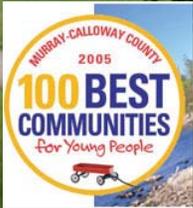




# City of Murray, Kentucky COMPREHENSIVE PLAN 2009



**Florence & Hutcheson**

CONSULTING ENGINEERS



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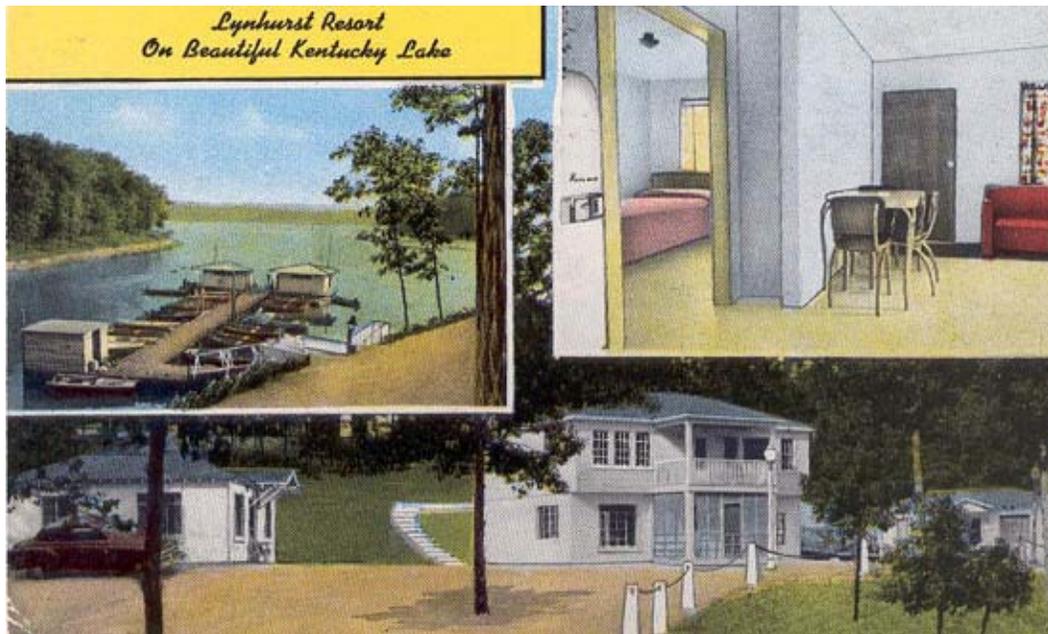
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## INTRODUCTION

This Comprehensive Plan for the City of Murray serves as its guide to the planning of land use as the city continues to grow and develop. Planning for use of the lands within its jurisdiction allows the Murray Planning Commission to make decisions that encourage the proper types of development in suitable areas. Development in accordance with a plan also allows a balanced set of land uses and minimizes the conflicts that can occur between land uses. Development in accordance with a plan also allows growth to occur in areas that can accommodate the growth without placing a strain on the infrastructure designed for growth.



Calloway County Penny Post Card

## History

Calloway County became Kentucky's seventy-second county in 1822. It was named in honor of Col. Richard Callaway who had a long history in Kentucky. He was part of the group of Col. Boone's in 1775 that began the First Road of Trace from Long Island on the Holston River to Boonesborough on the Kentucky River. His name appeared for Boonesborough in 1775 as a representative of the Colony of Transylvania.

Wadesboro was established as the county seat and served in that capacity until 1842. This community flourished with over 300 citizens. It became a center for land speculation. Many emigrants as well as the speculators came in search of vacant lands when the public lands were offered for sale by the legislature. It was indeed a thriving town with much accompanying excitement and activity. It quickly lost its prominence when the lands were parceled and sold. It fell into ruins with many of the citizens moving away.

Marshall County separated from Calloway County in 1842 and a new county seat for Calloway County was needed. The county seat was moved in 1844 to Murray, a site located near the

# COMPREHENSIVE PLAN

center of the county. The city was named for John L. Murray, a Kentuckian who served in the U.S. Congress.

The City of Murray experienced early development in the vicinity of the present Calloway County Courthouse. This development was supported by the Courthouse activities and local streets in the vicinity were laid out in a typical grid pattern around the Court Square. Growth has tended to occur in a westerly and southwesterly direction from the initial location of the settlement, avoiding the flood hazard in the lower elevations along Clarks River east and south of the city.

Murray Normal School was established in 1922 in the northwest quadrant of the city, growing from an initial enrollment of 202 students to more than 10,000 in 2009 during its evolution to Murray State University. The growth of Murray State University over the years has had a significant impact on overall development patterns in the city. The effect of the university's expansion and subsequent surrounding growth has been the acceleration of development in a westerly and northwesterly direction, increasing the distance between the original downtown center and the current distribution of population.

Another significant historical development influence has been the location of industrial and related commercial uses north and south along the railroad between the downtown area and the river. Low density residential uses have developed more recently in the southwestern portion of the city. The commercial focus of the city shifted from downtown and South 12th Street as new, highway-oriented retailers and restaurants located along North 12th Street near the university.

## Planning Area

The area covered by the plan is the City of Murray Urban Services Area (USA). The USA includes all of the area within the Murray city limits and portions of Calloway County adjacent to the city limits that are served by city water and wastewater utilities. Map CP-1 shows the planning area delineating the city limits and the USA boundary. Murray has an agreement with Calloway County that allows it to exercise extraterritorial jurisdiction under *KRS 100.131* for land development activities within a four-mile radius from the intersection of 12<sup>th</sup> Street and Main Street.

## Statutory Requirements

The Planning Commission of a planning unit constituted under KRS Chapter 100 is required to develop a comprehensive plan to serve as a guide for public and private actions and decisions to assure the development of public and private property in the most appropriate relationships.

The minimum statutory requirements for a comprehensive plan for the Murray Comprehensive Plan area include:

- (1) A statement of goals and objectives that serves as a guide for the physical development and economic and social well-being of the planning unit;
- (2) A land use plan element showing proposals for the most appropriate, economic, desirable, and feasible patterns for the general location, character, extent, and interrelationship of the

# COMPREHENSIVE PLAN

manner in which the community should use its public and private land at specified times as far into the future as is reasonable to foresee. Such land uses may cover, without being limited to, public and private, residential, commercial, industrial, agricultural, and recreational land uses;

(3) A transportation plan element that shows proposals for the most desirable, appropriate, economic, and feasible pattern for the general location, character, and extent of the channels, routes, and terminals for transportation facilities for the circulation of persons and goods for specified times as far into the future as is reasonable to foresee. The channels, routes, and terminals may include, without being limited to, all classes of highways or streets, railways, airways, waterways; routings for mass transit trucks, etc.; and terminals for people, goods, or vehicles related to highways, airways, waterways, and railways;

(4) A community facilities plan element showing proposals for the most desirable, appropriate, economic, and feasible pattern for the general location, character, and the extent of public and semipublic buildings, land, and facilities for specified times as far into the future as is reasonable to foresee. The facilities may include, without being limited to, parks and recreation, schools and other educational or cultural facilities, libraries, churches, hospitals, social welfare and medical facilities, utilities, fire stations, police stations, jails, or other public office or administrative facilities;

(5) Any additional elements such as, without being limited to, community renewal, housing, flood control, pollution, conservation, natural resources, regional impact, historic preservation, and other programs which in the judgment of the planning commission will further serve the purposes of the comprehensive plan.

The statute further requires that the comprehensive plan elements, and their research basis, be reviewed at least once every five years in light of social, economic, technical, and physical advancements or changes. The planning commission is also required, at least once every five (5) years, to amend or readopt the plan elements.

## Last Plan Update

As indicated above, the basic components of a Comprehensive Plan are a Land Use Element, a Transportation Element, and a Community Facilities Element. An update of the Land Use Element was completed in 2002. The last update of the Community Facilities Element and the Transportation Element was completed in 1990.

## Content of the Plan

The Murray Comprehensive Plan contains four elements; the Base Study Element the Land Use Element, the Transportation Element, and the Community Facilities Element. A summary of the type of information in each element follows.

**The Base Study Element** contains the research that applies to the other three elements. The research includes information on population and demographics. Since economic development is a focus for the City of Murray, the Base Study Element also contains information related to economic development in Murray.

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**The Land Use Element** contains the results of an inventory of land uses conducted during the summer of 2008. The inventory was used to prepare maps of the current uses of land in the planning area. The various land areas in 2008 are compared with the land areas determined from an inventory in 2002, giving an idea of the changing land use patterns. The Land Use Element also contains maps showing the planned future land uses in Murray that will serve as the Planning Commission's guide when making land use decisions.

**The Transportation Element** provides information and maps on the existing transportation infrastructure in Murray. The element also identifies improvements to the existing infrastructure to support the future land uses desired for the planning area.

**The Community Facilities Element** is divided into two sections Utilities and Other Community Facilities. Utilities are discussed separately because they not only have a need for land, but also provide the infrastructure to accommodate development. The Other Community Facilities section describes the organizations that support the community and require land in providing these essential community services. Both sections describe future land needs for each of the indicated organizations.

## Goals and Objectives

Goals and objectives were developed by a citizen's advisory group to be used as the basis for the Murray Comprehensive Plan. The major areas of goals are summarized below. The full text of the adopted goals and objectives are found in Appendix A. Goals and Objectives that are directed toward one of the four elements of the plan are integrated into that specific plan element. This facilitates the tailoring of the plan to address the goals and objectives.

**Future Land Use Goal:** To achieve a balanced pattern of land use that meets the needs of the population, stimulates physical, social and economic development, and protects the environmental well being of the community.

**Community Relations Goal:** To improve, both locally and regionally, the interrelationships among citizens, government, community, education, and business.

**Economy Goal:** To improve the local economy through a planning process that stresses retention, expansion, attraction, local initiatives, diversification, and quality of businesses and manufacturers.

**Transportation Goal:** To plan for the development and management of a transportation system that accommodates the various means of moving people and goods from place to place in a safe and efficient manner.

**Public Facilities and Services:** To improve the quality of life for all citizens by providing a wide range of services and facilities to include education, recreation, health/social, protective (fire, police, and emergency), infrastructure (water, sewer, streets, drainage), waste disposal, planning/code enforcement, and administration.

**Housing Goal:** To support a diversity of housing opportunities that provides adequate, safe, and affordable housing units for the citizens of Murray and to upgrade the quality and character of residential areas.

# COMPREHENSIVE PLAN

**Commercial, Industrial, and Agricultural Areas Goal:** To recognize the need for a variety of commercial, industrial, and agricultural areas in the community that will provide the necessary goods and services while minimizing adverse effects on all other nearby uses.

**Historic Preservation Goal:** To protect and preserve Murray's historic sites and structures while promoting a better understanding of the significance of the city's historic places, people, and events.

**Environment Goal:** To protect the natural environment from further deterioration and to improve existing environmental quality.

## BASE STUDY ELEMENT

### INTRODUCTION

This Base Study Element contains the information from the basic research and studies undertaken as part of the Murray Comprehensive Plan. The information in this element was used in developing the information in the Land Use Element, the Transportation Element, and the Community Facilities Element. The two segments of information in this element are the Murray Population/Demographics and Economy. The current population and demographics are presented. In addition, population projections are given that form the basis for land use and infrastructure needs. Information on the economic activity and the individuals and entities involved in that activity are also presented.

### POPULATION/DEMOGRAPHICS

#### Population

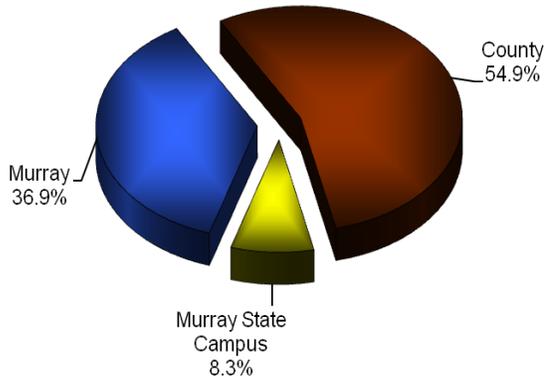
The projection of population involves examining the population growth from past years and projecting the population to a future period. The period between 2008 and 2020 was selected as the time period of interest. Current population estimates and population projections were made by the Kentucky State Data Center in conjunction with the U.S. Census Bureau. Planning for future land use dictates using population estimates coincident with planning period.

The Census Bureau also collected information during the 2000 census on the demographics of the population in Murray. Changes in demographics are generally not projected unless there is information to indicate significant changes. Since no evidence was available to indicate changes in demographics coincident with population changes for Murray, the demographic information presented here are from the 2000 census.

The study area of the Murray Comprehensive Plan is the Murray Urban Services Area. Since the study area includes a portion of Calloway County outside the Murray city limits, the population and demographic information for both the City of Murray and Calloway County are shown. No attempt was made to calculate, using census tract information, the 2000 population in the portion of the planning area outside the city limits and project it to a future year. Rather, it is believed that the majority of population growth in Murray will be in the planning area. Therefore, using the projected populations for the City of Murray and all of Calloway County is sufficient for the purposes of this comprehensive plan.

## COMPREHENSIVE PLAN

**Figure BS-1 Population Distribution  
Calloway County 2007**



The current estimated population distributions of Murray and Calloway County are shown in Figure BS-1. The major segment of the County's population is located in Murray. The general characteristics of the population are shown in Table BS-1 and, in general, the population characteristics are similar for both the city and county. The 2007 population estimate for Calloway County was 36,189. Approximately 55 percent of this population was outside the Murray city limits and 45 percent within the City.

Approximately 8 percent of the County's resident population and 22 percent of the City's resident population are Murray State University students. There are approximately 7,000 additional Murray State students that are commuters and not considered part of the resident population.

Data from the 2000 census, as shown in Table BS-2, indicate that the population characteristics of Murray and Calloway County are very similar in terms of age. The non-white population is significantly higher in the City than in the County. The median age of the Calloway County population closely approximates the median age of the United States. The median age of the City is considerably younger, reflecting the impact of the resident Murray State University student population.

**Table BS-1 Calloway County Population Distribution**

Table BS-1 Calloway County Population Distribution		
2007 Calloway Co Estimate:	36,189	
Calloway County (outside City)	19,850	54.9%
Murray State Campus	3,000	8.3%
City of Murray	13,339	36.9%
		100.0%
Source: Kentucky State Data Center, 2008		

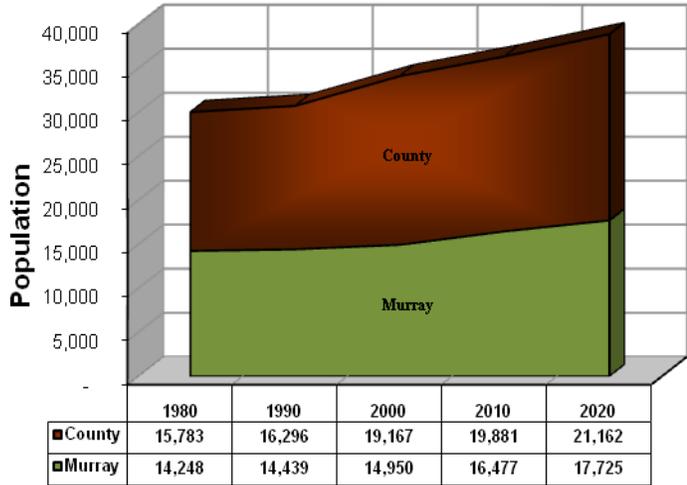
**Table BS-2 Murray and Calloway County Population Characteristics**

	TOTAL POPULATION	GENDER		RACE			MEDIAN AGE	
		Male	Female	White	Afr Amer	Other	Local	US
<b>Murray</b>	14,950	46.4%	53.6%	88.2%	6.8%	5.0%	26.5 yrs	35.3 yrs
<b>Calloway County</b>	34,177	48.2%	51.8%	93.5%	3.6%	2.9%	34.5 yrs	

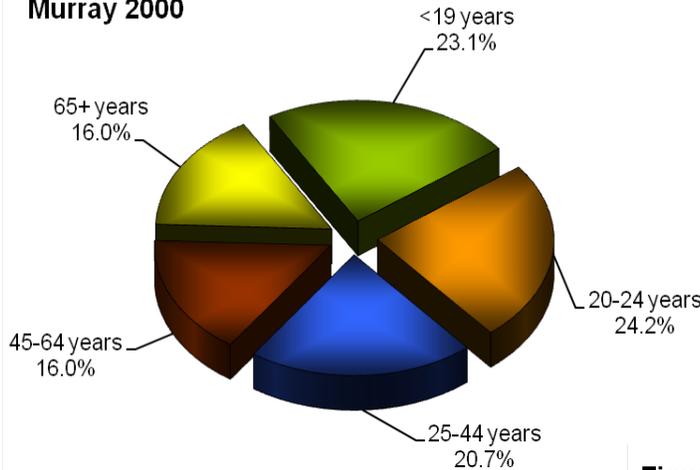
Source: U.S. Census Bureau, 2000

The past and projected 2020 population of Murray and Calloway County are shown in Figure BS-2. Growth within the city limits of Murray was approximately 15 percent for the last 25 years. The growth rate for the next 10-15 years is projected to be approximately 8 percent. The growth rate in Calloway County outside the city limits of Murray is projected to increase at a slightly greater pace. The projected 2020 population for Murray is 17,725; the projected 2020 population for Calloway County outside Murray is 21,162.

**Figure BS-2 Projected Murray and Calloway County Population**



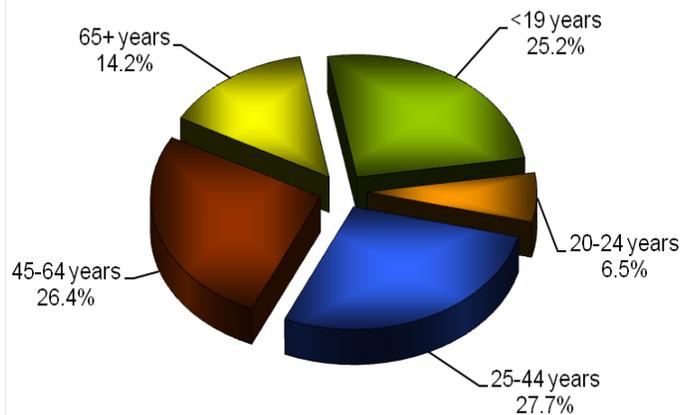
**Figure BS-3 Population by Age City of Murray 2000**



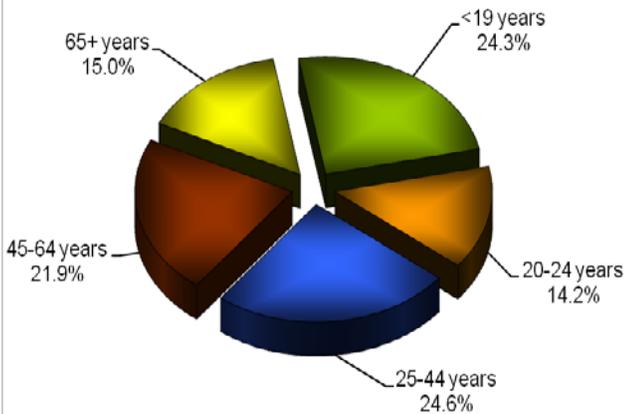
The age distribution of population in Murray from the 2000 census is shown in Figure BS-3. The population data is divided in five age groups. The first group is less than 18 years and represents children from birth through secondary school. The second group is 18 to 24 years and represents young adults of college age and those that may be establishing a household. The third group is 25-44 years and represents adults building a household or a career.

The fourth group is 45-64 years and represents adults with established careers or grown children. The fifth group is age 65 or older and represents adults of retirement age. Within the city limits of Murray the largest segment of population is in the 18-24 year segment, indicative of the resident student population.

**Figure BS-4 Population by Age Calloway County 2000 (Excluding Murray)**



**Figure BS-5 Population by Age Calloway County 2000**

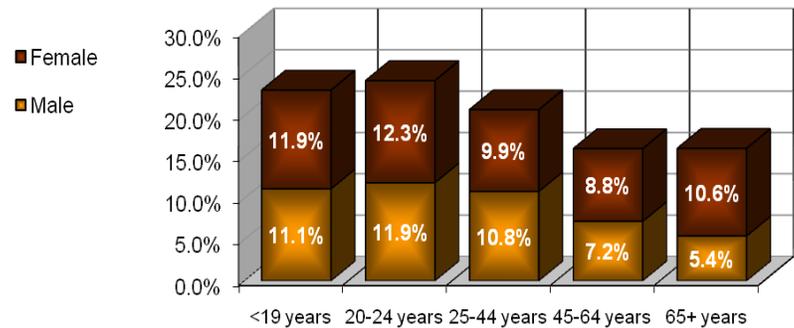


The influence of the student population in Murray is evident when looking at the age distribution of Calloway County as a whole as compared to the County outside Murray. This is shown in Figure BS-5. For the entire County, approximately 24 percent are in the age range of birth to 19, 14 percent are in the age range of 20 to 24, 25 percent are in the age range of 25-44, 22 percent are in the age range of 45-64, and 15 percent are 65 years or older.

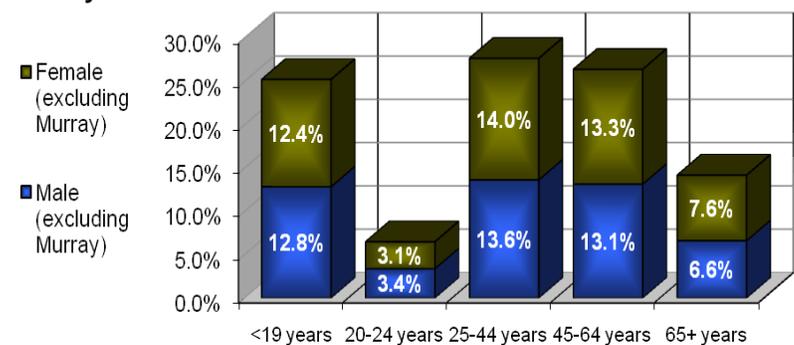
The population by age and gender within Murray is shown in Figure BS-6. The female population in Murray is greater than the male population in all age ranges except for the 25-44 year range. The female population 65 years and older is almost double the male population.

The age distribution in Calloway County, excluding the City of Murray, is shown in Figure BS-4. There are a much smaller percentage of Calloway County residents outside the City of Murray in the 20-24 year old range as would be expected because of the student population within the City. The under 19 years old population and the over 65 year old population have similar percentages for both Murray and Calloway County outside the City. The population percentages of residents in the age range of 25-44 are greater outside the City.

**Figure BS-6 Population by Age and Gender-City of Murray 2000**



**Figure BS-7 Population by Age and Gender-Calloway County 2000**



The population by age and gender in Calloway County is shown in Figure BS-7.

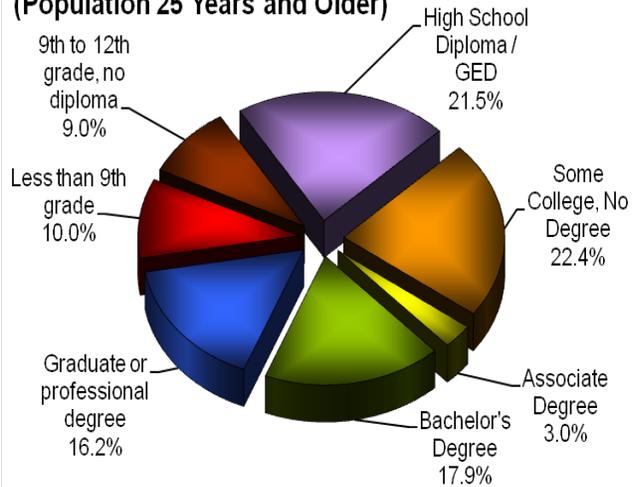
Male and female populations are essentially the same in all age groups through age 44. In the 45-64 age range, the female population begins to slightly dominate the male population. The dominance of the female population becomes more evident in the 65 years and older segment.

