limits.

City of Columbia



In the year 2000, the U.S. Census reduced the number of population distribution classifications to two: “urban” and “rural”. Under this classification system, the State of Kentucky was considered to have a population that was 55.7% “urban” and 44.3% “rural”. As of 2000, Adair County’s population was considered to be 25.4% “urban” and 74.6% “rural” , or approximately the same as in 1990.

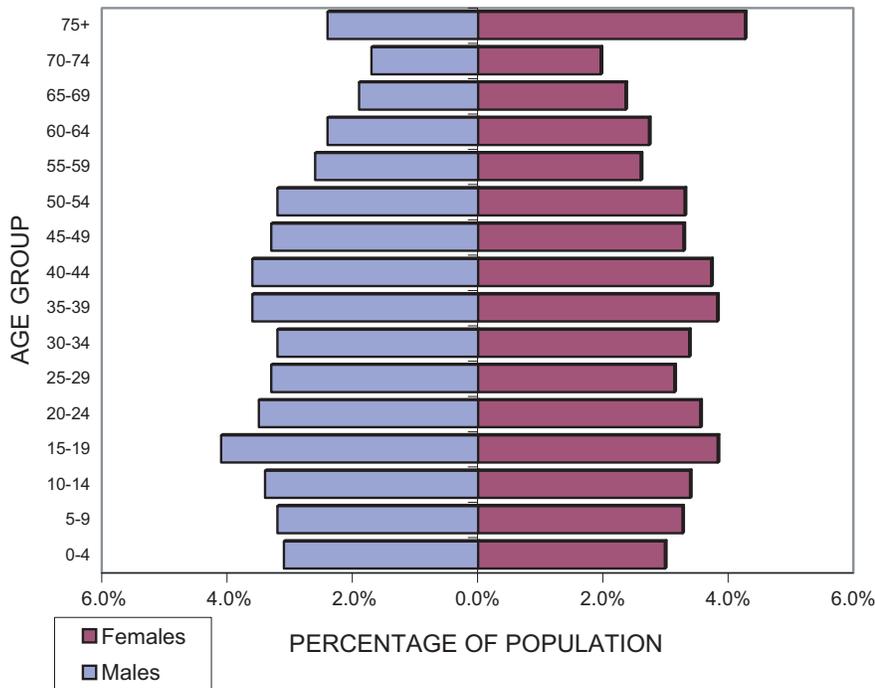
AGE AND SEX CHARACTERISTICS

A population pyramid shows the proportion of a population by sex and age group. Age groups are broken into five year increments up to the age of 75. Those 75 and older are typically shown as one group. A population pyramid for a growing population is in the shape of a true pyramid, wide on the bottom and tapering smaller at the top. A large base of young and working aged persons support a smaller number of elderly persons. An inverted pyramid, with fewer younger persons than older persons, indicates that a population is declining.

Figures 2-4 and 2-5, shown on the next two pages, show the population pyramids for Adair County for the years 2000 and 2030 as developed by the University of Louisville Urban Studies Institute (released July 2004). These figures depict changes in the population composition in Adair County from 2000 to 2030. During this time period, the number of school aged children and elderly persons increase slightly while those in the workforce (35-60) age toward retirement. By the year 2030 the pyramid is becoming more inverted and it is anticipated that the median age of Adair County residents will gradually increase from 36.9 to 42 years of age. At this time it is anticipated that the majority of workers will be nearing retirement age. The pyramid also shows that females account for the majority of elderly persons in the population. This shift may indicate a greater need for empty-nesters or retirement housing over the next 15 years. These trends are also reflected in Figure 2-6 that shows the Adair County population by age group.

There are slightly more females than males in the population overall. In 2000, Adair County’s population distribution was 48.5% male and 51.5% female. In the year 2030, projections show the Adair County population growing to 20,045 people; however, the percentage females to males will slightly increase with 51.7% being female and 48.2% of the population being male.

