

Chapter 3. Demand and Projection Analysis
Amended November 28, 2006



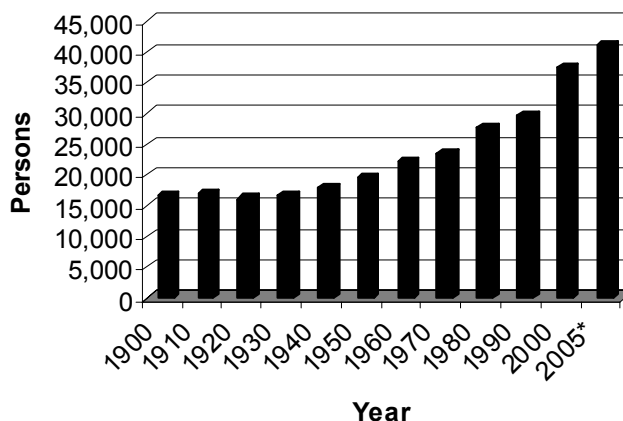
The amount of future growth than can be anticipated the next 25 years represents the growth demand capacity in Nelson County. Growth demand refers to the amount of population and employment growth that is projected for Nelson County. Based on the projected population and job growth for Nelson County, an estimate of the amount of land that will be required for housing, commercial and industrial uses has been established. This chapter identifies the population and employment data and projections for future growth in Nelson County. These demand projections are the basis for the future land use plans and policies for Nelson County.

HISTORICAL POPULATION

The growth rate in Nelson County has fluctuated over the last 150 years. Table 1 lists the historical population and percentage of change for Nelson County for each decade from 1850 to 2005. The County experienced losses in population several times in its early history (1860-70, 1880-90, and 1910-20). However, the County has had steady population increases since 1920 with three periods of double digit percentage growth - between 1950-60, 1970-1980, and more recently between 1990-2000. The historical population is graphed in Figure 6. As can be seen, the population growth has been steady in Nelson County but at a greater rate since 1960.

**Table 1 & Figure 6
Historical Population
Nelson County
1900 – 2005***

<u>Year</u>	<u>Population</u>	<u>% Change</u>
1900	16,587	1.0%
1910	16,830	1.5%
1920	16,137	-4.1%
1930	16,551	2.6%
1940	18,004	8.8%
1950	19,521	8.4%
1960	22,168	13.6%
1970	23,447	5.8%
1980	27,584	15.0%
1990	29,710	7.2%
2000	37,477	26.14%
2005*	40,977	9.34%



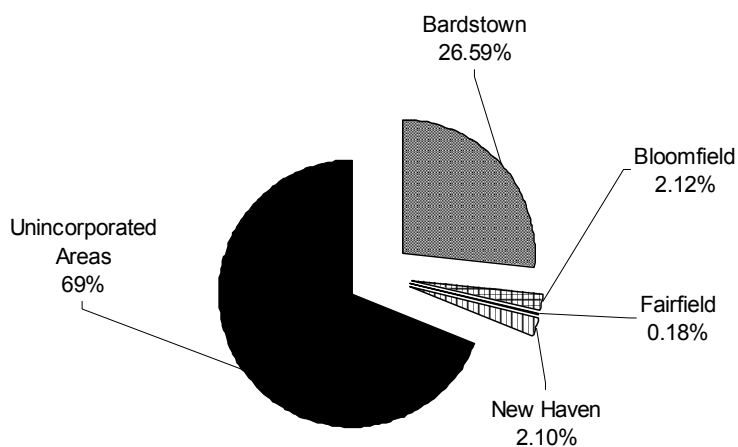
*estimate

Source: U.S. Bureau of the Census

The historical population figures begin to illustrate the rising trend of development in Nelson County. The historical population charts population growth up to 2005, the date of the last U.S. Census estimate. Table 2 below provides a breakdown of the distribution of Nelson County residents in the incorporated areas of Nelson County according to the 2005 Census estimate. Figure 7 below illustrates the distribution of Nelson County's 2005 population within the incorporated areas.