**Education**

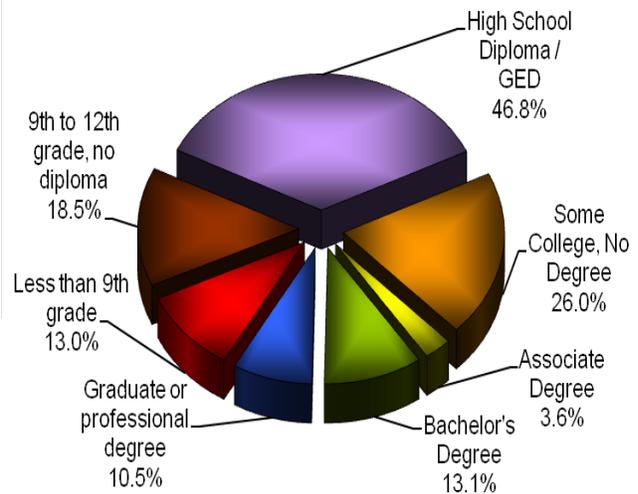
The educational achievement of the residents of Murray age 25 and older is shown in Figure BS-8. Residents with bachelors or higher college degrees total 34.1 percent of the population. Residents without a high school diploma total 19 percent of the population, while residents with a high school diploma total 21.5 percent. Residents with some college but no degree total 22.5 percent, while residents with Associate Degrees total 3 percent of the population.

The educational achievement in Calloway County is shown in Figure BS-9. The percentage of Calloway County residents with Bachelors' degrees or higher was 24.1, significantly lower than for the residents of Murray. Calloway County's percentage was still greater than the Kentucky average of 17.1 percent. The number of residents with Bachelors' degrees or higher in Calloway County increased 23 percent, from 19.4 to 24.1, over the 10 year period 1990-2000. The percentage of the Calloway County population without a high school diploma was 22.1.

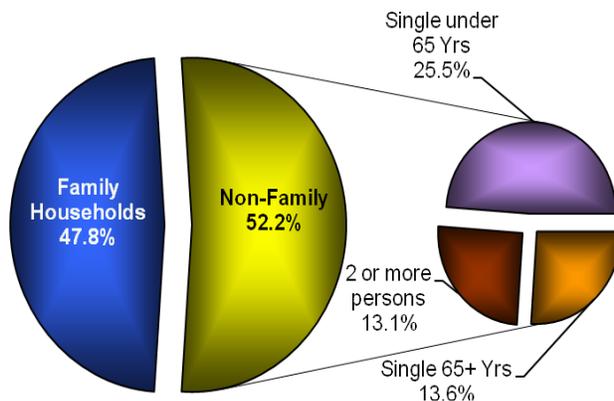
**Figure BS-8 Education City of Murray 2000 (Population 25 Years and Older)**



**Figure BS-9 Education Calloway County 2000 (Population 25 Years and Older)**



**Figure BS-10 Household Type (6,004 Households) City of Murray 2000**

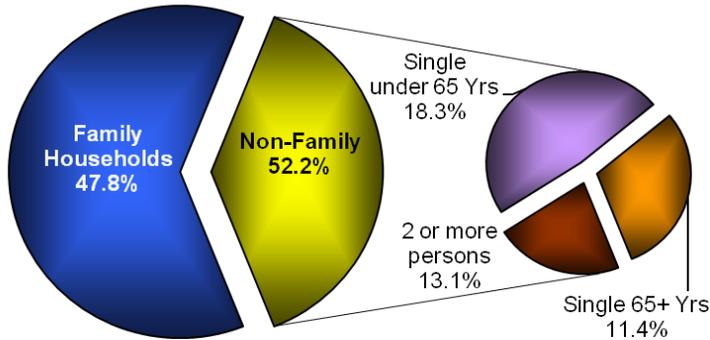


**Households**

The U.S. Census Bureau defines households in two categories, family and non-family. Family households are those with 2 or more people related to each other by birth, marriage, or adoption. Non-family households include a person living alone or two or more

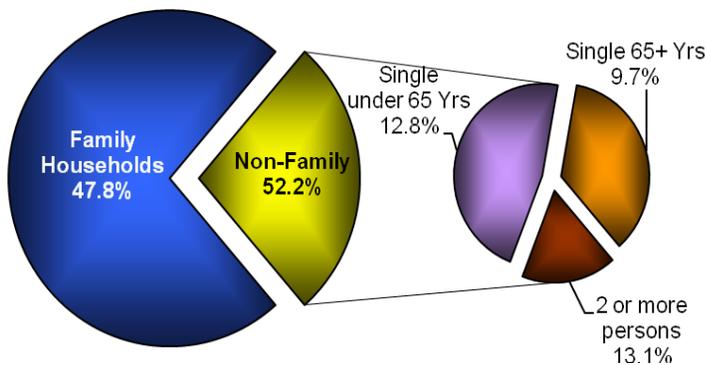
unrelated persons living together. Figure BS-10 shows the distribution of the 6,004 Murray households in the 2000 census. Non-family households slightly outnumbered family households. Figure BS-11 shows the household data for Calloway County. The family households greatly outnumber the non-family households. The significant difference in the relationship of family to non-family households in Murray and Calloway County probably reflect the impact of student population in Murray. This becomes more evident when looking at the 7,858 households in Calloway County outside Murray as shown in Figure BS-12.

**Figure BS-11 Household Type (13,862 Households) Calloway County 2000**



Non-family households constitute only about 25 percent of total households. In addition, non-family households with 2 or more persons make up 13.7 percent of the non-family households in Murray and only 4.7 percent of non-family households outside Murray.

**Figure BS-12 Household Type (7,858 Households) Excluding City of Murray 2000**



The average household size in Murray is 2.02 persons and the average household size in Calloway County is 2.25 persons. The average household size is 2.47 in Kentucky and 2.59 in the United States.

**Economy**

The economic health of an area can be measured by several parameters. Parameters collected by the U.S. Bureau of Census and included here include household income, home values and rents, and employment and business income.

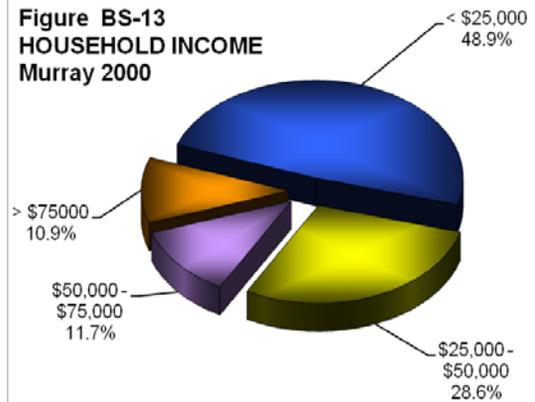
**Household Income**

Figure BS-13 shows the percentage of households in Murray in four income ranges. The households in Murray in the 2000 census with yearly incomes less than \$25,000 were 48.9 percent, while households with incomes of \$25,000 to \$50,000 were 28.6 percent. Households in Murray with incomes in the \$50,000 to \$75,000 were 11.7 percent, while households with yearly incomes greater than \$75,000 were 10.9 percent. As determined from the 2000 census, the median household income for Murray was \$25,647 and the median household income for Calloway County was \$30,134. The Kentucky median household income was \$33,672.

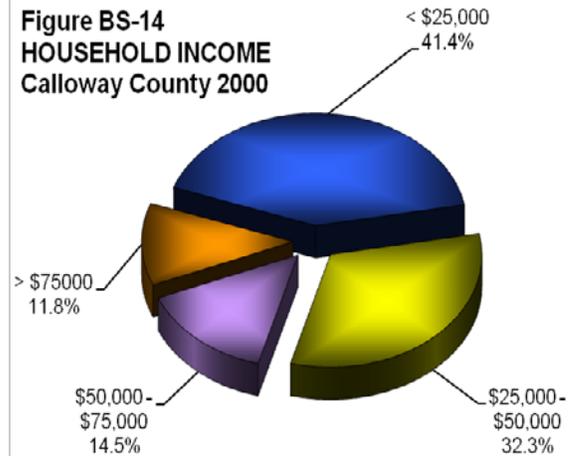
# COMPREHENSIVE PLAN

For households in Calloway County as a whole, as shown in Figure BS-14, the percentage with yearly incomes of less than \$25,000 was 41.4 percent. In Calloway County outside Murray, as shown in Figure BS-15, the percentage further decreased to 35.7. Since all other income ranges showed relatively comparable percentages of households, the significant differences in incomes less than \$25,000 between Murray and Calloway County outside Murray can probably be attributed to the resident student population within the Murray city limits.

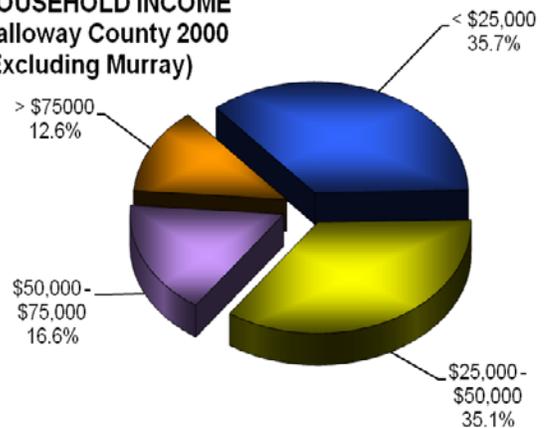
**Figure BS-13**  
**HOUSEHOLD INCOME**  
**Murray 2000**



**Figure BS-14**  
**HOUSEHOLD INCOME**  
**Calloway County 2000**



**Figure BS-15**  
**HOUSEHOLD INCOME**  
**Calloway County 2000**  
**(Excluding Murray)**



**Home Values**

Home values within the City of Murray, as determined by the 2000 census, are shown in Figure BS-16. Homes with values less than \$50,000 constituted 12.4 percent of the homes in Murray. Homes with values of \$50,000 to \$100,000 constituted 53.4%, homes with values of \$100,000 to \$150,000 constituted 21.0 percent, and homes with a value greater than \$150,000 constituted 13.3 percent of the homes in Murray.

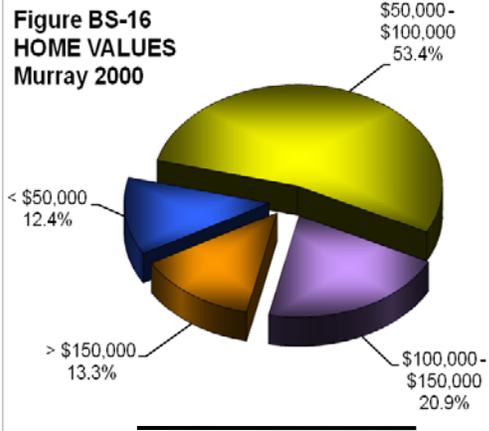
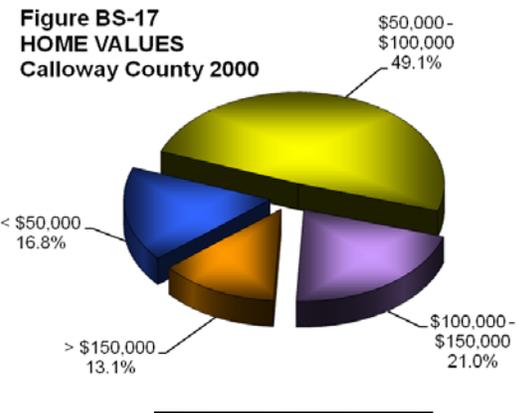
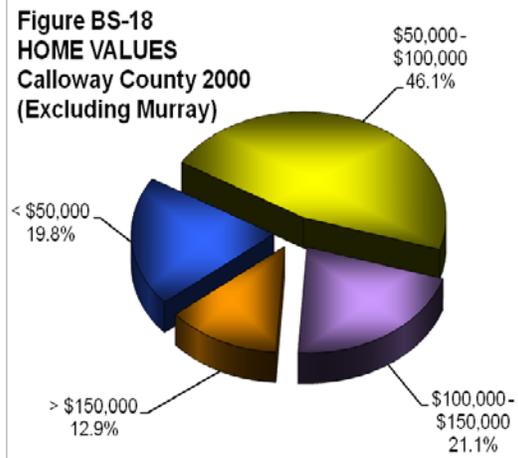


Figure BS-17 shows the overall distribution of home values in Calloway County. Approximately 16.8 percent had values less than \$50,000, while 49.1 percent had values between \$50,000 and \$100,000. Homes with values between \$100,000 and \$150,000 made up 21.0 percent, while homes with values greater than \$150,000 made up 13.1 percent of the homes in Calloway County.



In Calloway County outside the Murray city limits, as shown in Figure BS-18, homes with values less than \$50,000 made up 19.8 percent of the homes. Homes with values between \$50,000 and \$100,000 made up 46.1 percent, homes with values between \$100,000 and \$150,000 made up 21.1 percent, and homes with values greater than \$150,000 made up 12.9 percent of the homes outside Murray.

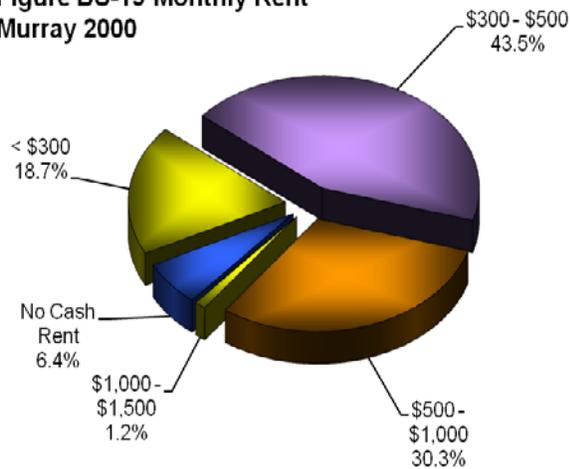


The distribution of homes greater than \$100,000 in value is very similar between Murray and the rest of Calloway County. However, the distribution of homes with values less than \$100,000 is considerably different. There is a considerably higher percentage of the homes outside Murray with values less than \$50,000 than inside the city limits. There is a significantly larger percentage of homes with values in the \$50,000 to \$100,000 range in Murray than in the rest of Calloway County.

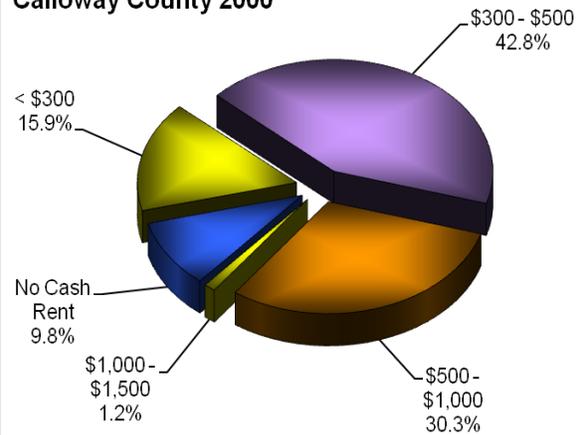
**Rents**

The monthly rents in Murray and Calloway County are shown in Figures BS-19 and BS-20, respectively. Rent data show that rents are generally similar in Murray and Calloway County. The largest segment of renters pay between \$300 and \$500 per month, while approximately 75 percent of renters pay between \$300 and \$1,000 per month.

**Figure BS-19 Monthly Rent Murray 2000**



**Figure BS-20 Monthly Rent Calloway County 2000**



**Employment and Business Income**

Table BS-3 shows 2000 census data for the civilian workforce over 16 years of age in Murray, Calloway County, and Kentucky by occupation and for selected industries. The largest segment of Murray residents have occupations classified as management and professional with a significantly higher percentage than Calloway County or the state of Kentucky. Murray residents in Sales, Office, and Service occupations also exceed Calloway County and Kentucky residents on a percentage basis. In contrast, Calloway County and Kentucky have similar percentages of workers classified as Production and Transportation of Goods and both are significantly higher than Murray. Kentucky residents, on a percentage basis, are more involved in the Construction, Maintenance, and Mining Industries than Calloway County, which has a significantly higher percentage than Murray. These data and the data shown by selected industries reflect the impact that the educational community at both Murray State University and the local school systems have on employment in the City of Murray. The high percentage of service and office employees in Murray are an outgrowth of the high level of employment in the educational sector.

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Table BS-3 Civilian Workforce 16+ Years of Age for Murray, Calloway County, and Kentucky			
	Murray 6,959	Calloway County 16,007	Kentucky 2,031,470
<b>By Occupation</b>			
Management / Professional	36.9%	31.4%	28.7%
Sales / Office	28.3%	24.4%	25.4%
Production / Transportation of Goods	12.2%	19.3%	19.7%
Service	16.1%	15.1%	14.3%
Construction / Maintenance / Mining	5.5%	8.9%	11.0%
Farming / Fishing / Forestry	0.9%	1.0%	0.9%
<b>For Selected Industries</b>			
Education / Health / Social Services	35.8%	29.1%	20.3%
Manufacturing	13.1%	17.7%	17.6%
Retail Trade	12.4%	12.1%	12.1%
Arts / Entertainment / Recreation / Food Services	9.9%	7.9%	7.2%
Agriculture	1.2%	2.5%	2.2%
Government (local / state / federal)	3.4%	2.9%	14.4%
Source: U.S. Bureau of Census, 2000			

Table BS-4 shows the results of the Murray 2008 Retail Site Assessment conducted by Buxton Community/ID. The purpose of the retail assessment was to identify major categories of retail that are candidates for location in Murray. The primary trade area was established as the residential areas within a 13 minute drive from the centroid of Murray; the secondary trade area included residential areas within an approximate 15-20 mile radius of Murray. Various retail product categories are listed with an estimated dollar potential available in these major retail areas in the Murray primary and secondary trade areas. The retail assessment shows the total estimated dollar potential in the primary trade area was \$559 million and the total estimated dollar potential in the secondary trade area was \$1.63 billion.

In 2008 the Murray State University Bureau of Business and Economic Research published the "Economic Impact Analysis Report for Calloway County" for the Murray Calloway County Economic Development Corporation. The direct employment and income results from that report are shown in Table BS-5. The 2008 information highlights the number of jobs created in Calloway County since the 2000 census. According to the report, a total of 21,127 direct employment jobs existed in Calloway County in 2008. The largest job segment was labeled Public Administration and included all public sector employment and income including the local

## COMPREHENSIVE PLAN

school systems, Murray State University, government offices, and the Murray Calloway County Hospital.

**Table BS-4 Murray 2008 Retail Site Assessment**

<b>Product Category</b>	<b>Primary Trade Area</b>	<b>Secondary Trade Area</b>
Food at Home	\$69,134,930	\$216,626,280
Food Away from Home	\$60,827,080	\$171,710,960
Alcoholic Beverages	\$17,730,560	\$47,795,460
Smoking Products & Supplies	\$12,304,720	\$39,642,890
Personal Care Products & Services	\$12,237,950	\$35,980,870
Day Care	\$2,260,330	\$7,407,510
Household Furnishings & Services	\$73,098,860	\$218,425,030
Housing Expenses	\$14,630,030	\$44,223,020
Apparel	\$47,713,830	\$132,408,510
Sports & Recreation	\$16,121,360	\$46,472,920
Miscellaneous	\$31,310,620	\$92,763,770
Education	\$27,606,530	\$51,356,120
Automotive	\$119,807,110	\$351,871,250
Health Care	\$53,770,320	\$174,247,040
<b>Total</b>	<b>\$558,554,230</b>	<b>\$1,630,931,630</b>

Source: Buxton Community ID, 2008

**Table BS-5 Calloway County 2008 Employment and Income**

<b>Industry Title</b>	<b>Direct Employment</b>	<b>Direct Income</b>	<b>Income per Employee</b>
Public Administration	5,295	\$173,090,416	\$32,689
Manufacturing	2,792	\$126,987,728	\$45,486
Retail Trade	2,554	\$56,079,568	\$21,961
Accommodation and Food Services	1,635	\$18,633,690	\$11,400
Transportation and Warehousing	1,501	\$55,981,856	\$37,309
Other Services (except Public Administration)	1,382	\$16,771,097	\$12,135
Construction	1,258	\$35,387,832	\$28,126
Agriculture, Forestry, Fishing and Hunting	1,244	\$19,371,190	\$15,573
Health Care and Social Assistance	1,044	\$40,771,092	\$39,057
Wholesale Trade	561	\$21,991,204	\$39,186
Professional, Scientific, and Technical Services	442	\$15,905,590	\$35,994
Finance and Insurance	340	\$11,291,498	\$33,220
Administrative and Support and Waste Management and Remediation Services	328	\$4,500,727	\$13,722
Real Estate and Rental and Leasing	282	\$5,907,437	\$20,919
Information	172	\$4,903,646	\$28,526
Arts, Entertainment, and Recreation	171	\$1,985,902	\$11,600
Educational Services	120	\$910,450	\$7,593
Mining	3	\$135,919	\$50,340
Management of Companies and Enterprises	3	\$190,713	\$76,285
Utilities	1	\$88,985	\$63,561
<b>Total</b>	<b>21,127</b>	<b>\$610,886,540</b>	<b>\$28,916</b>

Source: "Economic Impact Analysis Report for Calloway County," Murray State University, 2008

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Table BS-6 shows the results of a 2008 summary prepared by the Murray Calloway County Economic Development Corporation of both direct and total jobs by sector in Calloway County for the sectors that employed more than 500 persons. Total jobs are the direct jobs in the sector plus other indirect and induced jobs created by that sector in other sectors. Indirect jobs are jobs at firms where the sector would purchase some of their inputs in the region, thereby causing the supplier firms to purchase resources and hire workers to meet this demand. Induced jobs are the jobs created by household spending from the direct and indirect jobs. Total jobs and the income from these jobs measure the economic impact from the sector. The ratio in the table shows the relative contribution of each sector's direct and total jobs.

<b>Table BS-6 Calloway County 2008 Summary of Jobs By Sector</b>					
<b>Sector</b>	<b>Direct Jobs</b>	<b>%</b>	<b>Total Jobs</b>	<b>%</b>	<b>Ratio</b>
Public Administration	5,295	25	8,610	20	1.6
Manufacturing	2,792	13	11,577	27	4.1
Retail	2,554	12	4,213	10	1.6
Food/Hotel	1,635	8	2,318	5	1.4
Transportation and Warehouse	1,501	7	3,343	8	2.2
Other Services	1,382	7	1,846	4	1.3
Construction	1,258	6	2,507	6	2.0
Agriculture, Forest and Fish	1,244	6	2,203	5	1.8
Health and Social	1,044	5	1,887	4	1.8
Wholesale	561	3	1,239	3	2.2

Source: Murray Calloway Economic Development Corporation, Calloway County Economic Summary, 2008

Table BS-7 shows both direct and total income by sector in Calloway County for the sectors that employed more than 500 persons. Total income is the direct income from the sector plus other indirect and induced income created by that sector in other sectors. Indirect income is income at firms where the sector would purchase some of their inputs in the region. Induced income is the income created by household spending. The ratio in the table shows the relative contribution of each sector's direct and total income.