FIGURE 2-4
ADAIR COUNTY POPULATION PYRAMID 2000

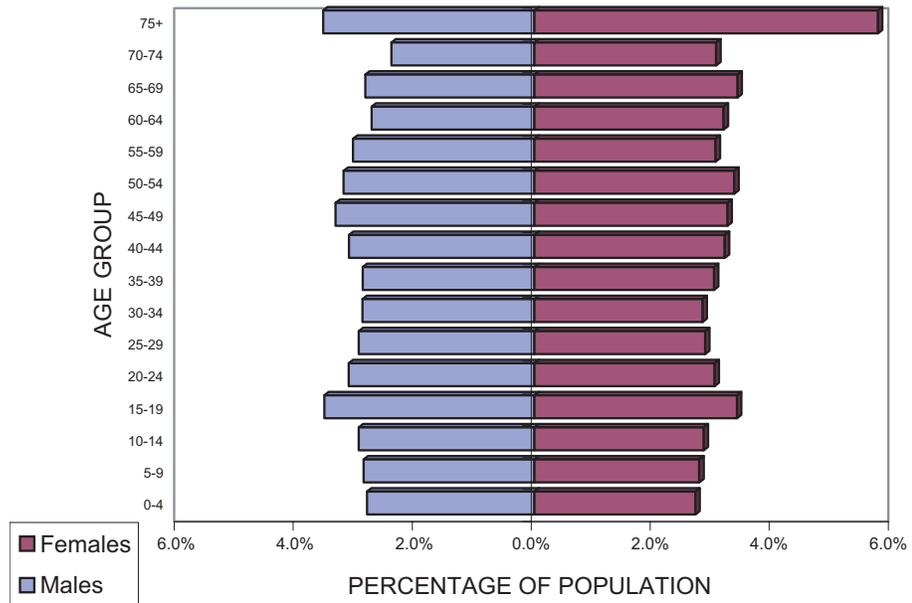


AGE GROUP	%FEMALE	%MALE	FEMALE	MALE	TOTAL
0-4	3.0%	3.1%	515	532	1,047
5-9	3.3%	3.2%	563	546	1,109
10-14	3.4%	3.4%	584	580	1,164
15-19	3.8%	4.1%	660	701	1,361
20-24	3.5%	3.5%	612	611	1,223
25-29	3.1%	3.3%	541	574	1,115
30-34	3.4%	3.2%	581	544	1,125
35-39	3.8%	3.6%	658	624	1,282
40-44	3.7%	3.6%	642	620	1,262
45-49	3.3%	3.3%	566	572	1,138
50-54	3.3%	3.2%	569	560	1,129
55-59	2.6%	2.6%	448	445	893
60-64	2.7%	2.4%	471	412	883
65-69	2.4%	1.9%	406	327	733
70-74	2.0%	1.7%	338	289	627
75+	4.3%	2.4%	735	418	1,153
TOTALS	51.5%	48.5%	8,889	8,355	17,244