**Table 2 & Figure 7
Population Distribution
Nelson County
2005 Estimate**

<u>Place</u>	<u>Persons</u>
Bardstown	10,897
Bloomfield	868
Fairfield	75
New Haven	859
Unincorporated Areas	<u>28,278</u>
	40,977



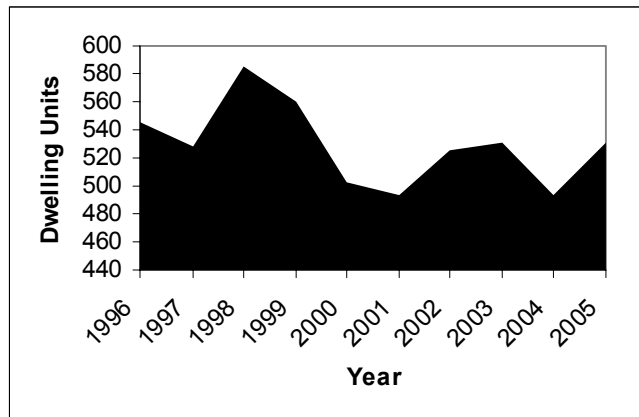
*estimate

Source: U.S. Bureau of the Census

Historical population growth is a good indicator of the growth experienced in Nelson County. The number of issued zoning compliance permits is also a significant indicator of growth trends. Table 3 indicates the number of zoning compliance permits for new dwelling units issued in Nelson County from 1996 to 2005. Over the last ten years, zoning compliance permits have been issued for 5,297 new dwelling units.

**Table 3 & Figure 8
Total Dwelling Units
1996-2005**

Year	# Dwelling Units
1996	546
1997	528
1998	585
1999	560
2000	503
2001	493
2002	526
2003	531
2004	494
2005	531



Source: Joint City-County Planning Commission of Nelson County, Zoning Compliance Permits.

Between 1996 and 1998, the number of new dwelling units peaked. The next three years marked a decrease in new residential units; however, since 2000, the number of zoning compliance permits for residential units has been fairly constant. Figure 8 illustrates the increasing growth trend in Nelson County.

CURRENT POPULATION

Zoning compliance permit data can also be used as the basis for determining Nelson County's current population, anticipated demand for housing in the future and to evaluate how development pressures have been distributed throughout the County.

The number of zoning compliance permits issued since the 2000 Census can be used to project the amount of residential growth that occurred through 2005. The total number of households (14,934) in the 2000 Census was added to the total number of dwellings units (2,193), approved by zoning compliance permits between 2000 and 2005, to determine the total number of households (17,127) in 2005. Second, using a 6.6 percent vacancy rate, the number of vacant units (1,130) was determined and then subtracted from the total households. Finally, the total number of households, less vacant units, (15,997) was multiplied by the average persons per household (2.6) to calculate the 2005 estimated population (41,591).

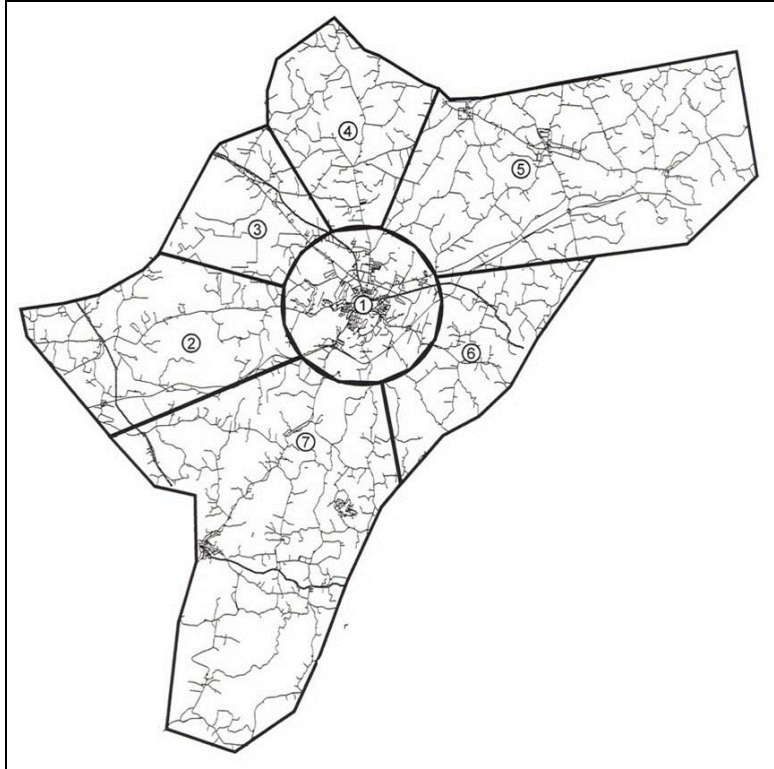
While permits for new dwelling units remained constant since 2002, the number of permits for dwelling units has shown a marked decrease in 2006.