<b>Table BS-7 2008 Summary of Income By Sector</b>					
<b>Sector</b>	<b>Direct Income (Million \$)</b>	<b>%</b>	<b>Total Income (Million \$)</b>	<b>%</b>	<b>Ratio</b>
Public Administration	173	28	270	21	1.6
Manufacturing	127	20	383	31	3.0
Retail	56	9	102	8	1.8
Food/Hotel	19	3	38	3	2.0
Transportation & Warehouse	56	9	107	9	1.9
Other Services	17	3	29	2	1.7
Construction	35	6	70	6	2.0
Ag. Forest & Fish	19	3	45	4	2.4
Health & Social	41	7	64	5	1.6
Wholesale	22	4	41	3	1.9

Source: Murray Calloway Economic Development Corporation, Calloway County Economic Summary, 2008

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Conclusions drawn by the Murray Calloway County Economic Development Corporation from the Calloway County Economic Impact Study include:

- Public Administration data clearly confirm the importance of MSU, local Government and Murray Calloway County Hospital to the local economy employing 25 percent of all direct jobs in the County and 28% of direct income. The fact that the percentage of income is higher than the percentage of employment says that these jobs contribute a disproportionate share of income to the economy. However, the spin off effect from these jobs is relatively low compared to some of the other sectors.
- Manufacturing directly employs 2792 which is 13 percent of all local employment. The income from these jobs represents over 20 percent of all direct income which is a clear indicator that the quality of manufacturing jobs in Calloway County is quite good and that those jobs are creating a very disproportionately large share of income to the local economy. The most interesting thing about manufacturing is that it shows a huge spin off effect with total related jobs at 11,577 and 31 percent of all income in the County.
- Retail employs a significant number of people in the County at 2,554 or 10% of direct employment. Retail does not necessarily have a great spin off effect in terms of additional jobs and income from related activities, but clearly is important to the overall quality of life.
- Food and hotel is also a significant employer, but has limited spin off effects. Without this sector, the general business climate would be severely impacted in a negative way.
- Transportation & warehousing are strong in Calloway County with a very high spin off impact. To at least some degree, this sector and manufacturing could be combined.
- The Calloway County economy is quite diverse and one of the reasons for a growing economy and unusually strong quality of life for what is essentially a rural community. Along with the major drivers of manufacturing, transportation & warehousing, the local school systems, Murray State University, Murray-Calloway County Hospital, and government services, there are numerous other sectors that play an important role in maintaining the positive economic climate. Agriculture continues to provide diversity in the economy and is crucial to the well being of the community. The strong construction sector is a direct reflection of the economic health of all other facets of the economy. The contributions of Professional and Medical services are inestimable to the high quality of life in Calloway County.

### **Workforce Travel and Commuting**

Table BS-8 shows the travel to work patterns of the workforce in Murray, Calloway County and Kentucky. Workers in Murray and Calloway County carpool less than the rest of the state, while a larger percentage either use public transportation or walk to work. The mean travel time to work in Murray and Calloway County is less than the state average.

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Table BS-8 Travel to Work in Murray, Calloway County, and Kentucky			
Travel to Work Patterns	Murray	Calloway County	Kentucky
Percent in Carpools	9.2%	10.7%	12.6%
Percent Using Public Transportation	1.6%	0.9%	1.2%
Percent Driving Alone	75.9%	79.7%	80.2%
Percent Walked	10.1%	5.2%	2.4%
Mean Travel Time	13.4 min.	17.9 min.	23.5

Source: U.S. Bureau of Census, 2000

Table BS-9 shows the commuting patterns of the workforce in Calloway County. According to the 2000 census, the majority of workers in Calloway County (82.5%) also reside in the County. More of the workforce commutes into the county (3,212 workers) than commute out of the county (2,716 workers).

Table BS-9 Commuting Patterns in Calloway County		
Residents of Calloway County	2000	Percent
Working and Residing in County	12,816	82.5%
Commuting Out of County	2,716	17.5%
Total Residents	15,532	100.0%
Employees in Calloway County		
Working and Residing In County	12,816	80.0%
Commuting Into County	3,212	20.0%
Total Employees	16,028	100.0%

Source: U.S. Bureau of Census, 2000

### Industry

Table BS-10 shows information about the major manufacturing and supportive service firms in Calloway County. The largest employer in the County is Pella Corporation with approximately 1,000 employees. The next largest employer is Briggs and Stratton with approximately 600 employees. The twenty major businesses and industries, shown in the table, account for more than 2,800 jobs in Calloway County. The economic base provided by these businesses as well as the employment created by Murray State University, the Murray Calloway County Hospital, and the two school systems results in an unemployment rate of 5.4 percent compared to the state average of 5.5 percent.

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Table BS-10 Major Business & Industry (Manufacturing & Supportive Service Firms Only)			
Firm	Product(s)/Service(s)	Employees	Year Established
Boone's Inc	Industrial laundry services, dry-cleaning, coin laundry	30	1937
Briggs & Stratton Corp	Small engines for various applications	585	1985
Drywall Systems Plus Inc	Headquarters	50	1920
Fitts Block Inc	Ready-mixed concrete & blocks	13	1945
Kenlake Foods	Powdered beverages, hot cereal & salted nut products	315	1982
L & P Plastics	Custom injection molding plastic products and engineering services related to the injection molding industry	16	2006
Midwest Steel Contractors	Steel structural fabricating; arc, gas, MIG, TIG & heliarc welding & steel erection	15	1968
Morningstar	Single serve-flavored milk in plastic bottles, private packaging, nondairy flavored creamers	261	1924
Murray Ledger & Times	Newspaper publishing & printing	24	1879
Murray Mold & Die Co	Plastic injection & die cast molds & metal stampings; wire EDM & precision CNC machining	12	1985
Pella Corporation	Windows and doors manufacturer	1000	2002
Printing Services & Supplies	Offset, digital & lithographic printing; graphic design and typesetting; business forms; glue, spiral & saddle stitch binding	13	1964
Pulmo-Dose	Pharmaceuticals distribution	230	1999
R T Vanderbilt	Industrial chemical additives & petroleum product accelerators	81	1969
Rudolph's Inc	Wholesale tire distributor	49	1981
Shane Lee Inc	Women's clothing and children's clothing	18	1982
S'portable Scoreboards Inc	Scoreboards; electronic display products; marquees	55	1986
Thornton Tile & Marble Inc	Cultured marble vanities, fireplace surrounds & counter tops, bathtubs, shower stalls & custom cut mirrors	20	1955
Top Choice Fabricators Unlimited LLC	Kitchen counter tops manufacturing	12	2005
Webasto Roof System Inc	Automotive sunroofs	66	2005

Source: Kentucky Cabinet for Economic Development, 2008

## LAND USE ELEMENT

### INTRODUCTION

Kentucky Revised Statutes (KRS) 100.187 specifies the content of a comprehensive plan in Kentucky. KRS 100.187 (2) states that a comprehensive plan shall include a land use plan element, which shall show proposals for the most appropriate, economic, desirable, and feasible patterns for the general location, character, extent, and interrelationship of the manner in which the community should use its public and private land at specified times as far into the future as is reasonable to foresee. Such land uses may cover, without being limited to, public and private, residential, commercial, industrial, agricultural, and recreational land uses

KRS 100.187 (6) states that the comprehensive plan may include any additional elements such as, without being limited to, community renewal, housing, flood control, pollution, conservation, natural resources, regional impact, historic preservation, and other programs which in the judgment of the planning commission will further serve the purposes of the comprehensive plan.

This Land Use Element has been prepared as part of the City of Murray Comprehensive Plan. The Land Use Element is divided into two sections; Existing Land Use and Future Land Use. The ultimate purpose of the Land Use Element is to develop a future land use plan that guides the Murray Planning Commission in its decisions related to the use of land in its area of jurisdiction. The Community Facilities and Transportation Elements of the Comprehensive Plan provide input related to the needs for lands and facilities to support the growth resulting from land use changes. A guiding principal was for the final land use plan to be in accordance with the goals and objectives established for the Comprehensive Plan.

The Murray Comprehensive Plan and this Land Use Element were developed for the Murray Urban Services Area. This area is sometimes referred to as the Murray Planning Area or the Murray Comprehensive Plan Area.

### LAND USE GOALS AND OBJECTIVES

The general Future Land Use Goal for Murray is to achieve a balanced pattern of land use that meets the needs of the population, stimulates physical, social and economic development, and protects the environmental well being of the community. The desire is for the City of Murray to be seen as a place where people can:

- Provide shelter and meet the basic needs for themselves and their families.
- Provide equal opportunity to all people.
- Enjoy the beauty, safety, and security of the community,
- Become responsible citizens.
- Promote a community which is aesthetically attractive for residents, visitors, and potential investors.
- Create happier, healthier, and smarter children by promoting community wide efforts that improve the well being of the youth.

More specific land use goals and objectives adopted by Murray for the Comprehensive Plan are:

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- (1) Economy – prepare for the economic impact of Highway 80 and the widening of the Highway 121 Bypass North by addressing annexation policies and zoning regulations.
- (2) Economy – in accordance with the zoning ordinance and boundaries, establish more neighborhood businesses along the periphery of residential zoning districts (within buffer zones) that are of a lower impact and limited to neighborhood convenience needs such as groceries, barber and beauty shops, and similar uses that contribute limited traffic into the area, while minimizing resident trips out of the neighborhood for purchases.
- (3) Economy – consider incentives and other programs that would promote infill, redevelopment, and community improvement.
- (4) Public Facilities and Services – identify land in the Future Land Use Element of the Comprehensive Plan for expansion of the City Park System and designate land as either public or semi-public.
- (5) Housing – protect natural resources that enhance the quality and character of development.
- (6) Housing – upgrade the city’s landscaping requirements for buffer areas between residential and commercial uses.
- (7) Housing – inventory older homes and neighborhoods that need revitalization. Seek TIF, CDBG grants, or other funding mechanisms for neighborhood revitalization.
- (8) Housing – encourage renovation of older neighborhoods.
- (9) Housing – establish a historical district that encourages mixed uses with renovated buildings that will accommodate suitable living space.
- (10) Housing – support stricter enforcement of the Property Maintenance Code to help preserve neighborhood aesthetics.
- (11) Housing – update the City of Murray’s subdivision regulations and zoning ordinance.
- (12) Housing – encourage a greater sense of community within the City’s residential neighborhoods through the organization of neighbor associations or similar groups, with emphasis on safety, beauty, and overall pride.
- (13) Housing – allow for a wide range of residential types and densities throughout the city while continuing to support programs that provide more affordable housing opportunities for single and multi-family homes,
- (14) Commercial, Industrial, and Agricultural Areas – improve the landscaping standards for site development.
- (15) Commercial, Industrial, and Agricultural Areas – adopt minimum standards for building design that will sustain and enhance community character.
- (16) Commercial, Industrial, and Agricultural Areas – avoid conditions and patterns that would create hazards in vehicular circulation.

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(17) Commercial, Industrial, and Agricultural Areas – as urban expansion continues, secure additional agricultural lands and increase production accordingly, to offset the growing demands of food, raw materials, and other necessities of life.

(18) Historic Preservation – update the current Architectural Review Board ordinance by establishing an overlay district in the zoning ordinance.

(19) Historic Preservation – sites and structures shall adhere to Historic Preservation Design Guidelines as administered by the architectural review board.

(20) Historic Preservation – support the Murray Main Street Master Plan by encouraging revitalization through rehabilitation of substandard buildings, removal of unattractive poles, wires, and signs that will make buildings, sidewalks, and other facilities in the downtown area more attractive, efficient, and convenient.

(21) Historic Preservation – continue to seek state and federal funding for historical preservation.

(22) Environment – encourage the use of green space for both residential and non-residential developments.

(23) Environment - continuously review stormwater management practices so that site developments are designed to minimize the volume of runoff by requiring the use of porous pavement, detention facilities, and other dissipating mechanisms.

These land use goals and objectives are further discussed in the Future Land Use section. Appendix A contains the Statement of Goals and Objectives adopted for the Comprehensive Plan.

## EXISTING LAND USE

The existing land use section describes the history of land use classification in Murray. It also describes the methodology used to conduct a land use inventory in October 2008. In addition, this section describes and analyzes the land use in the Murray Planning Area as it existed in October 2008.

## Land Use Classification

The classification of land use is an important aspect of the Land Use Element of the Murray Comprehensive Plan. The land use classes were changed in the 2002 Land Use Element from those used in the 1990 Comprehensive Plan. The land use classes in the 1990 plan were the same as those used for land use inventories in 1961, 1972, 1976, and 1978. Table LU-1 shows the changes in the land use classes made in the 2002 plan and also used in the land use inventory conducted in 2008.

As shown in Table LU-1, the 2002 plan divided the residential class into 5 separate classes, single family, two-family, multi-family, congregate living, and manufactured housing. The commercial category stayed the same. The industrial class was divided into two classes,

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warehousing and manufacturing. The public, semi-public class was divided into four classes, public use, semi-public use, education, and utilities. The agriculture and streets classes stayed the same, except streets was renamed to transportation.

Table LU-1. Murray Land Use Classification Changes	
2002 and 2008	1990 and prior
Single Family Residential Two-Family Residential Multi-Family Residential Congregate Living Manufactured Housing	Residential
Commercial (Office/Retail/Business/Medical/Lodging)	Commercial
Warehousing Industrial	Industrial
Public Use Semi Public Use (Institutional) Education Utilities	Public, Semi-Public
Agriculture	Agriculture
Transportation	Streets
Source: Florence & Hutcheson, 2009	

The Murray 2002 Land Use Element was based on an inventory of existing land uses within the city limits based on the 2002 land use classes shown in Table LU-1. The same land use categories were used for developing the existing land use for this Land Use Element. Using the same land use classes and a similar inventory procedure allowed a direct comparison of the changes that have occurred over the 6-year period within the Murray city limits. The color code used on the maps contained in this section that show the existing land use is shown in Table LU-2.

## Inventory Methodology

The first step in developing the land use plan was to conduct an inventory of the existing land uses in the planning area. The inventory was used to compare the amount of land in each land use category with the last inventory conducted in 2002. Comparison of the two inventories gave an indication of the major trends of land use change in the six year period. From these trends, areas were designated as appropriate for various land uses in the Future Land Use section.

The land use map that resulted from the 2002 inventory, provided by the Murray planning staff, was used as the base map for the 2008 inventory. Windshield surveys were conducted by driving the Murray streets and noting changes that had occurred within the city limits since 2002. In an area bounded on the north and south by Olive and Maple Streets and on the east and west by First and Eighth Streets, sidewalk surveys were conducted. Sidewalk surveys were also conducted along Main Street from Twelfth Street to Fourth Street. In addition, to documenting obvious changes in the land use since the last inventory, the sidewalk surveys were designed to detect the conversion of single family residences to two family and multi-family residences that might not be detected from windshield surveys.

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Areas outside the Murray city limits but within the Comprehensive Plan area were windshield surveyed by driving the county roads and were included in the 2008 inventory. These areas were not surveyed in the 2002 inventory.

## Summary of Existing Land Use

The summary of existing land uses within the Murray city limits and the Urban Services Area, as determined from the land use inventory, are shown in Table LU-2. Map LU-1 shows a summary of the land uses in the Murray Comprehensive Plan area.

For the developed land use within the Murray city limits, residential uses comprised 2,179 acres or 43 percent of the total. Commercial uses comprised 556 acres or 11 percent of the total developed land, while industrial and warehousing comprised 306 acres or 4 percent of the total developed land. Public and semi-public uses including roads, education, and utilities comprised 2,013 acres or 40 percent of the total developed land. Agricultural land comprised 1,421 acres or 20 percent of the total land within the Murray city limits. For the developed land use within the Urban Services Area, residential uses comprised 2,971 acres or 43 percent of the total developed land. Commercial uses comprised 713 acres or 10 percent of the total developed land, while industrial and warehousing comprised 624 acres or 9 percent of the total developed land. Public and semi-public uses including roads, education, and utilities comprised 2,567 acres or 37 percent of the total developed land. Agricultural lands comprised 6,579 acres or 46 percent of the total land within the planning area.

Table LU-2. Existing Land Use Summary – 2008 Inventory					
City Limits	Acres	% of Total Land	Urban Services Area	Acres	% of Total Land
Single Family Residential	1,744	24	Single Family Residential	2,461	17
Two Family Residential	134	2	Two Family Residential	167	1
Multi-Family Residential	202	3	Multi-Family Residential	212	1
Manufactured Housing	63	1	Manufactured Housing	87	<1
Congregate Living Facilities	36	1	Congregate Living Facilities	44	<1
Commercial	556	8	Commercial	713	5
Warehousing	66	1	Warehousing	157	1
Industrial	240	3	Industrial	467	3
Public	428	6	Public	447	3
Semi-Public (Institutional)	238	3	Semi-Public (Institutional)	295	2
Education	633	9	Education	789	5
Utilities	48	1	Utilities	60	<1
Roads, Rights-of-Way	666	9	Roads, Rights-of-Way	976	7
<b>Total Developed Land</b>	<b>5,054</b>	<b>70</b>	<b>Total Developed Land</b>	<b>6,875</b>	<b>47</b>
Agriculture	1,421	20	Agriculture	6,579	46
Vacant	715	10	Vacant	977	7
<b>Total Land</b>	<b>7,190</b>	<b>100</b>	<b>Total Land</b>	<b>14,431</b>	<b>100</b>
Source: Florence & Hutcheson, 2009					

Table LU-3 shows the existing land uses within the Murray city limits in 2002 and 2008. Because the area outside the Murray city limits, but inside the Urban Services Area, was not

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inventoried in 2002, direct comparisons between 2002 and 2008 for this area could not be made.

Between 2002 and 2008, the total area within the Murray city limits increased by 727 acres or 11 percent. Residential lands increased by 137 acres or 7 percent while commercial and industrial/warehousing land increased by 98 acres (21%) and 33 acres (12%), respectively.

**Table LU-3. Comparison of Existing Land Uses within the Murray City Limits 2002 - 2008**

Land Use	2002			2008			CHANGE Acres, 2002-2008
	Acres	% of Total Land	% of Developed Land	Acres	% of Total Land	% of Developed Land	
Single Family Residential	1,658	26	39	1,744	24	35	86
Two-Family Residential	116	2	3	134	2	3	18
Multi-Family Residential	162	3	4	202	3	4	40
Manufactured	73	1	2	63	1	1	-10
Congregate Living	33	1	1	36	1	1	3
Commercial	458	7	11	556	8	11	98
Warehousing	53	1	1	66	1	1	13
Industrial	220	3	5	240	3	5	20
Public	431	7	10	428	6	8	-3
Semi-Public	215	3	5	238	3	5	23
Educational	277	4	6	633	9	13	356
Utilities	50	1	1	48	1	1	-2
Roads, Right Of Way	541	8	13	666	9	13	125
<b>Developed Land</b>	<b>4,287</b>	<b>66</b>	<b>100</b>	<b>5,054</b>	<b>70</b>	<b>100</b>	<b>767</b>
Agriculture	1,438	22	-	1,421	20	-	-17
Vacant	738	11	-	715	10	-	-23
<b>Total</b>	<b>6,463</b>	<b>100</b>	<b>-</b>	<b>7,190</b>	<b>100</b>	<b>-</b>	<b>727</b>

Source: Florence & Hutcheson, 2009

Public and semi-public lands, including streets, increased by 499 acres or 32 percent. Developed land increased by 767 acres or 18 percent.

The following sections discuss each of the existing land use categories. Each section includes a description of the uses included in the category and the amount of land existing in that category within the Murray Planning Area and the Murray city limits. Each section also includes a generalized projection of future land use based on this existing information.

## Existing Residential Land Use

Five residential land use categories were recorded during the land use inventory. These five categories are Single Family Residential (detached unit), Two Family Residential (duplex), Multi-Family Residential (three or more units in structure), Manufactured Housing (unit manufactured off-site on chassis, or mobile home), and Congregate Living Facilities (Group Quarters). Map LU-2 shows the lands in the planning area currently used for residential purposes.



There are 2,971 acres or 20 percent of the land within the planning area used for residential purposes. The 2,179 acres of residential lands within the Murray city limits represents 30 percent of the total land. Residential land within the Murray city limits increased by 137 acres or 7 percent from 2002-2008. Residential lands comprise the largest percentage of land within the planning area. Residential uses are likely to continue to be the largest user of land in Murray as the city supports the housing needs for the faculty and staff at Murray State University and the local industries.

The southwestern portion of the planning area should continue to experience the development of single family residential housing. A majority of the vacant residential land lies in this area. The majority of the development will most likely be building on the large number of existing lots in this area. However, as these lots are used, new subdivisions may be developed. Based on past trends approximately 50-60 new single family residential units would be anticipated in the planning area each year.

Multi-family housing units have been developed in the northeast and northwest portions of the planning area. These units are located in close proximity to Murray State University and primarily serve the student population there. A considerable number of new multi-family units have been added in recent years and it is anticipated that because the growth of Murray State University has stabilized, fewer new units will be built in the near future.

The presence of the Clarks River and industrial areas on the east side of the planning area will most likely continue to limit an expansion of the urban services area and the planning area. The proximity to Murray State University and the other primary and secondary educational facilities should continue to direct residential development in the foreseeable future to the western portion of the planning area.

## Existing Commercial Land Use

The commercial land use designates all land used for professional offices; wholesale and retail trade; personal and business services; repair services; contract construction services; recreation and amusement services, other than public parks; parking; commercial transportation services; and motels and transient lodgings. Commercial areas are used for retail and service purposes, and for both professional business and medical office space. Commercial businesses may be on a single lot or in various types of shopping centers. Map LU-3 shows the lands in the planning area currently used for commercial activities.



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Commercial activity in the planning area is primarily directed along the major thoroughfares and in downtown Murray. Some limited neighborhood commercial areas exist off the major roadways. Commercial lands in the planning area constitute 713 acres or 5 percent of the planning area. Commercial land within the Murray city limits increased 98 acres or 21 percent from 2002-2008. A small amount of commercial land lies outside the Murray city limits.



Commercial development in the planning area has typically been strip centers along both sides of the major arterial roadways. These strip centers, with individual entrances and parking lots for each business or center, promote congestion and tend to degrade the character of the neighborhoods where they are located. The development of small business centers scattered in the various neighborhoods should be encouraged.

The Central Business District (CBD) is a 9 block area in Murray centered on the Calloway County Courthouse. Recent improvements have been made to enhance the visual appeal and the viability of the CBD as a commercial center. These efforts to promote commercial activities in the CBD should be continued.

## Existing Industrial and Warehousing/Distribution Land Uses

The Industrial and Warehousing land use categories denote development such as manufacturing, warehousing, distribution, service, and research-oriented enterprises. Map LU-4 shows the lands in the planning area currently used for industrial and warehousing/distribution activities.

The Murray Planning Area consists of 624 acres of land used for industrial and warehousing activities. This acreage is 4 percent of the total acreage in the planning area. The amount of industrial/warehouse



land in the Murray city limits increased by 33 acres or 12 percent from 2002-2008. Industrial land is generally concentrated on the north and east portions of the planning area. A new industrial park is currently being developed along Highway 641 North. Murray and Calloway County have an active economic development agency, indicating that additional industrial expansion is very important to the city, county, and region.

## Existing Public, Semi-Public, Education and Utilities Land Use

Public land use includes lands used for governmental services such as police and fire stations, community centers, libraries, parks, cemeteries, public parking facilities, and government administration offices and related facilities. Semi-public land use supports institutional and organizational facilities, including hospitals, religious institutions and nonprofit organizations. Education land use includes Murray State University, and the city and county school system facilities. Utilities land use includes facilities used for providing water, wastewater, stormwater, electric, natural gas, and telecommunication services. Map LU-5 shows the lands in the planning area currently used for public, semi-public, education, and utilities purposes without consideration of land ownership or zoning. For this inventory, the Murray State University farms located within the planning area were classified as educational; in the 2002 inventory they were classified as agriculture.



Existing Public, Semi-Public, Educational and Utility land uses are grouped for this discussion because they all relate in some form to the use of property by the general public. These land uses comprise 1,591 acres or 11 percent of the total land in the planning area. Lands used for these four purposes within the Murray city limits increased by 374 acres (38%) between the 2002 and 2008 inventories. These land uses are discussed in more detail in the Community Facilities Element of this Comprehensive Plan.

Education is the largest segment of these four land uses, constituting 789 acres or 5 percent of the planning area. Educational land uses increased by 356 acres from the 2002 to the 2008 inventories resulting from the reclassification of the Murray State University Farms. Public and Semi-Public land are about the same as the educational lands. Lands used for Utilities constitute a relatively small fraction of these combined land uses.

The City of Murray and Calloway County government offices are generally located in the downtown area. The Judicial Center is located on the downtown fringe. The Police and Fire Departments currently located in downtown Murray plan to move to a new Public Safety Building located at the site of the Fire Station on 16<sup>th</sup> Street.



## Existing Transportation Land Use

Transportation land use includes roadways and road right-of-ways; railroads; public walkways; and bikeways. The lands in the planning area currently used for transportation and related activities are shown on each of the land use maps. Transportation makes up 976 acres or 7 percent of the Murray Planning Area. The area of land consumed by roads and road right-of-ways in the Murray city limits increased by 125 acres or 23 percent for 2002-2008. The Transportation Element of this Comprehensive Plan discusses the transportation land use in more detail.