City of Columbia

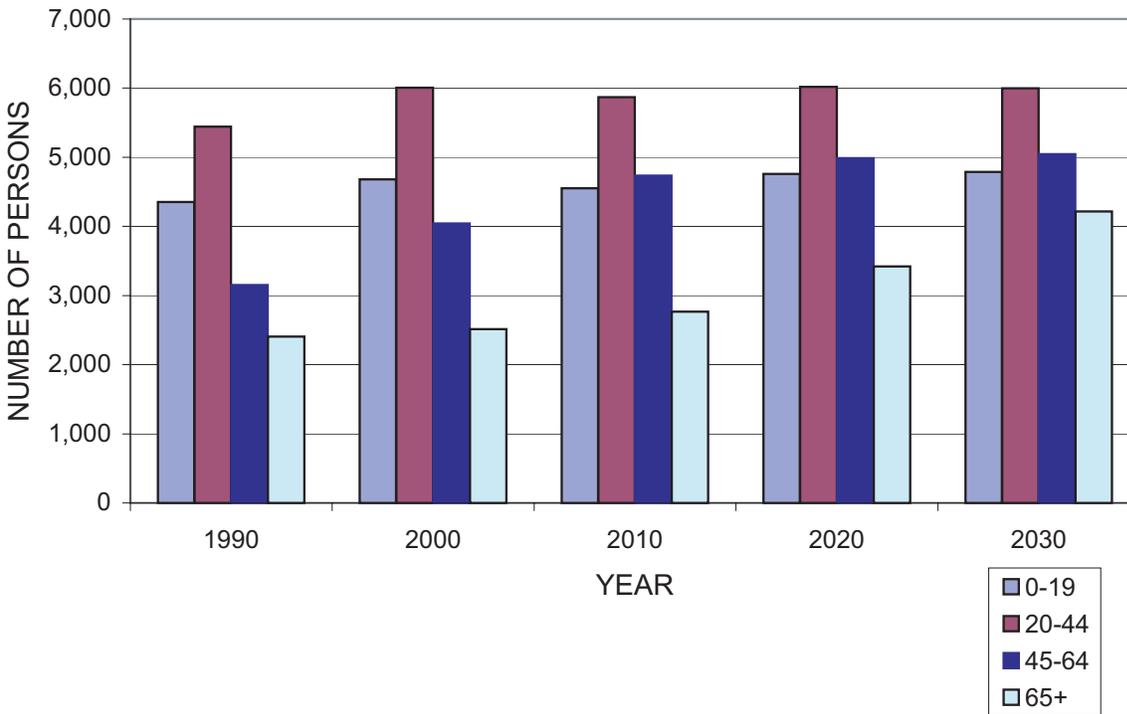


Figure 2-5
ADAIR COUNTY POPULATION PYRAMID 2030



AGE GROUP	%FEMALE	% MALE	FEMALE	MALE	TOTAL
0-4	2.7%	2.8%	542	564	1,106
5-9	2.8%	2.9%	555	576	1,131
10-14	2.8%	3.0%	570	592	1,162
15-19	3.4%	3.5%	682	708	1,390
20-24	3.0%	3.1%	607	626	1,233
25-29	2.9%	3.0%	575	592	1,167
30-34	2.8%	2.9%	566	580	1,146
35-39	3.0%	2.9%	605	579	1,184
40-44	3.2%	3.1%	641	625	1,266
45-49	3.2%	3.3%	650	670	1,320
50-54	3.4%	3.2%	673	643	1,316
55-59	3.0%	3.0%	610	611	1,221
60-64	3.2%	2.7%	637	549	1,186
65-69	3.4%	2.8%	684	570	1,254
70-74	3.1%	2.4%	612	482	1,094
75+	5.8%	3.6%	1,157	712	1,869
TOTALS	51.7%	48.3%	10,366	9,679	20,045

**FIGURE 2-6
ADAIR COUNTY POPULATION BY AGE GROUP**



AGE	1990	2000	2010	2020	2030
0-19	4,355	4,681	4,554	4,759	4,789
20-44	5,444	6,007	5,871	6,018	5,996
45-64	3,154	4,043	4,734	4,988	5,043
65+	2,407	2,513	2,766	3,422	4,217
Total	15,360	17,244	17,925	19,187	20,045

Source: University of Louisville, Urban Studies Institute, Projections of Total Resident Populations by Age and Sex and Components of Change (July 2004)

City of Columbia



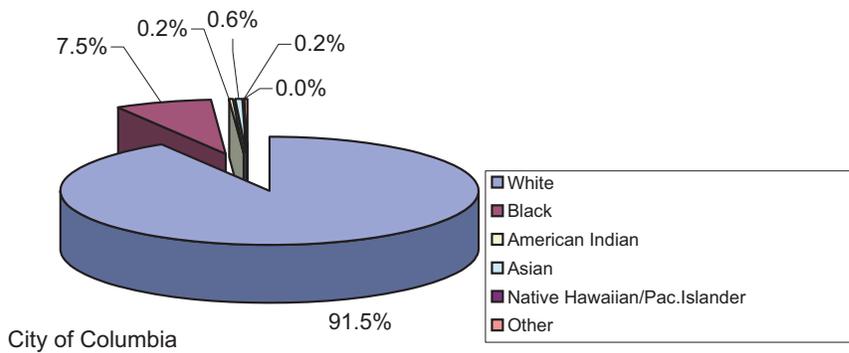
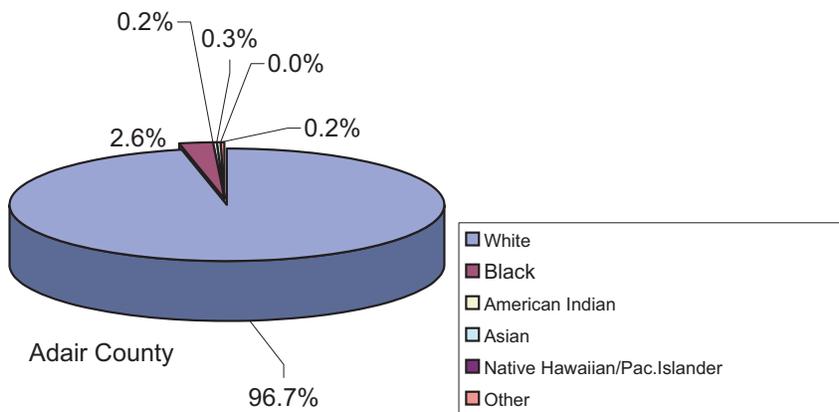
RACIAL CHARACTERISTICS

Although the population has grown over the past ten years, Adair County and the City of Columbia continue to have a relatively homogeneous racial composition with the majority of the population defined as “White” as shown in Figure 2-7. In 2000, Adair County had a total population of 17,244 with 17,113 persons (99.2%) considering themselves as one race with 131 (0.8%) considering themselves as two or more races. Of the persons considering themselves as one race, 16,555 (96%) of the total population were White. Black or African American persons accounted for 2.6% of the population. A very small percentage of the population (0.2%) was categorized as American Indian and Alaska Native, .3% were Asian, and less than 1% were considered to be Native Hawaiian and Other Pacific Islander. The number of persons categorized as “some other race” was 32 or 0.2%. Persons considering themselves Hispanic accounted for .8% of Adair County’s Population.