CURRENT DEVELOPMENT DISTRIBUTION

Zoning compliance permit data can also be used to evaluate where development has located within the County. Using records available from the Joint City-County Planning Commission, an analysis was conducted of the location of the building permits issued from 1996 to 2005. The zoning compliance permits were categorized into one of seven geographical areas in the County. The percentages illustrated in the map in Figure 9 indicate the distribution of the zoning compliance permits in the last five years.

Table 4 & Figure 9
Residential Development Pattern
Nelson County
1997 – 2005

Geographic Area (Map #)	# Units (% of Total)
Nelson County Total	4,752 (100%)
Bardstown Urban (#1)	1,600 (34%)
Boston Road (US 62) (#2)	217 (5%)
KY 245 (#3)	600 (13%)
Louisville Road (US 31E) (#4)	406 (9%)
Bloomfield Road (US 62) (#5)	685 (14%)
Springfield Road (US 150) (#6)	519 (11%)
New Haven Road (US 31E) (#7)	363 (8%)



Source: Joint City-County Planning Commission.

The analysis of the location of zoning compliance permits issued between 1996 and 2005 indicates that while approximately 34 percent, or 1,600 units, of the residential development has occurred in and around Bardstown, the remainder of the development, 66 percent or nearly 3,152 homes, has been scattered throughout the rest of the County.

The implication of this analysis is that the current development pattern in Nelson County is one in which development is predominately scattered throughout the County, primarily along the New Shepherdsville Road (KY 245), Bloomfield Road (US 62), and Woodlawn Road/Poplar Flat Road (KY 605) corridors. This scattered development pattern can have serious impacts on the rural character of the County. Scattered development also presents difficulties in planning and provisions of services and infrastructure, primarily (sewer and water), because customers are not necessarily located where service extensions are feasible or most logical. This development pattern can require costly service extensions and can encourage sprawl outside of urban areas.

For many reasons it is more desirable to encourage a compact development pattern that focuses around existing developed areas. Compact development patterns can reduce the impact of urban sprawl, protect rural character and reduce infrastructure extension costs. Compact development also allows community facilities, such as schools, recreation and emergency services, to better serve customers by concentrating in service areas where the largest populations can be served. Nelson County should also be concerned about scattered development trends because of the threat that this creates on agricultural lands.

PROJECTED POPULATION AND HOUSING DEMAND

Assessing future population projections provides a means for analyzing the impacts of continued growth on a community. This analysis uses the population projections established by the Kentucky State Data Center. Using the cohort-component model, the Data Center based the projections, for six consecutive five-year intervals from 2000 to 2030, on assumptions of Nelson County's future mortality, fertility, and likelihood of moving. The Data Center used the 2000 Census as the launch population for the first interval projected (2005-2010) and then used to launch the projection for the next interval (2005-2010), and so on. Table 4 shows the population projections through 2030.

Table 5
Nelson County Non-Agricultural Employment Projections
2010 - 2030

Year	# Persons	% Change
2000 Census	37,477	--
2005 Estimate	40,977	9.34%
2010 Projection	45,000	9.82%
2015 Projection	48,601	8.00%
2020 Projection	51,858	6.70%
2025 Projection	54,779	5.63%
2030 Projection	57,293	4.59%

Source: U.S. Census Bureau; Kentucky State Data Center.

The 2030 population projection shows that Nelson County's population will grow to 57,293 residents. This population projection translates into an increase of 16,316 persons and, using 2.6 persons per dwelling, the projection also shows a demand of 6,275 homes. Depending on future residential densities, Nelson County will realize a residential demand of approximately 2,000 and 3,500 acres. This anticipated demand implies that an adequate mix of residential, commercial and industrial uses to meet this population demand. Similarly, the County should plan its transportation, water, sewer, recreation, school, police, fire, and other facilities to serve this population.

EMPLOYMENT PROJECTIONS

An understanding of future employment trends is also important to develop a coordinated Land Use Plan for the future. The primary focus of developing employment projections for *Nelson County 2020* is to determine the amount of land that should reasonably be planned for to accommodate future non-residential growth. This plan utilizes employment projections in order to verify that the amount of land designated for future non-residential uses (industrial, retail, office, etc.) will be sufficient to accommodate the employment projected in Nelson County.