## Existing Agriculture Land Use

Agricultural land use includes land in an agricultural zoning district and land in zoning districts other than agricultural that is presently in crops or pastures and supporting farming activities.



Map LU-6 shows the agricultural lands in the planning area.

Agriculture lands constitute 6,579 acres or 46 percent of the Murray Planning Area. In the Murray city limits, the amount of agricultural land decreased from 2002-2008, primarily because of the reclassification of the Murray State University farms from agricultural to educational. A large portion of the other agricultural land may have been rezoned for other uses, but it was not developed and remained in agricultural production.

## Existing Vacant Land

Vacant Land is a subcategory of each of the other land uses. The procedure for determining the existing land use category assigned to a vacant parcel of land was generally as follows:

Vacant Single Family Residential – land parcels without residential structures in areas zoned for single family residential use and the portion of larger agricultural parcels along major thoroughfares that have full urban services, single family zoning, and no residential structures.

Vacant Two Family Residential – land parcels without residential structures in single family zoned areas where the predominant buildings are two family structures or the development plan showed predominantly two family structures.

Vacant Multi-Family Residential – land parcels without residential structures in areas zoned for a multi-family land use. Vacant Commercial – land parcels without a building that could be used for providing a commercial service in areas with commercial zoning and the portion of a larger agricultural parcel that contains a commercial use, like a radio station tower.

Vacant Industrial/Warehousing – land parcels in industrial zones that are not being actively used for agricultural production.

Table LU-4 shows a summary of the existing vacant land in the City of Murray and in the Urban Services Area. Map LU-7 shows the vacant land in the planning area by its parent land use. Vacant land within the Murray city limits comprised 723 acres or 13 percent of the developable (vacant plus developed) area and 10 percent of the total area. Vacant land within the planning area comprised 984 acres or 13 percent of the developable (vacant plus developed) area and 7

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percent of the total area. Vacant land within the city limits decreased by 20 acres or 3 percent from 2002-2008.

Table LU-4 Existing Land Use Summary – 2008 Vacant Land					
City Limits	Acres	% of Vacant Land	Urban Services Area	Acres	% of Vacant Land
Single Family Residential	436	61	Single Family Residential	558	57
Two Family Residential	4	1	Two Family Residential	4	<1
Multi-Family Residential	48	7	Multi-Family Residential	48	5
Commercial	170	24	Commercial	178	19
Industrial/Warehousing	57	8	Industrial/Warehousing	189	19
<b>Vacant Land Area</b>	<b>715</b>	<b>101*</b>	<b>Vacant Land Area</b>	<b>977</b>	<b>100</b>
Source: Florence & Hutcheson, 2009, <span style="float: right;">*Percentage greater than 100 due to rounding</span>					

For the vacant lands within the Murray city limits, residential uses comprised 488 acres or 69 percent of the total. Commercial uses comprised 170 acres or 24 percent of the total, while industrial and warehousing comprised 57 acres or 8 percent of the total. For the vacant land within the Urban Services Area, residential uses comprised 610 acres or 62 percent of the total. Commercial uses comprised 178 acres or 19 percent of the total, while industrial and warehousing comprised 189 acres or 19 percent of the total.

Table LU-5 shows the changes in vacant land between 2002 and 2008 within the Murray city limits. The most significant change was the net addition of 164 acres of vacant single family residential land. Another significant change was the reduction of vacant industrial land by 120 acres. Considering these additions and reductions, the total amount of vacant land stayed relatively constant. The amount of vacant industrial land reported in the inventory is not a direct reflection of the amount of industrial land available in the Murray Planning Area. Because the 2008 inventory classified land as it was being used, there were several parcels with industrial zoning that were being farmed and were classified as agriculture rather than industrial. When considering future land use, these vacant parcels will be classified as industrial land.

Table LU-5 Comparison of Existing Vacant Land Uses Within the Murray City Limits							
Vacant Land Use	2002			2008			CHANGE Acres, 2002-2008
	Acres	% of Total Land	% of Vacant Land	Acres	% of Total Land	% of Vacant Land	
SF Residential	272	4	37	436	6	61	164
2F Residential	17	<1	2	4	<1	1	-13
MF Residential	84	1	11	48	1	7	-36
Commercial	188	3	25	170	2	24	-18
Industrial	177	3	24	57	1	8	-120
<b>Total Vacant Land</b>	<b>738</b>	<b>11</b>	<b>100</b>	<b>723</b>	<b>10</b>	<b>100</b>	<b>-23</b>
Source: Florence & Hutcheson, 2009							

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The annexations of property into the City of Murray are listed in Table LU-6. The table shows the date and ordinance number of the annexation, a description of the property, and the number of acres included in the annexation. The same ordinance number for two separate entries indicates that there were two pieces of property referenced separately in the ordinance. Generally, the two tracts were a tract of developable land and a tract of road right-of-way. Since the 2002 Land Use Element was prepared, a total of twenty-two annexations were conducted annexing approximately 719 acres into the City of Murray, representing an addition of approximately 11 percent to the land area within the city limits in 6 years. The 719 acres compares closely with the 727 acres the 2008 inventory mapping showed being added to the city limits since the 2002 inventory.

Of the twenty-two annexations, four were greater than 50 acres, two greater than 100 acres, and 1 greater than 300 acres. The largest annexation was a 302 acre tract in the southwest part of the city that included 212 acres of single family zoning and 90 acres of agricultural zoning. Of the annexations, twelve were less than 10 acres and 6 were between 10 and 50 acres.

## **Construction Activity**

Table LU-7 gives a summary of the residential construction activity in the City of Murray for the period 2002-2008 as indicated by issued building permits. The years 2005-2007 saw a greater amount of single family residential building activity as compared to the previous three years. The building activity in the two-family segment was considerably higher in 2005 and 2006 but dropped off significantly in 2007 and 2008. Multi Family construction, indicating three or more families per building, was considerably greater in 2007 than in previous years. All three residential categories were down for 2008 as a result of the challenging economic conditions.

Table LU-8 compares residential and non-residential construction activity for building permits during the years 2002-2008. The total project costs for residential construction for the seven years were slightly greater than for non residential construction. When looking at all residential construction, Murray generated approximately 75 or more units during five out of the seven years shown in the table.

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Table LU-6 Murray Annexations 2002-2008			
Ordinance	Date	Description of Property	Acres
2002-1280	8-22-02	Bast tract located on River Road.	1.5035
2003-1301	3-27-03	Williams and Phillips tract located on Bailey Road.	3.4775
2003-1310	8-28-03	Property located at 1061, 1099, 1121, 1145 and 1175 Robertson Road North.	6.143
2003-1311	8-28-03	Property located at 68 Lipford Lane, 1291, and 1307 Robertson Road North.	2.753
2003-1312	8-28-03	Tract located on Elmbrook Court.	2.397
2003-1329	10-23-03	Property located at 1195, 1225 and 1245 Robertson Road North.	3.859
2003-1336	2-12-04	Tract located off Edinborough Drive.	29.7076
2003-1337	2-12-04	Tract located on Robertson Road South.	52.3203
2004-1340	2-26-04	Tract located at the northwest corner of Robertson Road North and Highway 94 West	60.2144
2004-1340	2-26-04	A portion of right-of-way along Hwy 1660 and SR 94 West.	3.1098
2004-1343	3-25-04	Tract of land located on Robertson Road South	.2919
2004-1343	3-25-04	Portion of Robertson Road South.	.0138
2004-1344	3-25-04	Tract which includes a 2.8356 acre portion of right-of-way along Wiswell Road.	158.2237
2004-1349	7-22-04	Owen tract located at the southeast corner of Robertson Road South and Highway 94 West owned	20.7591
2004-1349	7-22-04	Portion of the right-a-way along Highway 94 West.	1.1910
2005-1366	2-24-05	Campbell, D&D, Inc. tract located in Fairfield Subdivision on Robertson Road South	16.0294
2006-1402	4-27-06	Campbell, D&D, Inc. tract located on Robertson Road, South	23.829
2006-1407	5-25-06	Tract generally located on the southwest side of the city.	301.877
2006-1415	9-28-06	Tract of land located on Bailey Road (Lots 1 and 2 of Cambridge Subdivision Unit 1).	1.121
2006-1415	9-28-06	Roadway (Lots 1 and 2 of Cambridge Subdivision Unit 1)	0.253
2006-1427	1-11-07	Tract on Gibbs Store Road	10.647
2006-1427	1-11-07	Portion of right-of-way on Gibbs Store Road.	0.355
2006-1428	1-11-07	Tract located on King Richard Drive (Lots 3 and 4 in Unit 3 of Sherwood Forest Subdivision).	1.036
2007-1439	5-24-07	Tract located at 1641 Wiswell Road, West.	16.050
2007-1444	7-26-07	Tract of land located at 170 Utterback Road	1.472
2007-1444	7-26-07	Tract of roadway at 170 Utterback Road	0.152
Total Annexed Land			718.786

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**Table LU-7 Murray Construction Activity From Building Permits**

Year	Single Family		Two-Family		Multi-Family	
	Units	Project Cost	Units	Project Cost	Units	Project Cost
2002	23	3,687,500	12	490,000	68	2,968,105
2003	18	2,495,304	6	234,000	55	1,338,000
2004	16	2,928,500	4	312,700	92	3,143,000
2005	36	6,130,900	20	1,340,000	65	1,277,000
2006	42	8,880,953	16	1,120,000	39	1,453,000
2007	66	10,293,875	2	140,000	143	9,921,268
2008	14	2,291,500	6	314,000	25	700,000

**Table LU-8 Murray Residential and Non-Residential Construction**

Year	All Residential		Non Residential	
	Units	Project Cost	Units	Project Cost
2002	57	9,111,304	9	3,691,088
2003	79	4,067,304	11	1,482,714
2004	112	6,384,200	22	14,672,102
2005	121	8,747,900	10	9,563,345
2006	97	11,453,953	17	3,499,253
2007	211	20,355,143	8	10,318,952
2008	45	3,305,500	8	3,956,442

## FUTURE LAND USE

The Future Land Use section describes the expected land use the planning area into the future. The future land uses were developed based on the goals and objectives established for the plan and sound planning principles. The Murray community contains a unique blend of agricultural, industrial, business, and academic life styles. The future land use portion of the plan builds on this unique blend of lifestyles with the goal of enhancing the quality of life in the Murray Planning Area through the integration of modern growth policies and environmental enhancement. The integration of the environmental enhancements will increase the visual appearance of Murray so that it complements the unique lifestyle and thereby enhances the overall quality of life in Murray.

### Future Land Use Principles

The five future land use principals and resulting goals defined in this section are a restatement of the land use goals and objectives adopted by Murray for the Comprehensive Plan and listed at the beginning of this Land Use Element. Each principle is defined along with a related goal and several strategies to achieve that goal. The strategies form the basis for the development of the future land use map for the Murray Planning Area. The strategies outline actions that can be

taken to work toward the attaining of the goal. The full list of goals and objectives adopted by Murray for the Comprehensive Plan is contained in Appendix A.

## **1. Preserve Compact Nature**

A compact nature taken from a broad perspective, rather than a site by site perspective, describes the overall organization of an area in terms of the relative location of the various land uses. A compact area is one in which trip distances are minimized to the extent possible. Compactness is the opposite of sprawl where there are discontinuous residential growth and strip commercial developments. Some examples of the advantages of a compact area include more efficient water and sewer service because lines are shorter, fewer and smaller roads are required, and school bus routes are shorter.

The Murray Planning Area is bounded on the south and east by Clarks River, which creates a natural deterrent to the expansion of urban services. Even though limited residential development has already occurred east of the Clarks River and the city's natural gas system has been expanded to serve that area, large scale new development is not envisioned within the 10-year planning period. Similar geographical or topographical deterrents to development do not exist to the north and west.

A compact nature for the planning area must be achieved through sound growth management policies. Strategies generally include limiting the outward growth of the area while enhancing development activities within the planning area. New commercial developments should generally not be allowed on the periphery of the planning area, but should be directed toward existing commercially compatible properties within the core of the planning area. The farther residential development occurs from the Murray downtown area, the more the "sense of place" for Murray becomes diluted.

A compact nature does not imply static population growth; rather it means smart, efficient growth directed to those portions of the planning area most able to sustain it in the best interest of the local citizens. Within the existing urban services area, Murray could accommodate growth in residential and commercial activity within the foreseeable future. However, the challenge is to mold and direct that growth to enhance the overall quality of life of the area.

A compact nature does not imply the intrusion of undesirable land uses into other land uses or the construction of high density or high rise developments not in keeping with the character of Murray. Developing a compact nature should never be accomplished at the expense of open area, green space, or environmental protection and enhancement.

**Compact Nature Goal:** Create a land use development pattern that efficiently provides delivery of governmental, commercial and professional services; utilizes existing infrastructure resources; and maximizes return on infrastructure expenditures while maintaining the small town nature of Murray.

### **Strategy 1: Limit Expansion of the Urban Services Area**

Murray is planning a small expansion of sewer service on the southwestern edge of the current Urban Services Area (USA). When this expansion is completed and the urban services boundary is revised to include this area, new expansion will be limited and the focus will be on development inside the urban services boundary. The Urban Services Area contains enough land to accommodate all the projected growth in Murray for the 10 year planning horizon. Since all other utilities are available except sewer service, limiting the expansion of sewer service will effectively limit expansion of the Urban Services Area.

## Strategy 2: Keep New Residential Development in the Urban Services Area

Development within the USA must be encouraged to ease the pressure for development outside that area. To provide an incentive for development within the USA, the Planning Commission will adopt development alternatives that tend to reduce the cost of the infrastructure for residential development. One method for accomplishing this is conservation developments that maintain gross densities on a tract of land, but allow smaller lots and larger amounts of green space. Since developments are generally more compact, the costs of utilities and roadways are reduced.

Other alternatives for reducing development costs and providing development incentives will be explored by the Planning Commission. In addition, the Planning Commission will discourage multi-family housing that supports Murray State University in areas that are not near the University

## Strategy 3: Encourage Neighborhood Commercial Activity

The location of commercial development has a direct impact on the traffic generated as residents travel to procure goods and services. In Murray, commercial development is generally concentrated along the major arterial roadways, resulting in significant traffic on these roadways. Some of the congestion could be relieved if goods and services could be procured closer to home. To encourage neighborhood commercial activity, the Future Land Use Map shows designated areas of commercial activity in neighborhoods. The areas will be called Neighborhood Activity Centers (NAC).

The NAC is a mixture of commercial uses that serve the needs of the neighborhood. The NAC must be designed so that it does not attract significant traffic from outside the neighborhood. The NAC must be designed and located to be easily accessible by pedestrians by walking, bicycling, or with low impact type vehicles; thereby minimizing traffic to the extent possible.

The NAC will contain small scale commercial uses that serve the neighborhood and might include commercial services like small groceries, small cafes, barber shops, beauty shops. The main focus of the NAC is commercial activity, but it might also include limited office, semi-public, and residential uses when they can be integrated with a minimum of traffic generation.

The Planning Commission will develop standards for the NAC's, including design standards. Design standards should be developed to minimize asphalt areas and enhance, rather than detract from the beauty of the surrounding neighborhood. Landscaping and green space generation will be an important part of the design standards. Where possible, integrating a neighborhood park into the NAC would be desirable.

## **2. Enhance Small Town Community Character**

Murray is a unique town with a progressive regional university that has won numerous awards for its educational value. Murray has also been recognized as a top retirement destination. Murray is in the center of an agricultural area and has the small town feel generally associated with agriculture. This blend of economies supports services and activities not generally associated with similar sized towns in Kentucky. The blends of these different cultures and the life style they support give the residents of Murray a distinct pride in their community and its character. The character of Murray will be enhanced through land use practices and through the enhancement of the downtown area.

**Community Character Goal:** Enhance Murray’s unique community character by protecting and enhancing core neighborhoods, the downtown, and historic areas, while providing for the efficient flow of people and goods throughout.

## Strategy 1: Protect and Enhance Core Neighborhoods

A large part of the historical character of Murray is defined by its downtown area and the core residential areas that developed nearby. These neighborhoods are a resource that cannot be replaced and will be preserved to the extent possible. The Planning Commission will establish the boundaries of this core area and establish measures to maintain its integrity. In general, new developments in the core area will be of an architecture that resembles that area. Subdivision of lots into smaller residential lots will be allowed when development can maintain or improve the architectural quality of the neighborhood. The Planning Commission discourages the conversion of single family residences in the core area to multi-family or commercial uses, except where Neighborhood Activity Centers can be developed.

In addition to the downtown core neighborhoods, the Planning Commission will prepare neighborhood plans for the neighborhoods that agree to form active neighborhood associations. The neighborhood plans will serve as guides for implementing public improvement projects and steering public and private investment in a specific neighborhood. The neighborhood association will be the vehicle for locating people in the neighborhood with leadership skills and relationships with the other neighbors. The implementation of the neighborhood plans will strengthen the neighborhood through an association with the public and private sectors.

## Strategy 2: Protect and Enhance Downtown Gateways

Downtown as a destination is somewhat defined by the visual appearance of the major gateways leading there. For Murray these major gateways are Main Street and 4<sup>th</sup> Street. The Main Street gateway generally consists of older stately single family homes, a library and a school. The Planning Commission will maintain the nature of this area by limiting the conversion of single family residences to multi-family and commercial uses.

The 4<sup>th</sup> Street north and south gateways consist of mixed commercial uses and the Calloway County Judicial Center. The Planning Commission desires that the appearance of these gateways be improved. Future Land Use Maps indicate that certain areas along the gateways should be converted from commercial uses to residential uses. In addition, architectural standards for new commercial activities will be developed by the Planning Commission to improve the appearance of the 4<sup>th</sup> Street gateway.

## Strategy 3: Expand Downtown and Improve Downtown Vitality

Murray has completed improvements to its downtown area as a result of its Downtown Master Plan. The improvements center around the Courthouse Square, the area mostly associated with downtown Murray. The momentum needs to be continued in adjacent properties through rehabilitation and expansion of existing structures, the construction of new structures on vacant lots, and redevelopment of underutilized lots. As Murray continues to grow in the future, a downtown expansion could result from this focus. Where possible, the City of Murray will partner with the private sector to continue to enhance the downtown. Examples of partnering might include purchasing lots and buildings for redevelopment, development incentives, design assistance for innovative design, tax abatement, and the development of “spec” commercial buildings downtown. The Planning Commission will designate a downtown area and adopt development procedures and architectural and landscaping standards appropriate to downtown.

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## Strategy 4: Encourage Neighborhood Renovation and Revitalization

Murray has some older neighborhoods that need a focus for revitalization. In addition, several older neighborhoods not yet to the revitalization stage are candidates for some renovation efforts. Older homes and neighborhoods need to be inventoried to develop projects where grants or other funding mechanisms can be sought for renovation or revitalization. Where grant funding is not possible, incentive programs with the private sector should be developed to accomplish better housing for all citizens of Murray.

## Strategy 5: Maintain Murray's Historic Character

Historic preservation is a key element in enhancing the character of Murray. Many different architectural styles exist that represent different eras in the development of Murray. Preservation efforts relate to the maintenance or expansion of a particular property. Historic preservation efforts in Murray currently are in the form of a history overlay that creates a historic district where renovation and new construction techniques apply. Continued efforts for historic preservation will be coordinated with downtown revitalization, core neighborhood preservation, and downtown gateway protection.

## Strategy 6: Strengthen Murray State University-City Planning Interaction

Murray State University is a major force in the development of Murray. Decisions by MSU are primarily to advance the mission of the institution; however, in many instances they have a major impact on Murray as a community, particularly with regard to the generation of traffic and traffic patterns. MSU has recently revised its Campus Master Plan. Land use decisions by the Planning Commission impact MSU particularly through the location of housing utilized by students. A good working relationship currently exists between the City of Murray and MSU and this relationship should be enhanced where possible. The relationship will be particularly beneficial when dealing with traffic issues as defined in the Transportation Element of the Murray Area Comprehensive Plan.

## Strategy 7: Develop Progressive Zoning Ordinance and Land Development Standards

Zoning procedures and the standards by which land is developed are very important in shaping the future character of the Murray area. The Planning Commission recognizes that its overall land development process needs to be improved and will revise the existing zoning ordinance and land development standards to reflect the kind of community that Murray strives to become. Different sections of this Land Use Element include items that should be considered in a new zoning ordinance and land development standards. Examples of changes to be considered by the Planning Commission include zoning land to match the planned future land use and land "set- asides" to create open space.

## **3. Enhance, Preserve and Protect The Environment**

Murray is a very environmentally aware community. The environmental programs at Murray State University and the ever increasing awareness of environmental impacts from human activity have fostered this environmental awareness. This principle recognizes the desire of the area's citizens that the development of land occur in an environmentally friendly manner and that the resulting developed land contain significant environmentally friendly green space. Streams, their associated floodplains, and forested areas are the most significant environmentally sensitive features in the Murray area. The common trend in environmentally friendly communities is to recognize that protection of environmentally sensitive areas and the provision of green space are important public facilities like utilities and roadways and not just desirable amenities.

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Development in Murray should not compromise environmental integrity. Environmentally sensitive development recognizes that preservation is more important than mitigation of impacts. Sensitive environmental areas should be identified in advance of development and alternative uses of land planned accordingly. Conservation development and best management practices should be used as key measures to protect developing areas. Environmental standards must continually be reviewed and updated to keep pace with changing trends in environmental protection.

**Environmental Goal:** Maintain a natural environment by protecting, preserving, and enhancing natural resources and promoting design, development and construction practices that create green space, neighborhood connectivity, and a visually pleasing environment.

## Strategy 1: Protect Trees and Create Green Space During Development

Trees provide a visual enhancement to the environment as well as provide needed shade. Many of the areas that will eventually be developed in Murray are agricultural areas that have very few trees. To provide the needed preservation of trees during development and the planting of trees after development, the Planning Commission will adopt tree preservation, tree replacement, and tree planting measures. These measures will protect high quality vegetation, protect natural corridors, and preserve and enhance community tree crown coverage.

A key element in the development and preservation of trees and green space is the identification of existing high quality areas. The Planning Commission will inventory the developable land within the Murray Planning Area so that plans can be made to protect already existing high quality areas.

The combination of trees and open/green space will provide an environmentally friendly enhancement to the Murray environment. The Planning Commission will adopt measures for the provision of open/green space in new developments. These measures may take the form of development techniques that create open/green space, conservation easements, dedication of land by developers, or purchase of land during the development process.

The Planning Commission will also review and revise, where appropriate, the current landscaping requirements for new developments. A primary focus should be on the creation of green space buffers between developments of differing land use and density and improving the appearance of commercial and industrial properties. In addition, the Planning Commission will adopt measures to create vegetative corridors connecting developments and neighborhoods.

A key strategy in maintaining the visual appearance of an area is the installation of underground utilities. Murray currently requires the installation of underground utilities in new developments. This practice should be continued and opportunities taken to bury existing above ground utilities when they are presented.

## Strategy 2: Protect Floodplains and Water Quality

The Murray Planning Area contains the Clarks River and several of its tributaries. The quality of water in the Clarks River is dependent on the quality of water in these tributaries, especially during rainfall events. The sediment and nutrient trapping ability needed to protect the Clarks River and its tributaries lies in the headwater drainage system in the Murray Planning Area that consists of intermittent and ephemeral streams. Another issue is the loss of water storage capacity due to landscape alteration during development. Landscape alteration can lead to downstream flooding. Often, channel erosion and instability result from actions taken to control flooding.

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The Planning Commission recognizes the importance of protecting the water resources in the Planning Area and, when evaluating developments, will look toward the protection and preservation of the existing stream network, including intermittent, ephemeral, and perennial streams. The Planning Commission will also inventory all streams in the Planning Area to identify all perennial, intermittent and significant ephemeral waterways and natural drainage features.