In 2000, the City of Columbia had a total population of 4,014 with 3,996 (99.8%) considering themselves to be one race and 48 persons (1.2%) considering themselves as two or more races. Of the persons considering themselves one race, 3,628 of the total population were White. Persons considering themselves Black or African American accounted for 7.4% of the city’s population. Of the remaining population, .2% were American Indians and Alaska Natives and .6% Asian. Less than one percent was Native Hawaiian or Other Pacific Islander. The number of persons categorized as “some other race” was .2%. Persons considering themselves to be Hispanic comprised 1% of city residents.

Minority populations are expected to increase as a percentage of the United States population overall. As a higher level of migration into Adair County is anticipated, it can be expected that minority populations in Adair County and the City of Columbia will continue to increase somewhat in the future.

FIGURE 2-7
ADAIR COUNTY POPULATION BY RACE 2000



OF ONE RACE	ADAIR COUNTY		CITY OF COLUMBIA	
	NUMBER	%	NUMBER	%
White	16,555	96.0%	3,628	90.4%
Black	440	2.6%	296	7.4%
American Indian	38	0.2%	9	0.2%
Asian	45	0.3%	24	0.6%
Native Hawaiian/Pac. Islander	3	0.0%	1	0.0%
Other	32	0.2%	8	0.2%
Total	17,113		3,966	

Source: 2000 U.S. Census

City of Columbia



HOUSEHOLDS AND FAMILY

The basic reporting unit, in terms of demographic data is the household. The household is also the most prevalent living arrangement in American Society. A household can either be classified as a family household or non-family household. A family household is comprised of two persons or more who are related by blood, legal adoption or marriage.

In 1980, Kentucky had 2.82 persons per household. However, by 1990 the number of persons per household had declined to 2.60. The number of persons per household in Adair County also declined during this same period. The number of persons per household in the county in 1980 was 2.76. This number decreased to 2.57 persons per household by 1990.

In 2000, there were 2.59 persons per household in the United States with slightly less persons per household (2.47) for the state of Kentucky. While Adair County was close to the state average of number of persons per household at 2.44, the number of persons per household was significantly lower in the City of Columbia at 2.12.

Adair County and the City of Columbia are experiencing the same trend as Kentucky and the United States overall as household sizes continue to shrink. However, the Kentucky State Data Center has projected that the number of persons per household in Adair County will be 2.37 in the year 2015 and remain the same through the year 2030.

EDUCATIONAL LEVEL

The educational level of an area's population must be considered when analyzing the ability of those in the local workforce to obtain and sustain meaningful and well-paying employment in the future. In today's economy the fastest growing professional occupations require at least a bachelor's degree

and are concentrated heavily on professional specialty groups or technology oriented. The following table compares the educational level of the U.S., Kentucky, Adair County and City of Columbia residents.

TABLE 2-1

Location	% High School Graduates or Above	% of 25+ with Bachelors or Above
USA	80.4%	24.4%
Kentucky	74.1%	17.1%
Adair County	60.1%	10.9%
Columbia	65.4%	16.4%

In 2000, 80.4% of persons 25 and older in the U.S. were high school graduates or above with 24.4% having a Bachelor’s Degree or higher. These numbers were slightly lower for Kentucky and moderately lower for Adair County and the City of Columbia.

SUMMARY

The following statements summarize the findings of the population chapter:

1. Adair County’s population growth is anticipated to continue through the year 2020 when it is estimated that approximately 19,187 people will live in Adair County. This is a 11.26% increase from the 2000 U.S. Census. By the year 2030, it is estimated that over 20,000 people will be residents of the county.
2. The City of Columbia will continue to experience moderate growth into the year 2020 when it is estimated that the population will be 4,797 a 19.5% increase from 2000. By the year 2030, it is estimated that the population of Columbia will exceed 5,000.

City of Columbia



Population

3. The population within Adair County and the City of Columbia is expected to become more diverse as in-migration into the region continues during the planning period. This is important as the population characteristics of in-migrants are often different from those of out-migrants. Young workers may leave and be replaced by older workers and families who may choose to retire in the area.

4. Adair County's population will increasingly be characterized as urban in nature due to anticipated transportation improvements and annexation efforts by the City of Columbia.