Table 5 illustrates the rate of employment projected in the future for Nelson County through 2030. Examining employment projections where conditions can be volatile, allows the County to be prepared for the future as trends change over time. The objective for this Plan is to identify adequate amounts of land, in the right locations, with the proper services for Nelson County to continue to be economically strong in the future. The total employment projections for Nelson County indicate that enough land should be planned to be available to provide approximately

3,000 jobs over the next 25 years. Agriculture and related services are not included for this analysis of determining land needs for nonresidential uses. Agriculture is a land intensive use and the number of acres needed for the future is difficult to estimate. Preservation of agriculture is addressed through the Plan's overall concern for protecting the rural character and maintaining agriculture as a strong industry in Nelson County in the future.

**Table 5
Employment Projections
Nelson County
2000 - 2030**

Year	Moderate Growth	% Change	Adjusted Growth	% Change
1996 Actual	11,475	----	11,475	----
2005 Actual	13,887	21.02%	13,887	21.02%
2010 Projection	14,609	5.2%	15,248	9.8%
2015 Projection	15,208	3.9%	16,468	8.0%
2020 Projection	15,740	3.5%	17,785	6.7%
2025 Projection	16,212	3.0%	18,781	5.6%
2030 Projection	16,698	3.0%	19,644	4.6%

Note: Adjusted growth is an acceleration of the projected job growth based on actual employment between 1996 and 2005.

**Table 6
Employment Growth by Land Use Type
2005 -2030**

Employment Sector	Projected Employment Growth 2005 – 2030	Employment Growth by Land Use Type		
		Office Uses	Retail Uses	Industrial Uses
Mining & Quarrying	0			
Contract Construction	269-550	54-110 (20%)		215-440 (80%)
Manufacturing	793-1625			793-1625 (100%)
Transportation, Trade, Utilities & Information	536-1097	54-110 (10%)	375-768 (70%)	107-219 (20%)
Finance, Insurance & Real Estate	87-177	87-177 (100%)		
Services	776-1589	582-1192 (75%)	194-397 (25%)	
State & Local Government	339-694	339-694 (100%)		
Other Industries	11-25			
Total Jobs	2811-5757	1116-2283	569-1165	1115-2284

Table 6 breaks the total employment for the 25-year period into eight primary employment sectors. Table further subdivides the types of land use needs created by each employment sector according to the general proportion of land use types dedicated to each industry.

**Table 7
Land Use Demand
2005 – 2030**

Land Use Type	Acreage Demand
Office	159-326
Commercial / Retail	81-166
Industrial	159-326
Total Uses	399-818

The number of jobs projected for each land use type (office, retail, industrial) has been used to determine the amount of acres needed for the future. It is assumed that approximately seven employees per acre will be employed for each land use type on average. There will be a demand for between 399 and 818 acres of nonresidential land based on the jobs per acre assumption. Table 7 provides a breakdown of the number of acres by land use category needed for the future.

CONCLUSION OF POPULATION, HOUSING AND EMPLOYMENT ANALYSIS

Nelson County has always been an attractive growing community. Population and housing data for recent years demonstrated that growth trends are intensifying and are expected to continue. Nelson County’s current population is estimated to be 40,977 and is projected to increase by nearly 16,316 residents in the next 25 years, resulting in a 2030 population of 57,293.

This projected population increase represents Nelson County’s demand for housing for the next 25 years. The employment projections identify the amount of job demand that can be expected in the future. The County should identify methods that will redistribute the current development trend to discourage scattered development that threatens rural character, agriculture, and service delivery and costs. Such methods are suggested in the Land Use Plan section in Chapter 6.

**Table 8
Future Land Use Demand
2005-2030**

Land Use Type	Demand Acreage	Adjusted Demand Acreage
Residential	2,000 – 3,500	4,000 – 7,000
Office	159 - 326	318 - 652
Retail / Commercial	81 - 166	162 - 332
Industrial	159 - 326	318 - 652
Total	2,399 - 4,318	4,798 - 8,636

Similarly, *Nelson County 2020* should identify adequate amounts of land for non-residential uses to support the projected employment increases as well as the service needs of future populations. As a general standard a Land Use Plan should provide between one and one-half and two and one-half times the amount of land projected for both residential and non-residential uses. This general standard has been established because more land should be planned for availability than is prescribed by the demand projection in order to provide adequate land choice and market opportunity in the future. A multiplier of two would require 798 to 1,636 acres for non-residential uses and 4,000 – 7,000 acres for residential uses depending on future densities. Table 8 illustrates the number of acres needed by land use type using a multiplier for future land area demand.