Murray has a stormwater program that includes requirements used by the Planning Commission in the evaluation of new developments. These requirements will be reviewed by staff to incorporate the latest watershed protection measures to control the quality of runoff. Measures include watershed protection best management practices like bio-filtration; drainage buffer zones; the mitigation of channel degradation, particularly downstream of drainage structures; and prohibiting or limiting development in sensitive streamside zones.

### Strategy 3: Promote Environmentally Sensitive Development

This strategy somewhat overlaps Strategies 1 and 2; however the intent is to encourage the incorporation of environmentally sensitive measures into a development's site plan throughout the site design process. Identifying and mapping sensitive areas and Integrating environmental and more conservation oriented design measures into site design can result in the creation of significant amount of valuable open/green space in the majority of new developments. The Planning Commission will incorporate into the review process the identification of sensitive areas during site design and the use of open space generation techniques, like clustering, to facilitate the goal of attaining environmentally sensitive development in the Murray Planning Area. The Planning Commission will revise its zoning and subdivision regulations to promote innovation in environmental design through the use of techniques of like variations in density standards and density bonus incentives. Land development standards will also be revised to incorporate safety and visual aesthetics in the physical design of developments.

### Strategy 4: Promote the Use of Green Building Standards

Buildings are some of the largest consumers of energy and thereby have a large long term impact on the environment. Ideally, structures shall produce more energy than they consume. This is done through a host of practices such as green roofs, solar panels, use of natural light, and utilizing environmentally safe construction materials. The ideas behind the design practices are for structures to be as energy efficient and environmentally friendly as possible.

The City of Murray will develop a new initiative to look for builders, of both residential and commercial structures, to adopt U.S. Building Council LEED design practices. As a part of this strategy, the City will consider the adoption of an incentive package for anyone that can build a structure that is LEED Certified There are many state and federal funds that can possibly assist with this LEED construction initiative.

## **4. Develop and Enhance Quality of Life Measures**

Quality of life is a key component for Murray to keep its current residents, attract new retirees, and attract new commercial and industrial investment to the community. Murray currently has a high quality of life, but there are measures that can be taken to increase its attractiveness. There are many things that contribute to a high quality of life and some of these measures have already been addressed in Principles 1-3. Additional measures are discussed in this section.

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**Quality of Life Goal:** Develop new programs, events, and other quality of life measures while enhancing existing cultural and recreational opportunities and where possible integrate these quality of life measures into all aspects of life in Murray.

## Strategy 1: Enhance and Expand the Park System

The Community Facilities Element of this Comprehensive Plan discusses in detail the Parks and Recreation System in the Murray area. The Parks and Recreation Master Plan identified a need for the development of additional parks and recreational programs. The development of new park sites can be integrated into the development process by the use of conservation easements, land dedication, and in some cases the purchase of land. In many instances the open/green space created by conservation development practices may be suitable for parks.

The addition of park land is important to the citizens of Murray. The Planning Commission will evaluate new developments with an eye toward the acquisition of land suitable for parks. This will be facilitated by the revisions to review procedures described in Principles 1-3.

## Strategy 2: Develop System of Recreational Walking and Bicycle Trails

Like parks, recreational walking and bicycle trails are an important component of the quality of life. When incorporated with open/green space, they present an area that is not only visually pleasing but also contribute to a healthy life style for the citizens using them. Recreational trails can also be used to provide neighborhood connectivity. The Parks and Recreation Master Plan identified a greenway connecting many of the neighborhoods in the southern and western portion of the Planning Area. In many instances land for this greenway trail and other recreational trails can be acquired during the land development process using techniques previously described for open/green space.

The development of recreational trails has been discussed for a number of years in the Murray area. A few trails have already been developed, particularly in the Clarks River area. Bicycle use was integrated into the rights-of-way of U.S. Highways 641 and 80 but trails do not exist within the city to access these major highway trails.

The development of new recreational trails is an important aspect of Murray's growth in the quality of life. The Planning Commission will evaluate new developments looking toward neighborhood connectivity and the acquisition of land suitable for new recreational trails. Like the acquisition of park land, the revisions to review procedures described in Principles 1-3 will facilitate the process.

## Strategy 3: Enhance the Use of Sidewalks

Sidewalks are a form of recreational trail and facilitate the opportunity of residents to move within and between neighborhoods without the use of automobiles. Sidewalks on both sides of the street in residential neighborhoods also contribute to a friendly atmosphere giving residents the opportunity to interact more freely than if sidewalks were limited to only one side of the street. The existing subdivision regulations require sidewalks within the street right-of-way on each side of arterial and collector streets in all subdivisions that are developed inside the corporate city limits, those lying in whole or in part inside the city limits, and those lying one-half mile from outside the corporate city limits. In certain instances the Planning Commission may waive the use of sidewalks.

As part of the revision of the zoning ordinance, the subdivision regulations will be reviewed and consideration will be given to extending the requirement for sidewalks to the entire Urban Services Area. In addition, the sidewalk waiver provision in the subdivision regulations will be

reviewed. Changes in the subdivision regulations will also be considered to increase the width of sidewalks on one side of the street in appropriate situations to facilitate inter-neighbor and intra-neighborhood connectivity through the accommodating of alternative means of transportation.

## **5. Maintain Economic Opportunity**

Approximately 25 percent of jobs and 30 percent of income in Murray and Calloway County result from jobs in the public sector giving a stable employment base. Approximately 13 percent of the jobs and 20 percent of the income come from manufacturing. Despite current challenges in the manufacturing sector due to the national downturn, future economic potential for the Murray area appears good. The nearing completion of the industrial park on Highway 641 North gives the area excellent future potential for attracting new industrial investment and the resulting jobs. The continued growth of the Murray Calloway County Hospital and the completion of the expansion there also bode well for the future of the Murray area. Agriculture will also continue to play an important role in Murray's economic future.

The quality of life is high in Murray and actions taken as a result of this Comprehensive Plan should ultimately make it even better. The quality of life and proximity to Kentucky Lake and the Land Between the Lakes National Recreational Area should prove to be positive and important factors for the Murray area in recruiting new businesses, new retirees, and developing income from tourism.

**Economic Goal:** Build upon Murray's quality of life assets and location to encourage new capital investment and the creation of quality jobs to enhance Murray's strong economic base.

### Strategy 1: Designate Lands for Quality Employment Opportunities

Land use planning and zoning efforts in Murray should make sure that there is an adequate amount of appropriately planned or zoned land available for investment to create employment opportunities. Designation of lands for future economic activity will be used in this plan to avoid the conversion of agricultural land to other uses that are not compatible with economic development goals.

### Strategy 2: Redevelop Appropriate Sites

An important strategy for Murray is to redevelop sites that are currently vacant or underutilized to create employment opportunities. In many cases these sites can be developed for specific uses at costs less than new sites on vacant land. There are several sites along arterial roadways as well as the area east of 4<sup>th</sup> Street in the proximity of downtown that could be redeveloped to provide employment opportunities. The City of Murray will investigate strategies that might be used to partner with the private sector in redeveloping appropriate properties. Examples of strategies include tax abatements, brownfields redevelopment, the revision of building codes, and the development of "spec" buildings.

### Strategy 3: Develop New Opportunities

Cultural and sports tourism represent excellent opportunities for the Murray area to increase economic activity. Murray current has several excellent festivals promoted by the Convention and Visitors Bureau. In addition, Murray State University facilities like the West Kentucky Livestock and Exposition Center and the Regional Special Events Center support a number of sporting and cultural events. An opportunity currently being pursued by Murray is the development of a sports complex to host youth baseball tournaments.

With the facilities available for hosting cultural and sports tourism in the Murray area, the area is uniquely positioned to capitalize on new economic and employment opportunities in this area. Like for other economic development activities, the City of Murray should, where necessary, use its resources and possibly incentives to the private sector to develop new events and new facilities for these events.

## Strategy 4: Use Public Capital to Foster Private Investment

The marginal profitability of a private venture may sometimes prevent the realization of a job creating opportunity. Government entities generally have access to capital markets at rates not available to private entities. Often deals can be made for governments to leverage their resources and create incentives to assist private entities in job creation ventures. A limited program for this exists at the Purchase Area Development District. In conducting its capital planning each year, the City of Murray should, not only look to plan and implement public capital investment to maintain and enhance existing public facilities, but also look at capital expenditures to stimulate private investment in the community.

## **Future Land Use Map**

### **General**

The Future Land Use described in this section of the plan is shown on Map LU-8 and depicts the generalized land use categories that will guide development and redevelopment throughout the planning period. Each land use category shown on the map permits a range of land uses, densities, functional uses, and intensities as set forth in the zoning ordinance. The Future Land Use Map; the future land use principals, goals, and strategies in this plan; and the zoning ordinance are all key criteria in establishing the boundaries of the land use categories depicted on the Future Land Use Map and will determine the exact type of land use and the density and intensity appropriate at any one location.

In developing the land use boundaries shown on the map, areas were identified based on their primary anticipated future land use. For example, in several residential areas there was an existing mix of predominantly single family detached structures and a small number of multi-family units. Since these areas were desired as future low density residential areas, the entire area was shown as low density.

The boundaries between different land use categories depicted on the map generally follow existing or proposed geographic features such as roadways, rail and utility rights-of-ways, the edges of natural and manmade watercourses, or property lines. In some instances, the boundaries may be offsets from these features, like 100 feet off the road right-of-way. Where the location of the boundary between contiguous land uses cannot be clearly determined from the map, the Planning Commission will establish the boundary.

The boundaries shown on the map for the commercial areas specified as Neighborhood Activity Centers (NAC) are not fixed. These areas are shown in generalized locations where it was believed this use would be appropriate. The Planning Commission will establish the actual boundaries of these areas as development plans are reviewed.

## Summary of Future Land Use

Table LU-9 shows the distribution of future land uses inside the Murray city limits as compared to the existing land use determined from the land use inventory. The total area within the incorporated Murray city boundary is 7,190 acres or approximately 50 percent of the Murray Planning Area. The three largest changes from existing to future are in the residential, commercial, and industrial land uses. Residential land use is increased by 397 acres and is indicative of the residential expansion occurring in the southwestern portion of the city. Commercial land use is increased by 204 acres indicative of the expansion of future commercial lands, particularly along Opportunity Drive. Industrial land use increased by 483 acres. The industrial land use change was primarily due to including in the future industrial land use the land in the industrial areas of Murray that were being used for and counted as agriculture in the existing land use inventory. This was the cause of the large decrease in future agriculture land use shown in Table LU-9.

Compared to the future land use acreages in the 2003 Land Use Element; residential land uses increased by 259 acres, commercial land uses increased by 285 acres, and industrial land uses decreased by 19 acres. The total of public, semi-public, education, utilities, and transportation land uses increased by 141 acres.

Table LU-9 Murray City Limits Future Land Use Summary			
Land Use	EXISTING (Total Acres)	FUTURE (Total Acres)	Difference (Acres)
Residential	2,667	3,064	397
Commercial	726	930	204
Industrial	363	846	483
Public	428	438	10
Semi-Public	238	231	-7
Education	633	666	33
Utilities	48	49	1
Transportation	666	755	89
Agriculture	1,421	211	-1,210
<b>Total</b>	<b>7,190</b>	<b>7,190</b>	
Source: Florence & Hutcheson, 2009			

Table LU-10 summarizes the future land uses in the planning (urban services) area as compared with the existing land use. There are 14,431 acres within the Murray Planning Area boundary. When considering the entire planning area, considerable changes are evident in the residential and industrial land uses. The large increase in residential land use results from the conversion of large areas of existing agriculture in the southwestern portions of the planning area, currently outside the city limits, to low density residential land use. The large increase in industrial land use results from the conversion of large areas of agricultural land use in the northern portion of the planning area, currently outside the city limits, to industrial land use. The corresponding decrease in agricultural land use is evident in the table.

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Compared to the future land use acreages in the 2003 Land Use Element, residential land uses in the planning area decreased by 126 acres, commercial land uses increased by 592 acres, and industrial land uses decreased by 131 acres. The total public, semi-public, education, utilities, and transportation land uses increased by 582 acres.

<b>Table LU-10 Murray Planning Area Future Land Use Summary</b>			
<b>Land Use</b>	<b>EXISTING (Total Acres)</b>	<b>FUTURE (Total Acres)</b>	<b>Difference (Acres)</b>
Residential	3,581	5,448	1,867
Commercial	891	1,283	392
Industrial	813	1,512	699
Public	447	459	12
Semi-Public	295	288	-7
Education	789	823	34
Utilities	60	61	1
Transportation	976	1,134	158
Agriculture	6,579	3,423	-3,156
<b>Total</b>	<b>14,431</b>	<b>14,431</b>	
Source: Florence & Hutcheson, 2009			

The following sections describe the Future Land Use by individual land use categories. Descriptions are provided for the Murray incorporated area and the Murray Planning Area (Urban Services Area).

## Future Residential Land Use

Residential land use generally allows for the non-transient population and includes single family dwellings, multi-family dwellings, congregate living facilities, and manufactured home parks. MSU student dormitories are not included in this category, but are considered with educational land use. Residential land use is divided into three categories; Low Density Residential, Medium Density Residential, and High Density Residential and each are discussed below. These classifications are used instead of the classifications used in the land use inventory as they better reflect the development densities contained in the zoning ordinance. Mobile home parks were included in the Medium Density Residential category and congregate living facilities were included in the High Density Residential category. By making many types of housing compatible to an area, the city can accommodate a wide variety of residential preferences, responsive to changing market demands.



Some land uses other than residential living quarters are allowed in all residential areas. These other land uses support and complement the residential category by allowing essential services to be located near living quarters. Churches and related activities are generally allowed in low density residential areas. In medium and high density residential areas, churches and other

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non-profit public or private facilities like schools, parks, and recreational facilities may be allowed. Also, supporting commercial activities like small animal clinics, coin laundries, barbershops, beauty shops, fraternity and sorority houses, nursing homes, rest homes, retirement homes, convalescent homes, day care nursing schools, and similar activities may be allowed in medium density residential areas. In high density residential areas, coin laundries, barber shops, beauty shops, drug stores neighborhood groceries, restaurants, and similar activities may be allowed.

When locating other land uses in close proximity to residential uses, land compatibility must be considered to avoid the introduction of urban activities that might have a detrimental effect on residential activities. Where residential and commercial uses are allowed in close proximity, landscaping and screening standards should provide an adequate separation of the two uses. The Planning Commission will revise the zoning ordinance where necessary to insure that adequate landscaping and screening standards are in place between residential and commercial developments.



One of the guiding principles of this plan is environmental enhancement. Site development standards for all residential developments will be revised to promote the environmental enhancement “green” initiative for Murray. This includes the planting of trees, preservation of green space, walking trails, and building construction. In addition, the Planning Commission will consider ways to monitor developments to ensure that the “green” initiatives undertaken are preserved throughout the development and post-development period.

Another guiding principle of this plan is enhanced quality of life through access to public parks. The Planning Commission will revise the zoning ordinance and land development standards to make sure that all residential developments have easy access to either a newly created or revitalized neighborhood park. Also, in conjunction with the Transportation Element of this Comprehensive Plan, land development standards will be revised to require the connection of all existing and future residential developments through a system of non-vehicular means of transportation like sidewalks, bike lanes, walking trails, etc.

The lands designated for the three future residential categories are shown on Map LU-9. Tables LU-11 and LU-12 compare the future residential land uses inside the Murray city limits and the Murray Planning Area with the existing land use from the inventory. The inventory’s categorization of residential land use as single family, two family, multi-family, manufactured housing, and congregate living was consolidated to match the future land use categorization by calling existing single family residential comparable to low density residential; existing two-family, three family, four family residential, and manufactured housing comparable to medium density residential; and existing multi-family residential and congregate living comparable to high density residential.

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**Table LU-11 Murray City Limits Future Residential Land Use Summary**

Land Use	EXISTING (Total Acres)	FUTURE (Total Acres)	Difference (Acres)
Low Density Residential	2,180	2,428	248
Medium Density Residential	201	420	219
High Density Residential	286	216	-70
<b>Total</b>	<b>2,667</b>	<b>3,064</b>	<b>397</b>

Source: Florence & Hutcheson, 2009

**Table LU-12 Murray Planning Area Future Residential Land Use Summary**

Land Use	EXISTING (Total Acres)	FUTURE (Total Acres)	Difference (Acres)
Low Density Residential	3,019	4,731	1,712
Medium Density Residential	258	483	225
High Density Residential	304	234	-70
<b>Total</b>	<b>3,581</b>	<b>5,448</b>	<b>1,867</b>

Source: Florence & Hutcheson, 2009

In general, lower density residential land use is primarily concentrated in the southern and south western portions of the planning area. Lower density residential development trends in recent years have been toward the southwestern part of the planning area. The future land use map shows the trend for residential development to continue to increase to the southwestern portion of the planning area. An expansion of the urban services area is planned in the southwestern portion of the planning area to support this development trend.

Higher density residential developments are generally located in the north western portion of the planning area. The future land use map envisions that future high density residential developments would continue to be located primarily in this area. Medium density residential development is generally scattered throughout the planning area, providing a mix of available housing. The future land use map envisions the continuation of medium density residential development mixed with high and low density developments throughout the area.

Low Density Residential: Generally, single family detached housing will be the predominant land use in the low density residential category, although manufactured homes, patio homes, and two family dwellings may also be permitted in appropriate locations. Low density residential areas are for housing developments with gross densities up to 4.3 dwelling units per acre. The intent of this land use category is not to allow the maximum density to be attained throughout an entire area designated for a low density residential land use. Rather, the intent is that in each area there be a mix of developments of various densities to achieve an average density that is less than the maximum density. In addition to the other types of uses allowed in all residential categories, home occupations may be allowed in this category where it is incidental to the principal use.

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Map LU-9 shows that in the Murray Planning Area and within the Murray city limits, low density residential land use occupies the largest single land use category. The existing low density residential land use determined from the inventory within the Murray city limits was 2,180 acres. The future land use map shows a low density residential land use of 2,428 acres for an increase of 248 acres. This addition is primarily the conversion of agricultural lands within the southwestern portion of the city limits to low density residential land use. The existing low density residential land use determined from the inventory for the Murray Planning Area was 3,019 acres. The future land use map shows a low density residential land use in the planning area of 4,731 acres for an increase of 1,712 acres. This additional acreage is mostly in the southwestern and west central portions of the planning area where agricultural land use is converted to low density residential land use.



The following criteria provide guidance to the Planning Commission for the evaluation of Low Density Residential development:

- Vacant tracts shall generally be predominantly developed for single-family residential uses.
- Residential planned development projects with mixed residential densities and varied housing types and limited non-residential uses where supported by adjacent land use patterns may be considered.
- All new developments in low density residential areas should be supported by an adequate level of street connectivity and other public services.
- Existing core single family residential neighborhoods near downtown and in the Murray State University area may be protected by discouraging the conversion of single family dwellings to multi-family or commercial uses.
- Revitalization of older, single family residential neighborhoods will be encouraged to help promote growth in surrounding neighborhood businesses, schools, and existing infrastructure.
- Small lot subdivisions with high densities may be allowed in infill and redevelopment areas in existing neighborhoods where they fit in with the character of the neighborhood.
- Office and commercial uses that serve the neighborhoods may be allowed where appropriate at the edge of these residential areas that front arterial roadways.
- Maximum allowable densities are defined in the zoning ordinance; however, any low density residential area depicted on the Final Land Use Map should be developed so that the average density is less than the maximum density.

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Medium Density Residential: The medium density residential category is intended to be used for the development of neighborhoods of one and two family detached structures or lower density developments with structures containing no more than four units per structure. Mobile home parks are generally included in specified areas in this category. Medium density residential areas are for single or small unit multiple family housing developments with gross densities up to 12.9 dwelling units per acre. The intent of this land use category is not to allow the maximum densities to be attained throughout an entire area designated for medium density residential land use. Rather, the intent is that in each area there be a mix of developments of various densities to achieve an average density that is less than the maximum density. Developments should be designed to provide a wide variety of housing types. If the design of each development is coordinated with the surrounding area, single-family homes, duplexes and larger apartment buildings could co-exist in one neighborhood.



The existing medium density residential land use determined from the inventory within the Murray city limits was 201 acres. Map LU-9 shows for the Murray city limits the medium density residential future land use is 420 acres indicating an increase of 219 acres. This addition is primarily the conversion of mixed single and two family developments to medium density residential land use in the southern portions of the City. The existing medium density residential land use determined from the inventory for the Murray Planning Area was 258 acres. The future land use map shows in the Murray Planning Area the medium density residential future use is 483 acres for an increase of 225 acres. The additional acreage outside the city limits results from the conversion of agricultural lands in the northern portion of the planning area to medium density residential land use.

The following criteria provide guidance to the Planning Commission for the evaluation of Medium Density Residential development:

- Vacant tracts shall generally be predominantly developed for single-family and multi-family residential uses to facilitate development of a compact nature in locations with high levels of public infrastructure capacity.
- Residential planned development projects with mixed residential densities and varied housing types and non-residential uses where supported by adjacent land use patterns may be considered.
- Mobile home parks may be considered where ready access exists to public services, including transportation and social services.
- All new developments in medium density residential areas should be supported by an adequate level of street connectivity and other public services.
- Office and commercial uses that serve the neighborhoods may be allowed where appropriate at the edge of these residential areas that front arterial roadways.

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- Maximum allowable densities are defined in the zoning ordinance; however, any medium density residential area depicted on the Final Land Use Map should be developed so that the average density is less than the maximum density.
- New medium density developments may be appropriate as buffers between low density areas and high density residential or commercial areas.

High Density Residential: The high density residential category is intended to be used for the development of neighborhoods at the higher densities allowed by the zoning ordinance. Congregate living facilities are generally included in this classification. High density residential areas are for large, dense multiple family housing developments with gross densities up to 15.8 dwelling units per acre. The intent of this land use category is not to allow the maximum densities to be attained throughout an entire area designated for a high density residential land use. Rather, the intent is that in each area there be a mix of developments of various densities to achieve an average density that is less than the maximum density.



The existing high density residential land use determined from the inventory within the Murray city limits was 286 acres. Map LU-9 shows for the Murray city limits the high density residential future land use is 216 acres indicating a decrease of 70 acres. This decrease is primarily the conversion of land with lower density multi-family developments in the City to medium density residential land use. The existing high density residential land use determined from the inventory for the Murray Planning Area was 304 acres. The future land use map shows in the Murray Planning Area the high density residential future land use is 234 acres for a decrease of 70 acres.



Future demand for high density residential areas will continue to increase in the Northwest planning area, near the university, and nearby high volume commercial areas. Future development sites should be large enough for proper site design. The future land use map shows two new significant areas of high density residential development. They are an area west of 12<sup>th</sup> Street in the Stadium View Drive area adjacent to the TVA power line easement and an area east of 12<sup>th</sup> Street and south of Glendale Road.

The following criteria provide guidance to the Planning Commission for the evaluation of High Density Residential development:

- Vacant tracts shall generally be predominantly developed for multi-family residential uses to facilitate development of a compact nature in locations with high levels of public infrastructure capacity.

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- Residential planned development projects with mixed residential densities and varied housing types and non-residential uses where supported by adjacent land use patterns may be considered.
- Suitable accessibility to commercial areas should be available in high density residential developments not only by street connectivity but also by encouraging the use of sidewalks, bike lanes, walking trails, etc.
- All new developments in high density residential areas should be supported by an adequate level of street connectivity and other public services.
- Developments on two-lane roads that are at, or near capacity during peak travel times and that are not suitable for widening should not be approved.
- Housing oriented to students shall be discouraged at locations distant from the Murray State University campus, but shall be encouraged at suitable locations near the campus.
- Office and commercial uses that serve the neighborhoods may be allowed where appropriate at the edge of these residential areas that front arterial roadways.
- Access to public transportation shall be a consideration for new developments.
- Maximum allowable densities are defined in the zoning ordinance; however, any high density residential area depicted on the Final Land Use Map should be developed so that the average density is less than the maximum density.
- New high density developments may be appropriate between medium density areas and commercial areas.

## **Future Commercial Land Use**

Commercial land use generally allows for the activity necessary to provide goods and services. The commercial activity includes businesses of all types and professional and business office space. Commercial ventures create jobs that provide an essential part of the Murray and Calloway County economy. These ventures may be located in free-standing buildings or in various types of shopping centers. Shopping centers generally contain on-site and off-street parking and are owned and operated by a single entity. Shopping centers are broadly classified on the basis of size and service radius. A neighborhood shopping center is small, serving the immediate needs of the surrounding neighborhood while a community shopping center is larger, serving the needs of several neighborhoods. A regional shopping center serves several communities and generally includes a large area and several shopping locations. Murray can be classified as a regional shopping location containing several businesses that cater to residents and businesses in the surrounding counties.

Commercial areas in Murray provide for all types of wholesale and retail enterprises, including grocery stores, restaurants, fruit markets, drugstores, barber shops, beauty shops, shoe repair shops, laundry and dry cleaning shops, movie theaters and drive-in's, offices, hotels and motels, auto sales, bakeries, antique shops, clothing stores, and electronic sales and repair shops. Churches are permitted in commercial areas in Murray. Land uses other than commercial activities are allowed in commercial areas. Examples of these uses include libraries, parks, recreational facilities, utilities, and public protection facilities.

# COMPREHENSIVE PLAN

In the development of commercial areas it is important that the uses accommodated should not have a detrimental effect on residential and other non-residential neighbors. In most instances, transitional businesses, commonly in the form of professional office facilities, offer a buffer that can help provide protection of residential uses from the undesirable external effects of other more intensive commercial uses. In all cases, landscaping and screening standards between residential and commercial developments should be designed to provide adequate separation. The Planning Commission should revise the zoning ordinance where necessary to insure that adequate landscape and screening standards are in place. In addition, site development standards for commercial developments should be revised to promote the environmental enhancement “green” initiative for Murray that is one of the basic principles of this plan. This includes the planting of trees, preservation of green space, walking trails, and building construction. In addition, the Planning Commission will consider ways to monitor developments to ensure that the “green” initiatives undertaken are preserved throughout the development and post-development period.

Map LU-10 shows the future commercial land use in the Murray city limits and within the Murray Planning Area. The existing commercial land use determined from the inventory within the Murray city limits was 726 acres. The future land use map shows 930 acres of commercial land use in the Murray city limits, an increase of 204 acres. This increase is primarily the result of the conversion of agricultural and residential land to commercial land. Existing commercial land for the Murray Planning Area was 891 acres. The future land use map shows 1,283 acres of commercial land in the Murray Planning Area, an increase of 392 acres. The increase in commercial land within the planning area, but outside the city limits, results from conversion of agricultural land to commercial land.

The major commercial areas in Murray are generally concentrated along and adjacent to US Highway 641. The downtown central business district is also a major commercial area for Murray. The primary expansions of commercial activity in this Land Use Element include an area on the north side of Chestnut Street near the intersection of 4<sup>th</sup> Street and Chestnut Street and areas along Opportunity Drive. Commercial expansion is also included in the area between North 12<sup>th</sup> Street and north 16<sup>th</sup> Street in the vicinity of the TVA Electrical Transmission Line. Development of limited commercial Neighborhood Activity Centers is also projected for residential neighborhoods in the southwest portion of the planning area.

General guidance for future commercial uses includes avoiding strip commercial uses as discussed in earlier sections of this element. In addition, new commercial developments should be created so there is suitable accessibility. Also, they should complement existing commercial developments, should not be a detriment to other land uses, particularly residential uses, and should not greatly diminish the level of service on roadways. Developments on two-lane roads that are at or near capacity during peak travel times and are not suitable for widening will not be approved. Consideration will be given to all developments as to the most efficient way of transporting customers by public transportation or by non-vehicular means.



# COMPREHENSIVE PLAN

Commercial land use in Murray is divided into five categories; Neighborhood Businesses, Highway Businesses, Central Business District, Medium Density Businesses, and Professional Office. A brief, general description and Planning Commission guidance for each of these uses is given below.

Neighborhood Businesses: Businesses that meet the needs of the immediate neighborhood by providing a narrow range of retail services and convenience goods and services.

The following criteria provide guidance to the Planning Commission for the evaluation of Neighborhood Business development:

- Planned development projects and other non-commercial uses may be considered where supported by adjacent land use patterns.
- All new developments in neighborhood commercial areas should be supported by a high level of street connectivity and other public services.
- Neighborhood Activity Centers, a mixture of commercial uses that serve the needs of the neighborhood in residential areas, are desirable and should be encouraged. They should not attract significant traffic from outside the neighborhood and be easily accessible by walking, bicycling, or with low impact motorized vehicles, thereby minimizing parking areas and traffic to the extent possible.
- Neighborhood business commercial areas are for the regular convenience of adjacent residential neighborhoods and shall be in environmentally well planned and visually appealing developments that are quiet and well buffered from adjacent residential areas.
- Safety and visual aesthetics should be incorporated in the physical design based on new land development regulations to be adopted.
- Existing commercial businesses serving neighborhoods should be preserved and enhanced instead of creating undesirable larger commercial developments.
- Office uses in neighborhood centers shall be at a scale that serves the adjacent neighborhood.

Highway Businesses: Businesses that provide for a broad range of general retail including areas where commercial activities have replaced or are replacing residential areas.

The following criteria provide guidance to the Planning Commission for the evaluation of Highway Business development:

- Planned development projects and other non-commercial uses may be considered where supported by adjacent land use patterns.
- All new developments in highway commercial areas should be supported by an adequate level of street connectivity and other public services.



# COMPREHENSIVE PLAN

- Highway commercial areas shall be in environmentally well planned and visually appealing developments that are well buffered from adjacent residential areas.
- Strip commercial areas are discouraged in favor of larger concentrations of general commercial areas.
- New developments and redevelopment activity shall have a balanced mix of activities permitted by the zoning ordinance.
- Redevelopment and expansion, especially in marginal and deteriorating commercial areas, shall take advantage of the opportunity to improve signage, access, and landscaping.
- Access should be provided for all modes of transportation.
- Street cuts should be minimized to improve access management and allow more area for landscaping.



Central Business District: The area that forms the center for commercial, financial, professional, governmental, and cultural activities.

The following criteria provide guidance to the Planning Commission for the evaluation of development in the Central Business District:

- Planned development projects and other non-commercial uses may be considered where supported by adjacent land use patterns.
- All new developments in downtown commercial areas should be supported by a high level of street connectivity and other public services.
- The central business district with its many unique and historic structures should be protected and improved.
- Development of mixed uses with storefront retail, professional office, and residential dwelling uses should be promoted.
- Access to public transportation should be encouraged.
- Priority should be given to the development of vacant or under-utilized buildings and lots.



# COMPREHENSIVE PLAN

- All new projects should improve the overall appearance of the area by removing or enhancing unsightly utilities, signs, and other outdated physical features.

Medium Density Businesses: Businesses that provide limited retail and services and professional offices in areas adjacent to residential neighborhoods.

The following criteria provide guidance to the Planning Commission for the evaluation of Medium Density Business development:

- Planned development projects and other non-commercial uses may be considered where supported by adjacent land use patterns.
- All new developments in medium density commercial areas should be supported by a high level of street connectivity and other public services.
- Medium density commercial areas shall be in environmentally well planned and visually appealing developments that are quiet and well buffered from adjacent residential areas and have transit accessibility and reduced parking.
- Existing commercial businesses serving neighborhoods should be preserved instead of creating undesirable larger commercial developments.

Professional Offices: Areas generally serving as transitional space between residential and commercial uses and providing for a mixture of office related activities.

The following criteria provide guidance to the Planning Commission for the evaluation of Professional Office development:

- Planned development projects and other non-commercial uses may be considered where supported by adjacent land use patterns.
- All new developments in commercial areas should be supported by an adequate level of street connectivity and other public services.
- New developments should strive for a campus like design with well landscaped common space.
- Commercial services, subject to the zoning ordinance, should be only at a scale to serve the needs of the office development.
- Buildings and sites that have access to multiple road frontages should be designed and



landscaped to be equally visually pleasing from all view points.



## Future Industrial Land Use

# COMPREHENSIVE PLAN

The industrial category is intended to be used for the development of industrial, manufacturing, warehousing, distribution, and other related uses. Industrial and warehousing uses are generally considered to be those that might cause the most undesirable impacts on other land uses. Traditionally, noise, odors, toxic chemicals, and transportation impacts from large trucks and workers are associated with industrial activity. Typical industrial and warehousing activities include manufacturing, packaging, mini-warehouses, commercial warehousing and distribution centers. Other industrial activities include construction yards, machine repair shops, bulk storage of liquids, scrap storage and processing yards, and research facilities.

In Murray, industrial activity is described as either light or heavy. Heavy industry includes those industries where the processing of products results in emission of any atmospheric pollutant, light flashes or glare, noise, or vibration that may be heard and/or felt off the premises. Heavy industry also includes those operations that constitute a fire or explosion hazard. Industries where the processing of products cause none of these impacts are considered light industry.

Permitted accessory uses in the industrial areas include off street parking areas and structures, dwelling units for caretakers, fenced outdoor storage areas, internal areas serving food to employees, offices, and recreational areas for employees. Permitted conditional uses include outdoor storage and processing areas, retail sales and consumer services, non-residential planned development projects, churches and related activities, and adult oriented businesses.



Location of additional new industrial areas must take into consideration the traffic generated by the industrial activity as well as potential noise, odors, and the other potential negative aspects of industrial activity. However, locating new industrial areas in the planning area has the positive effect of locating jobs near the population center and decreasing commuting times and distances for those employed in the industrial areas. Locating new industrial land in the planning area also takes advantage of the infrastructure that exists in the form of roads, water, wastewater, and electricity.

Newly developed industrial areas should be encouraged to provide attractive building facades and the integration of stormwater runoff controls into site landscaping to limit the negative impacts of industrial activity in terms of visual appearance and stormwater runoff. In many cases the use of landscaped screens would be of benefit to improve the acceptability of industrial areas.

Map LU-11 shows the future industrial land use in the Murray city limits and within the Murray Planning Area. The existing industrial land use determined from the inventory within the Murray city limits was 363 acres. The future industrial land use map shows 846 acres of industrial land use in the Murray city limits indicating an increase of 483 acres. This increase is primarily the result of the conversion of agricultural lands in the

## LAND USE ELEMENT



# COMPREHENSIVE PLAN

industrial areas of Murray to industrial land use. The existing industrial land use determined from the inventory for the Murray Planning Area was 813 acres. The future land use map shows 1,512 acres of industrial land use in the Murray Planning Area, an increase of 699 acres. The increase in industrial land use within the planning area, but outside the city limits, resulted from the conversion of agricultural land use to industrial land use near the new industrial park on US Highway 641 North.

Industrial and warehousing land use is generally located in the north and northeast portion of Murray, east of 12<sup>th</sup> Street and US Highway 641 North. A new industrial park is under development west of US 641 North in the northern portion of the planning area. Future industrial growth is expected to occur in these areas with the expansion in the area of the new industrial park west of US Highway 641 North.

The following criteria provide guidance to the Planning Commission for the evaluation of Industrial development:

- Non-residential planned development projects and other non-industrial uses may be considered where supported by adjacent land use patterns.
- All new developments in industrial areas should be supported by an adequate level of connectivity to arterial streets and other public services.
- New developments and buildings should be well landscaped to provide a visually pleasing buffer between sites and adjacent land uses.
- Approved industrial uses should monitor the negative effects of vibration, noise, air quality, water quality, and outdoor storage on surrounding properties.
- New industrial land uses should not be located adjoining residential land uses.
- Lot sizes, setbacks, buffering, and storage/loading areas should maintain compatibility with adjacent properties.

## Future Public, Utilities and Educational Land Use



The future public and utilities category is intended to be used for lands owned by county, municipal, state, and federal governments, by government owned public corporations and agencies, or by public utilities. The Education category is used for lands owned by public agencies for primary and secondary schools, vocational and technical schools, and colleges and universities licensed by the Kentucky Education Cabinet. The Murray State University farms are classified as Education rather than Agriculture. Since government and public educational institutions can locate in any land use, no attempt was made to designate additional future lands

for these uses. Publicly owned land used for public housing was classified as future residential land use rather than public land use and was included in the residential land use portion of the plan.

Map LU-12 shows the future public, educational, and utilities land use in the Murray city limits and within the Murray Planning Area. For the Murray city limits the land currently in public and utilities ownership is 476 acres; in the Murray Planning Area the land use includes 507 acres. Potential future needs for new government lands include the addition of park land and new general government offices. Future needs can be accommodated by the purchase of sites in other land uses or on existing government properties.



Land currently in educational facility ownership comprises 666 acres within the city limits and



823 acres within the planning area. The only known expansion of Educational land being considered is to the Murray State University farms. Since this expansion will be on Agricultural lands no attempt has to made to specify a location of this land use change on the future land use maps. Other appropriate locations for future development of educational facilities can be accommodated on sites that are compatible with adjacent areas and where appropriate accessibility exists. Future educational sites are subject to the zoning ordinance and the principles in this plan.

The following are appropriate concerns when considering public sector developments for general government, utilities, and educational facilities.

- Government, Utility, and Educational lands and their uses are not subject to regulation through the Comprehensive Plan and Zoning Ordinance; however, government facilities should be compatible with respect to the surrounding area and make every effort to comply with restrictions for the area.

# COMPREHENSIVE PLAN

- The expression of public concern may be used to direct the location and use of government lands in accordance with the principles detailed for similar uses in other land use categories.
- Buildings and structures of government agencies, public utilities, and public educational institutions shall be well landscaped to provide a visually pleasing buffer between sites and adjacent land uses and shall take measures to mitigate the negative effects of vibration, noise, air quality, water quality, and outdoor storage on surrounding properties.
- All new educational developments should be supported by an adequate level of street connectivity and other public services.



## Future Semi-Public Land Use

The semi-public category is used for lands that are owned by non-profit corporations, organizations, and agencies that have services available to the public. The most common example is land owned by a church. Other examples might include meeting facilities, fraternal lodges, and recreational areas or facilities on land owned by a non-profit agency that allowed public use of the area or access to the facility. Membership owned golf courses, like country clubs, were included as semi-public facilities.



Map LU-13 shows the semi-public land use in the Murray city limits and within the Murray Planning Area. Land currently in semi-public uses comprises 231 acres within the city limits and 288 acres in the planning area. There are no known planned new developments resulting in the addition of Semi-Public lands. Future development of Semi-Public lands can be

accommodated on sites where semi-public uses are a permitted or conditional use, subject to the zoning ordinance and the principles in this plan.

The following are appropriate concerns when considering developments for semi-public facilities.

- Separate zoning does not exist for semi-public uses which are often allowed as conditional uses within other land uses.
- All new semi-public developments should be supported by a high level of street connectivity, when necessary due to traffic demands, and other public services.

# COMPREHENSIVE PLAN

- New developments and buildings shall be well landscaped to provide a visually pleasing buffer between sites and adjacent land uses and shall take measures to monitor the effects of vibration, noise, air quality, water quality, and outdoor storage on surrounding properties.

## **Future Agriculture Land Use**

The agriculture category is for lands that are used for the cultivation of crops, the raising of animals, or for lands that are being preserved in their natural state. Map LU-14 shows the future agriculture land use in the Murray city limits and within the Murray Planning Area. Land currently in agriculture uses comprises 1,421 acres, or 20 percent of the land in the city limits. Future agricultural land use in the city limits is expected to decrease to 211 acres or 3 percent of the total area. Existing agricultural land use in the planning area is 6,579 acres or 46 percent of the area. The future agricultural land use shown on Map LU-14 for the planning area is 3,423 acres or 23 percent of the total area.

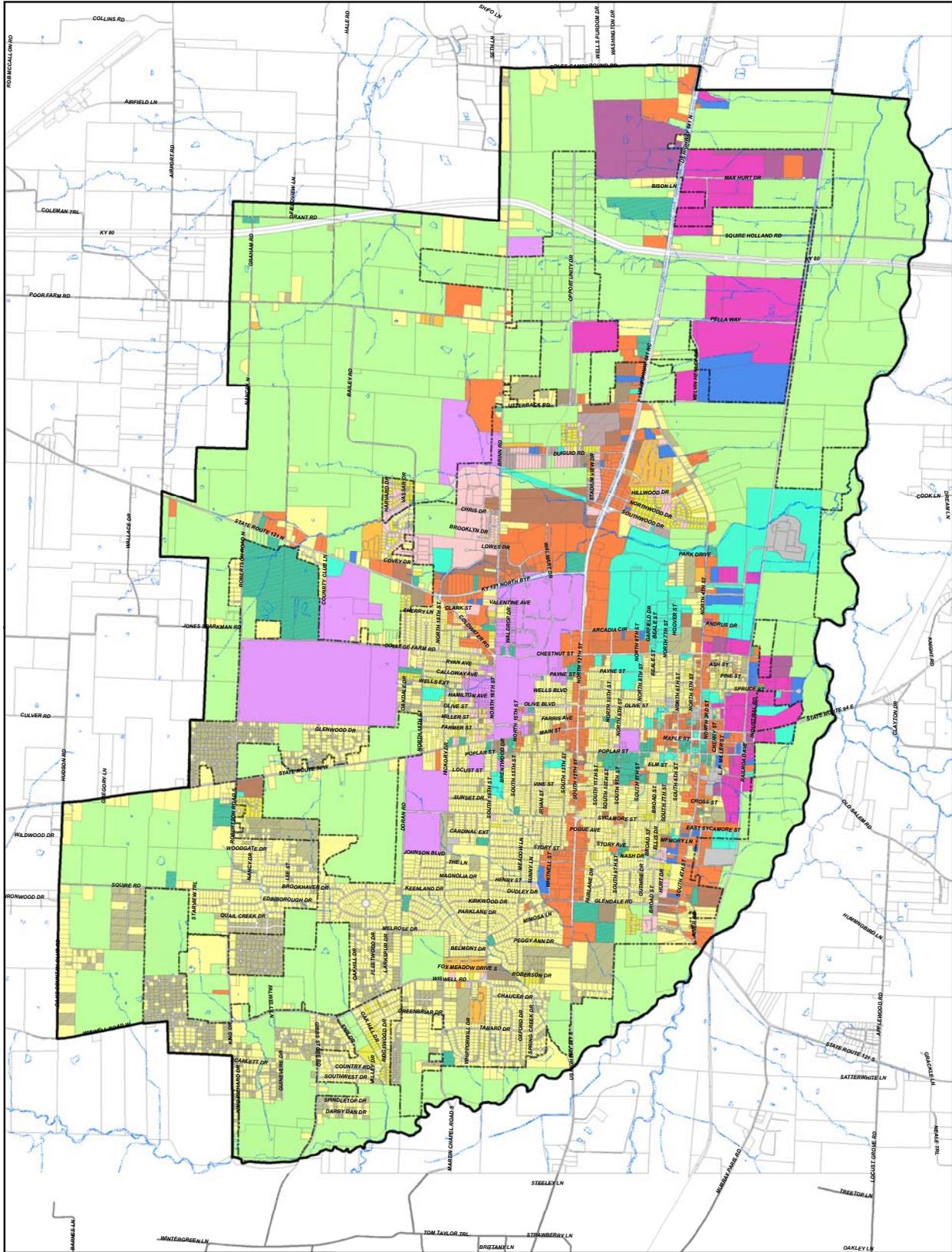
The following criteria provide guidance to the Planning Commission for the evaluation of developments in agricultural areas:

- Prime farmland should be retained for agricultural uses when other suitable sites in non-prime farmland areas are available.
- Agricultural Development Districts should be taken into consideration when considering annexation plans.
- Planned development projects and other non-agriculture uses may be considered where supported by adjacent land use patterns.
- The construction of single family dwellings or placement of mobile homes shall be limited in a manner to maintain the agricultural nature and appearance of the land and not at such density and location to create the appearance of a single family residential subdivision or mobile home park.
- Uses attracting spin-off urban type development should not be allowed.

## **Future Transportation Land Use**

Future transportation land use is illustrated on Map LU-15. The Transportation category is used for transportation facilities including roads, road rights-of-way, airports and other ancillary facilities. The Transportation Element of this Comprehensive Plan discusses present and future transportation facilities in considerable detail.

Land currently in transportation uses within the city limits comprises 666 acres. Future transportation land use in the city limits is expected to increase to 755 acres. Existing transportation land use in the planning area is 976 acres. The future transportation land use shown on Map LU-15 for the planning area is 1,134 acres.

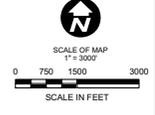


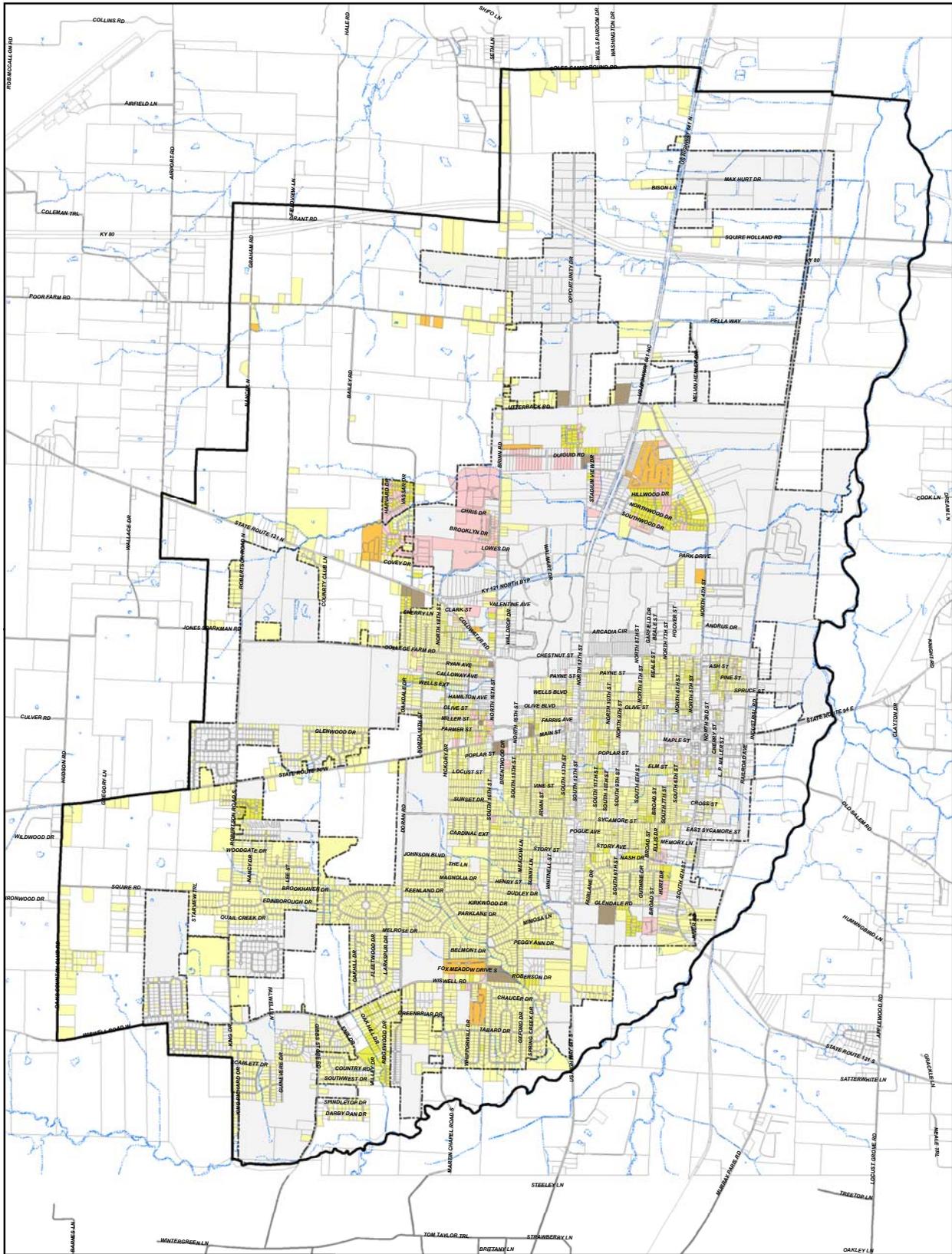
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KENTUCKY  
JANUARY, 2009

**FH** Florence & Hutcheson, Inc.  
CONSULTING ENGINEERS

**LU-1: Existing Land Use**

- Single Family Residential
- Two Family Residential (Duplex)
- Multi-Family Residential (3 or more units in structure)
- Manufactured Housing (1 Unit on chassis)
- Congregate Living Facility (Group Quarters)
- Commercial - Office / Retail / Business / Medical / Lodging
- Warehousing
- Industrial
- Public Us
- Semi-Public Use (Institutional)
- Education
- Utilities
- Agriculture
- Vacant Single Family Residential
- Vacant Two Family Residential (Duplex)
- Vacant Multi-Family Residential
- Vacant Commercial
- Vacant Industrial
- Murray City Limits
- Urban Services Area

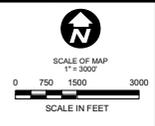


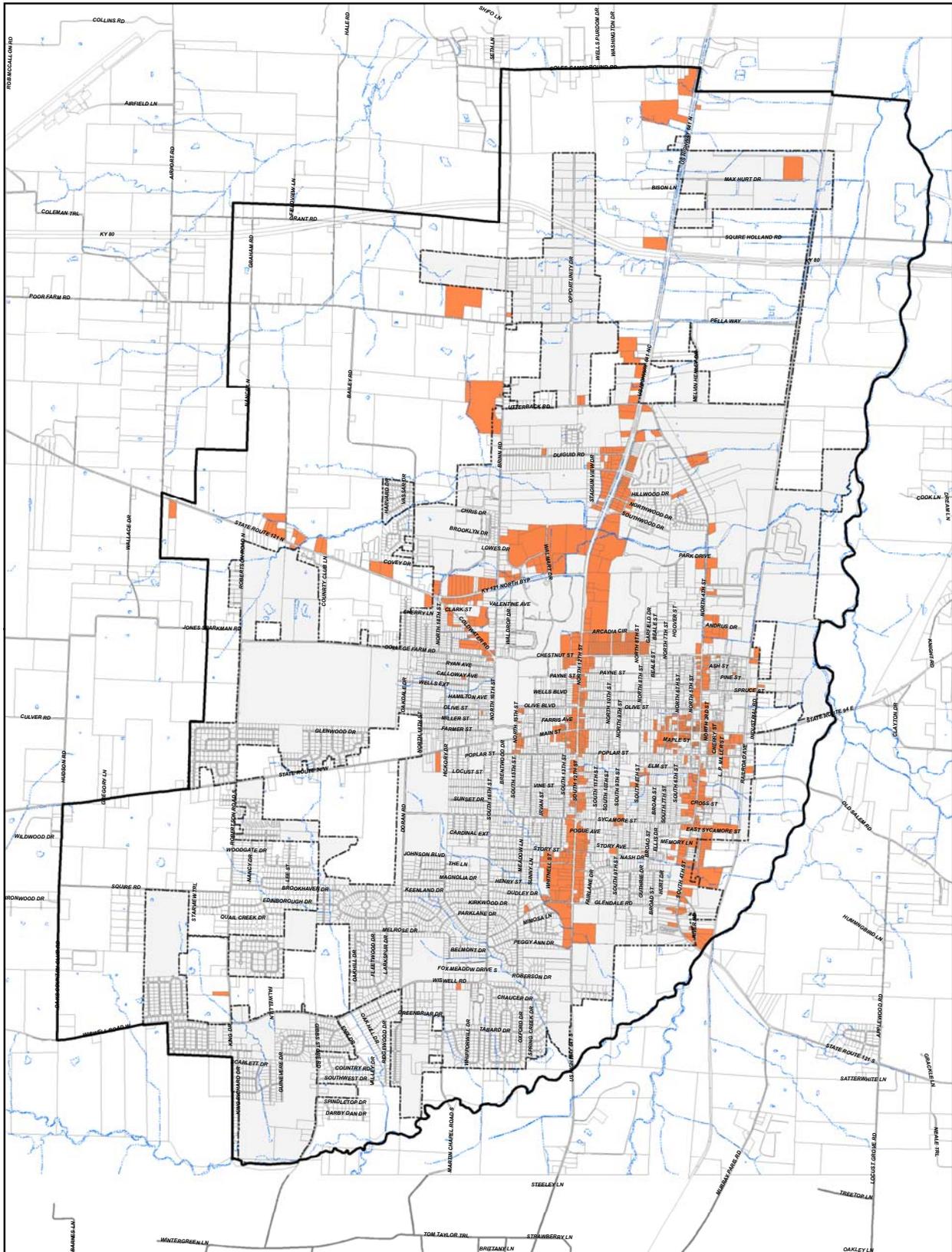


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**LU-2: Existing Residential Land Use**

- Single Family Residential
- Two Family Residential (Duplex)
- Multi-Family Residential (3 or more units in structure)
- Manufactured Housing (1 Unit on chassis)
- Congregate Living Facility (Group Quarters)
- Murray City Limits
- Urban Services Area





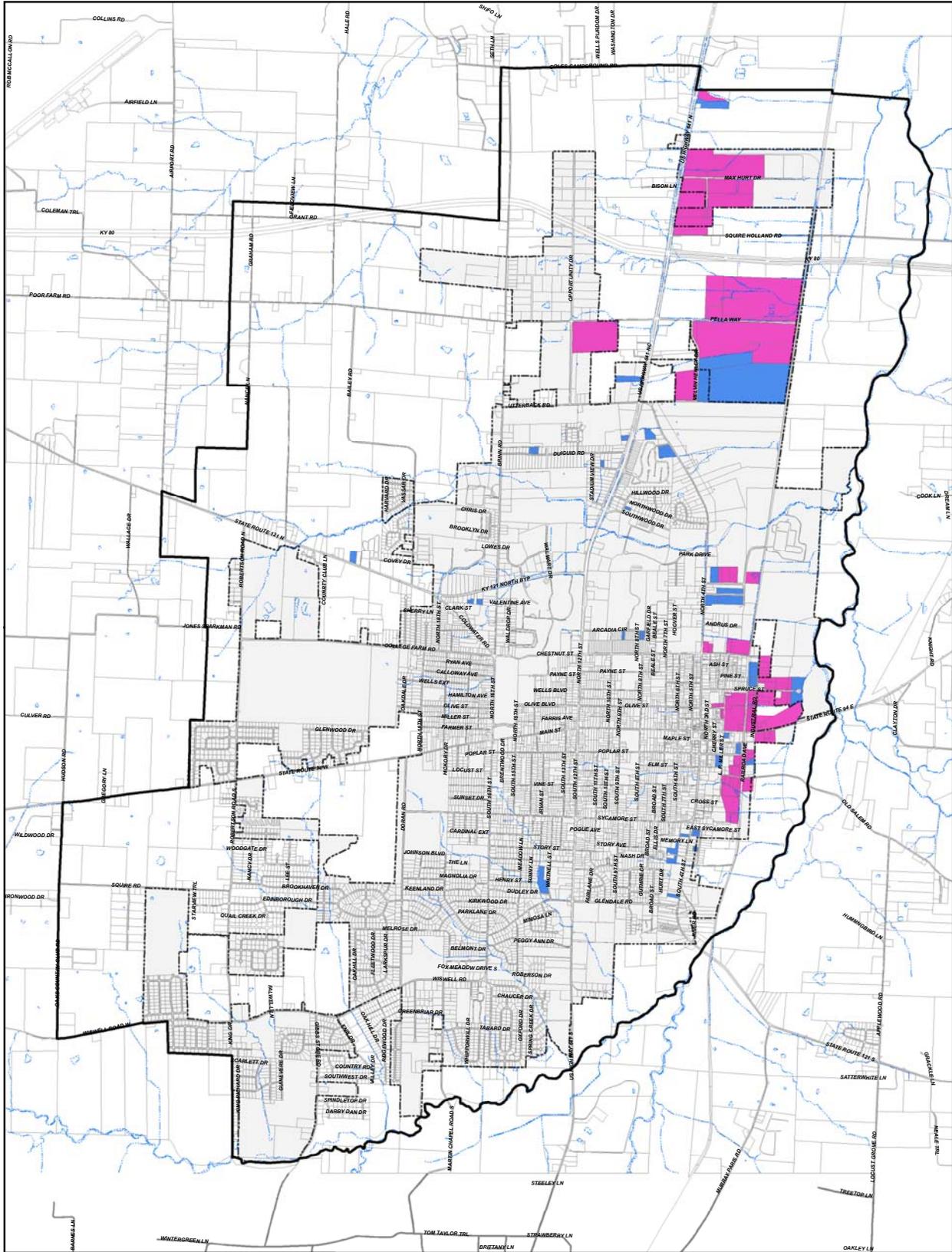
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JANUARY, 2009

**LU-3: Existing Commercial Land Use**

- Commercial - Office / Retail / Business / Medical / Lodging
- Murray City Limits
- Urban Services Area



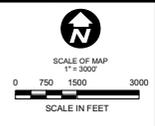
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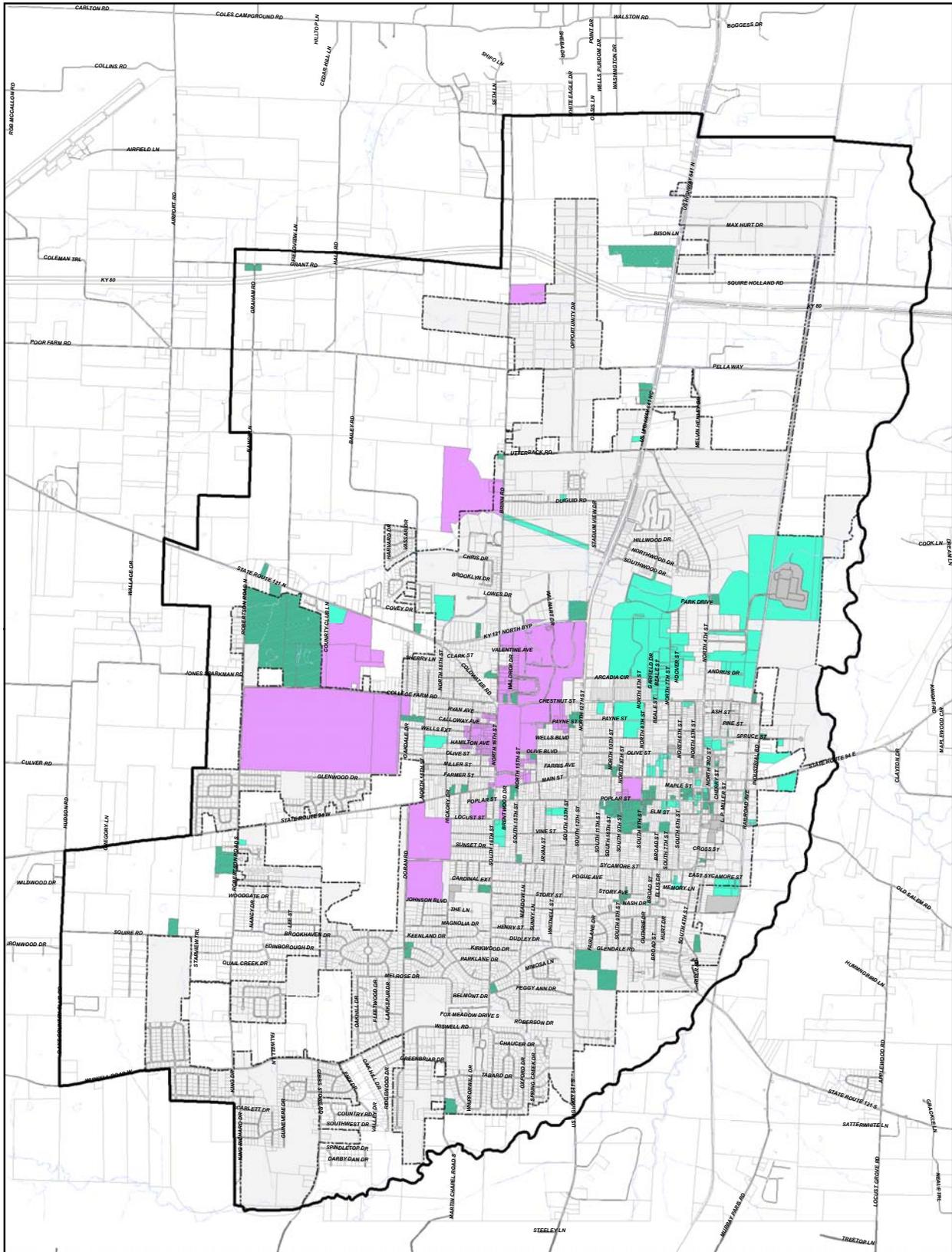


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**LU-4: Existing Industrial and Warehousing Land Use**

- Warehousing
- Industrial
- Murray City Limits
- Urban Services Area

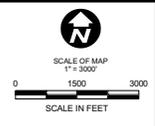


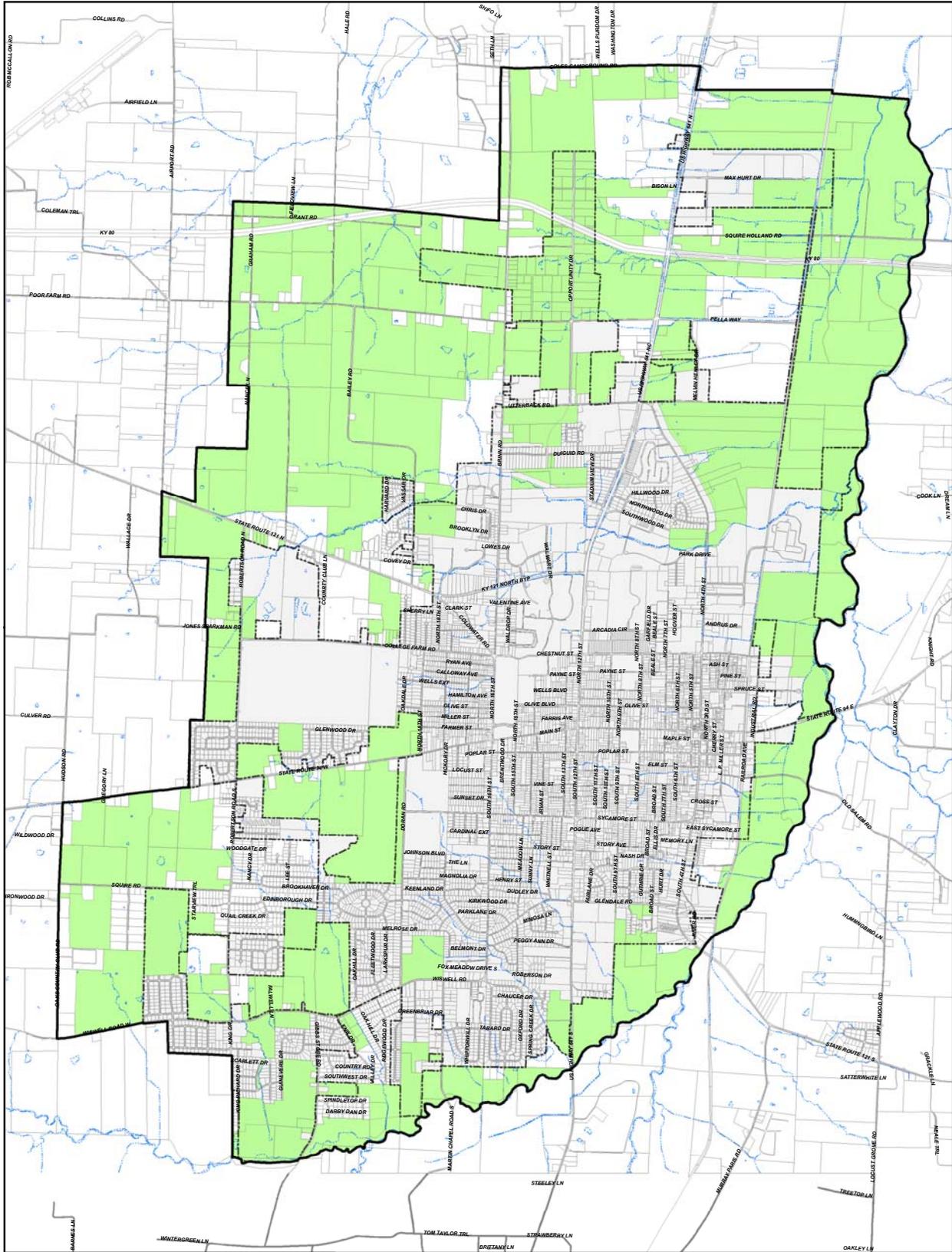


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**LU-5: Existing Public / Education / Utilities Land Use**

- Public Use (Governmental)
- Semi-Public Use (Institutional)
- Education
- Utilities
- Murray City Limits
- Urban Services Area

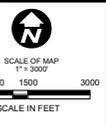


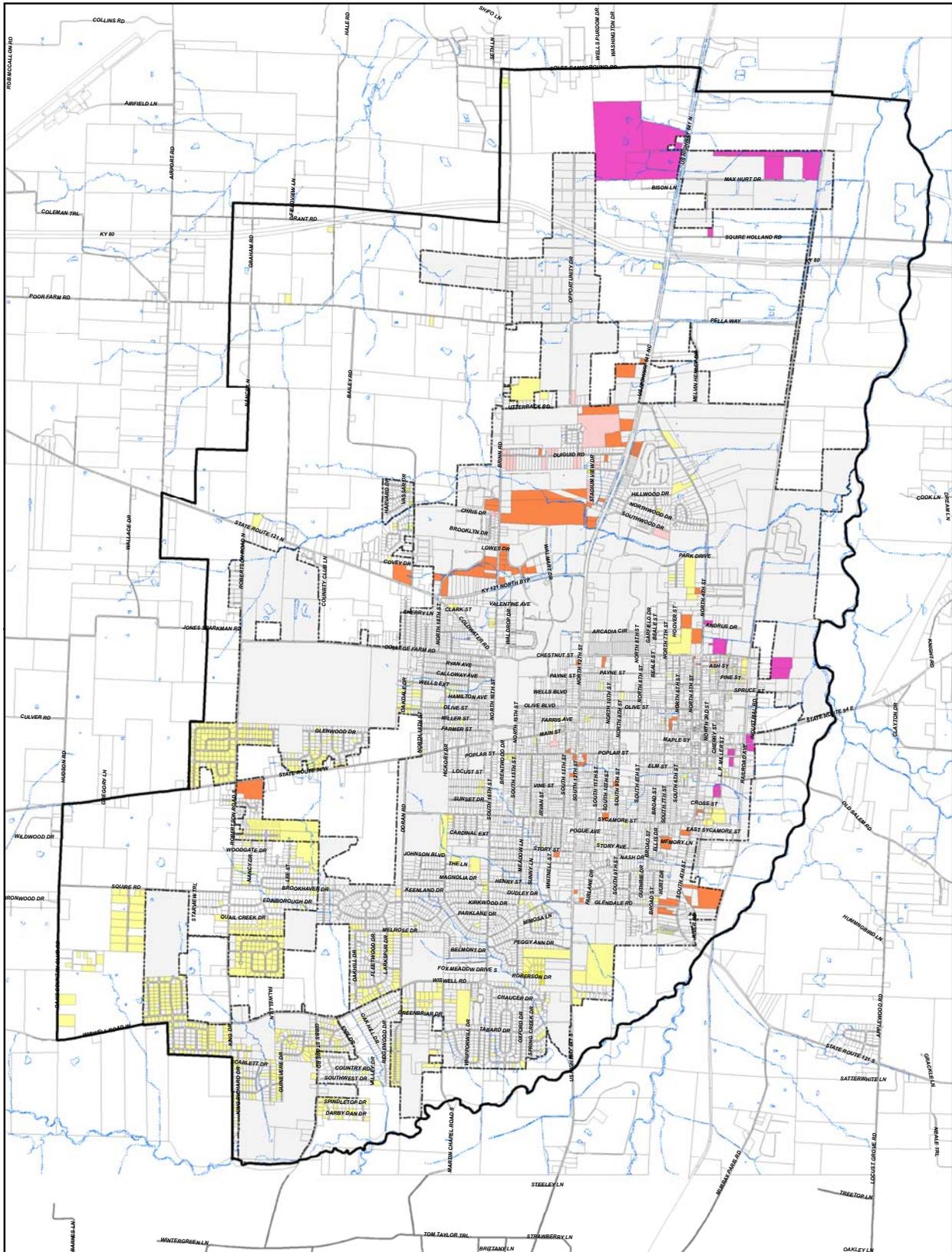


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**LU-6: Existing Agricultural Land Use**

- Agriculture
- Murray City Limits
- Urban Services Area





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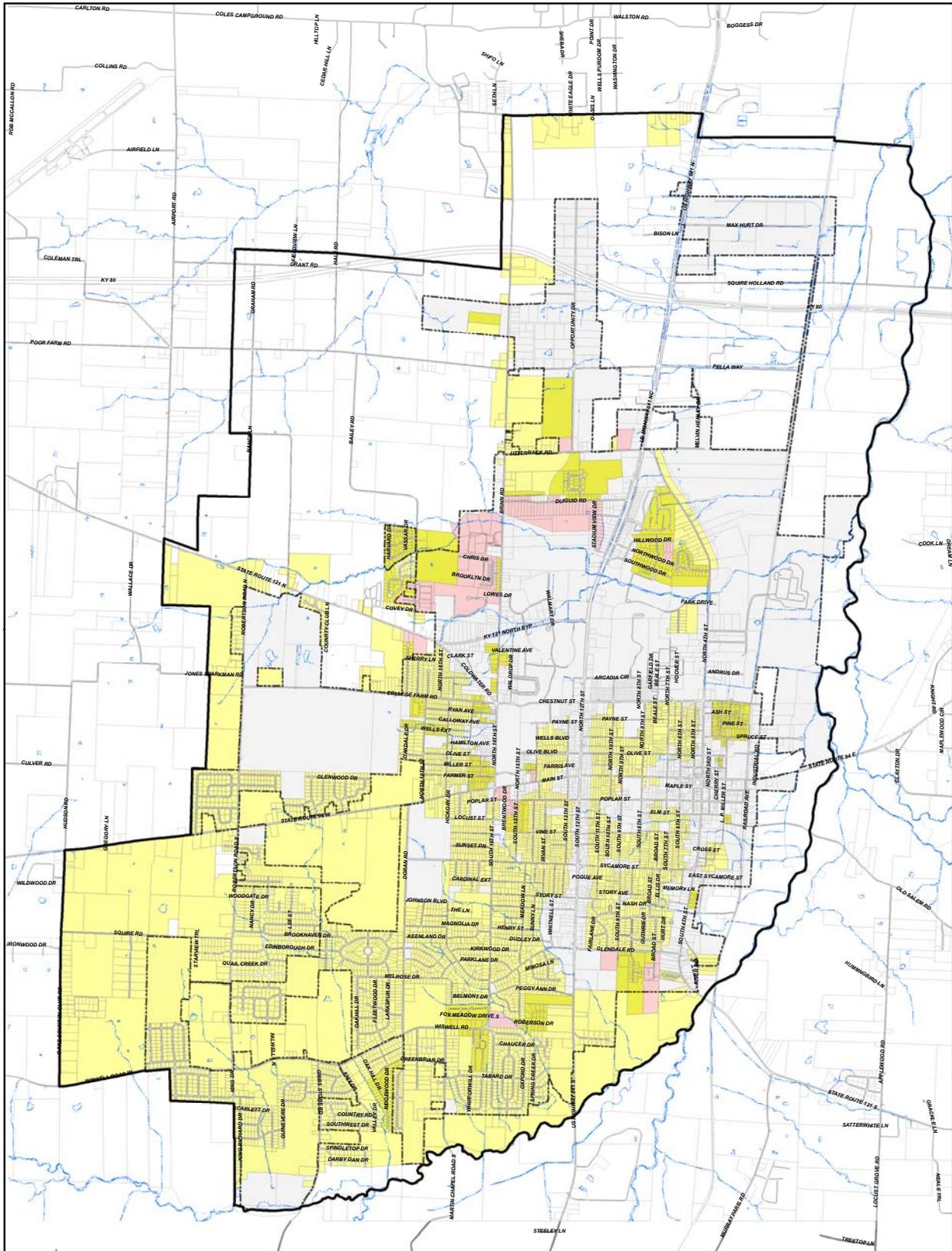
**LU-7: Vacant Land**

- Single Family Residential
- Two Family Residential (Duplex)
- Multi-Family Residential
- Commercial - Retail / Office
- Industrial
- Murray City Limits
- Urban Services Area



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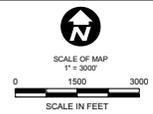


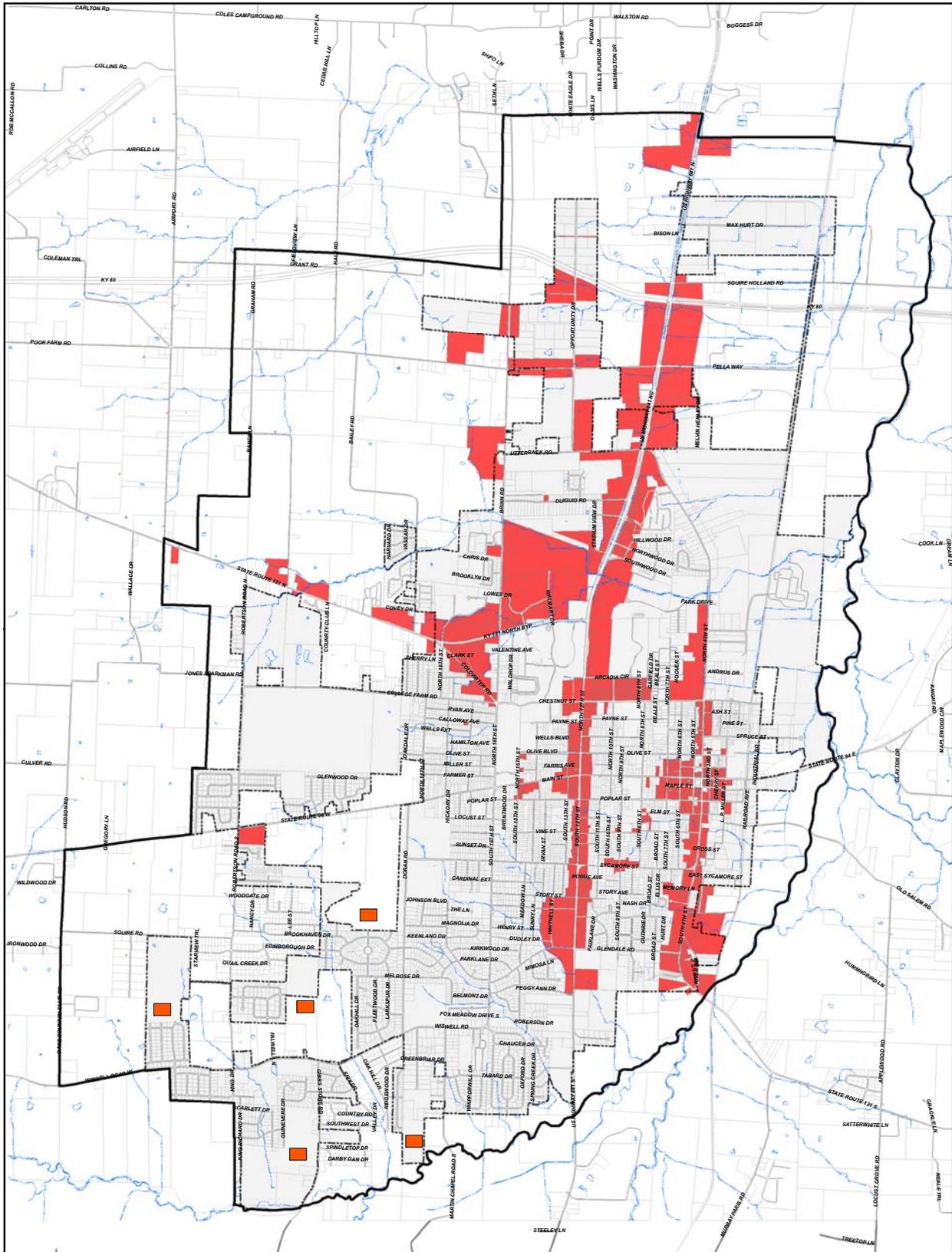


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**LU-9: Future Residential Land Use**

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Murray City Limits
- Urban Services Area

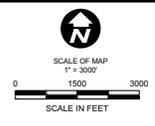


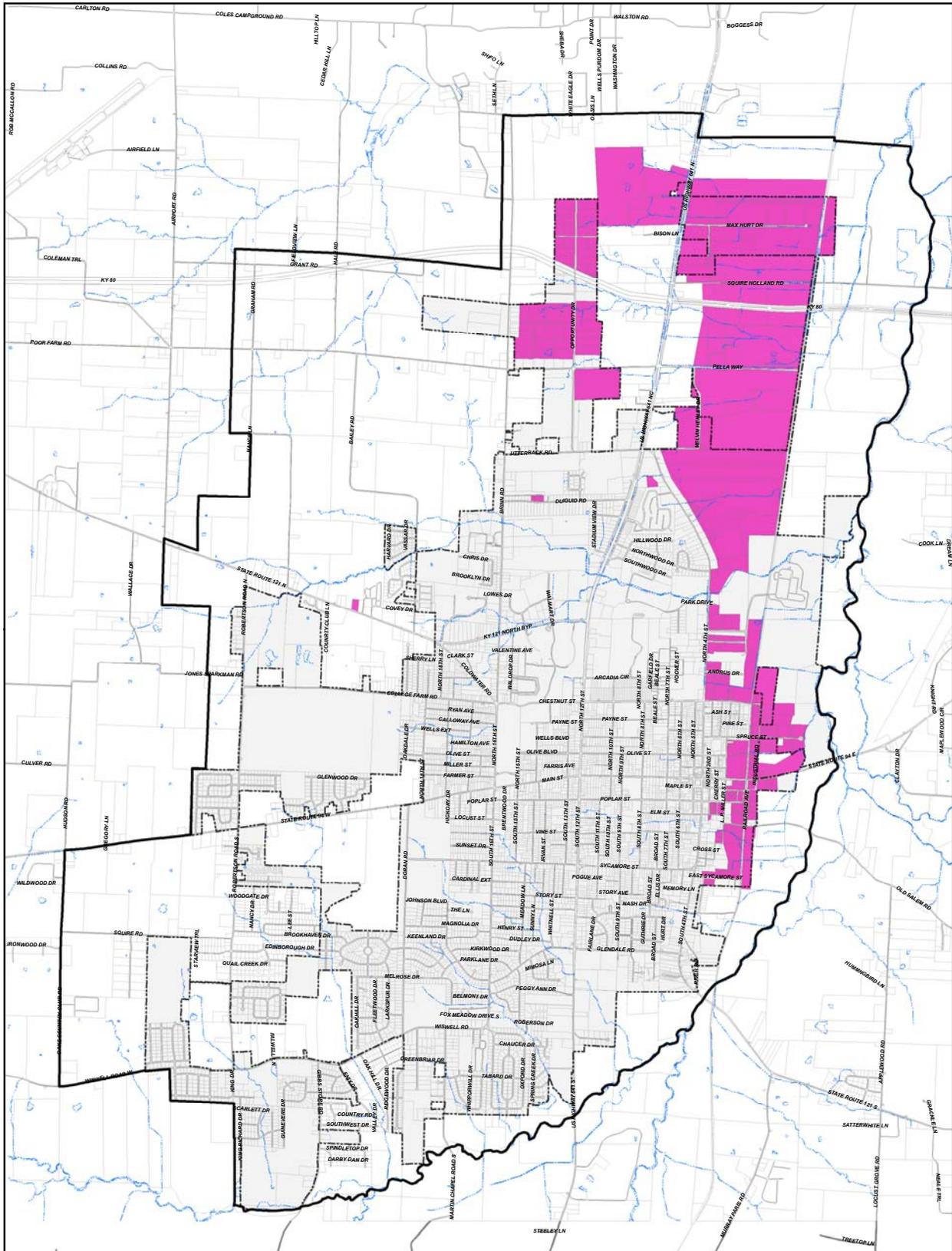


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**LU-10: Future Commercial Land Use**

- Commercial
- Murray City Limits
- Urban Services Area





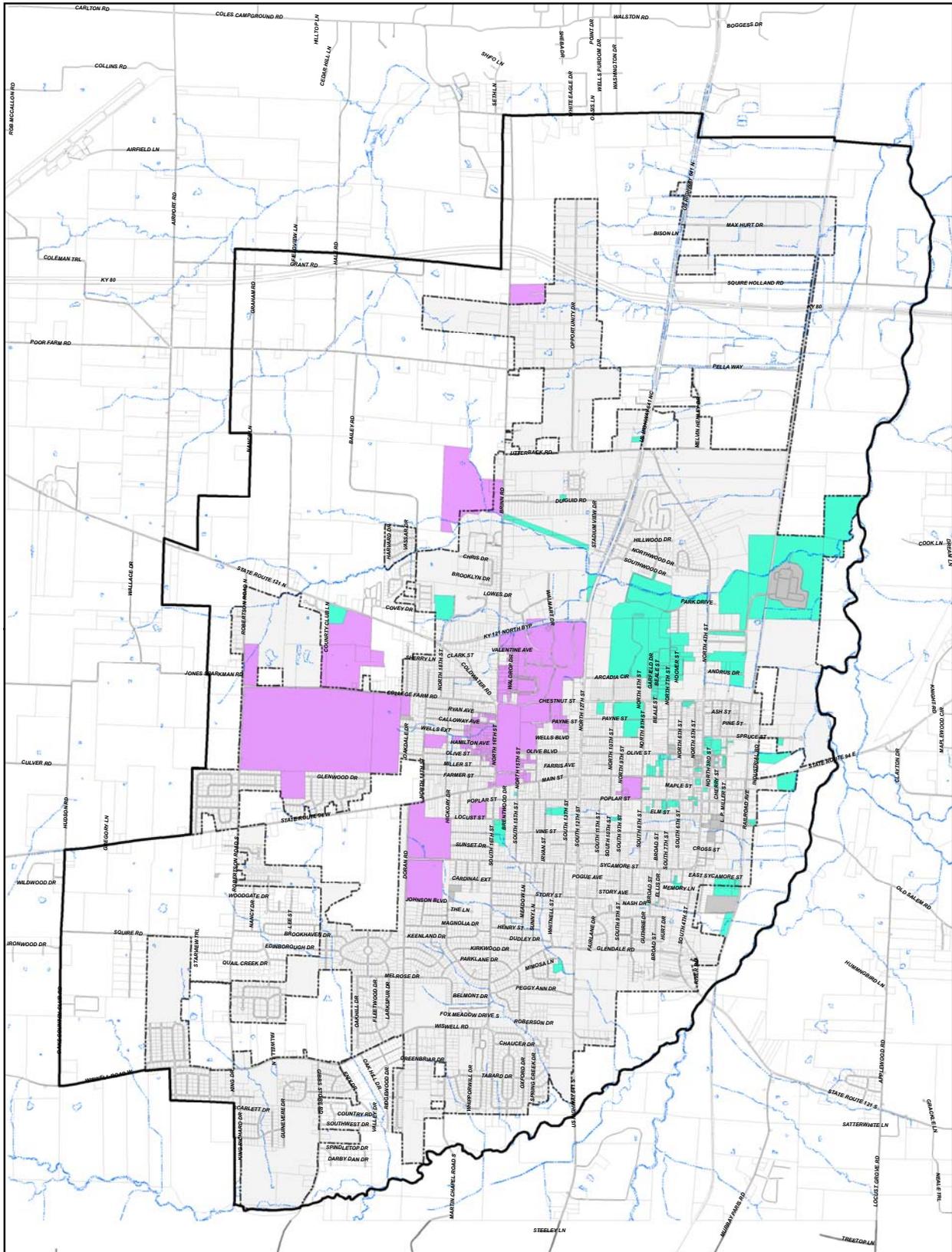
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**LU-11: Future Industrial / Warehousing Land Use**

- Industrial
- Murray City Limits
- Urban Services Area



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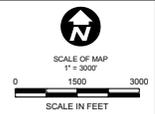


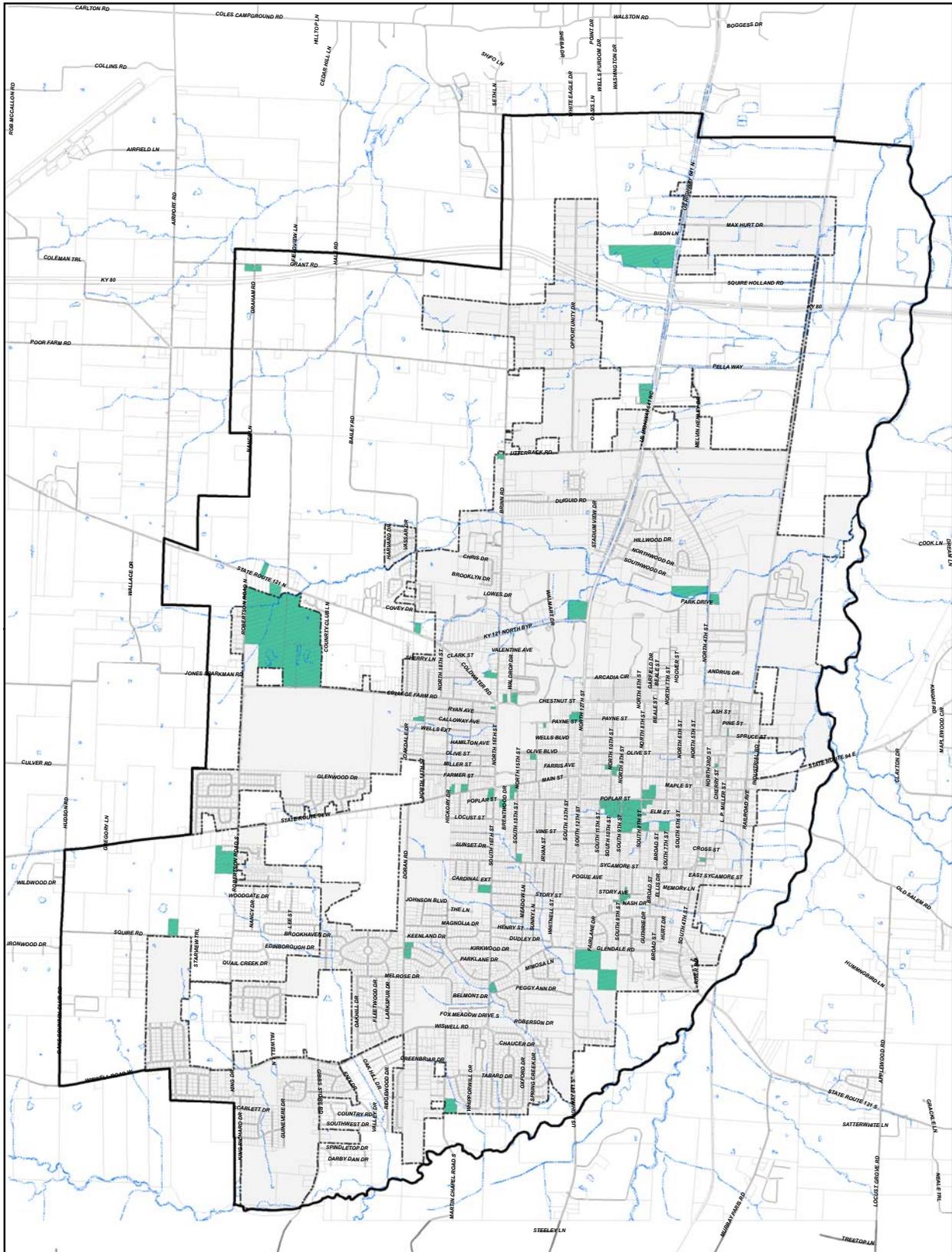
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**LU-12: Future Public / Education / Utilities Land Use**

- Public Use (Government)
- Education
- Utilities
- Murray City Limits
- Urban Services Area





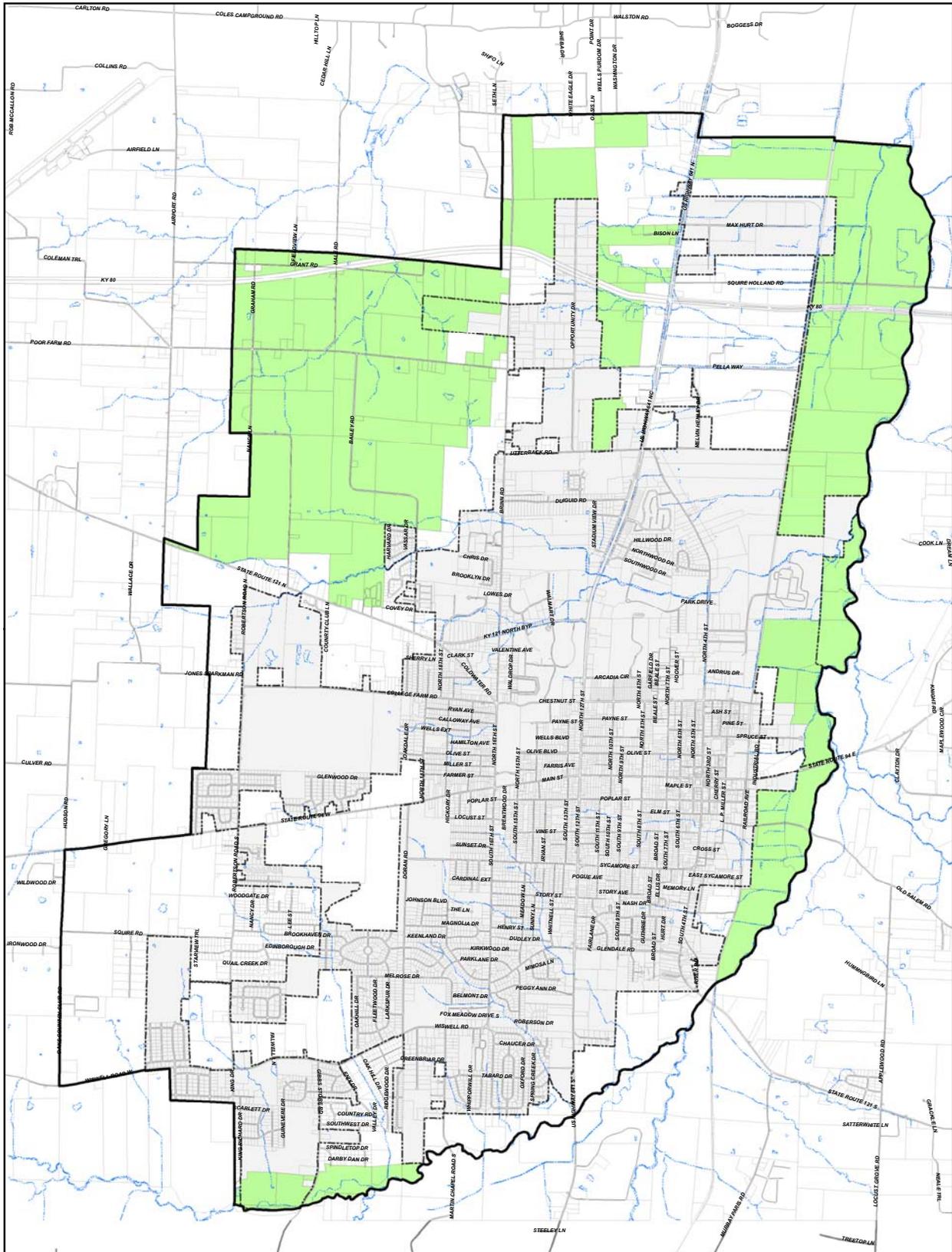
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**LU-13: Future Semi-Public Land Use**

- Semi-Public Use (Institutional)
- Murray City Limits
- Urban Services Area



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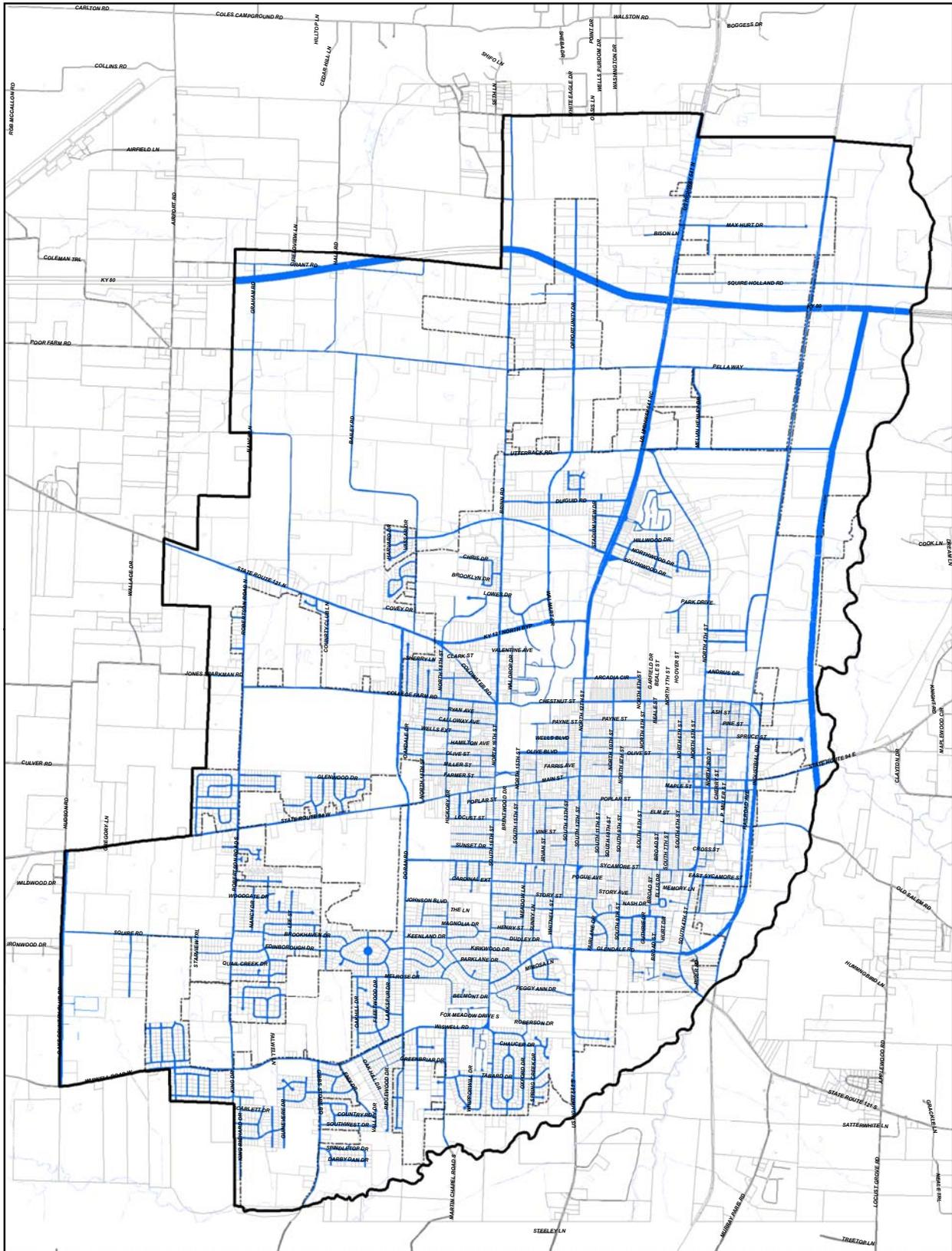
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**LU-14: Future Agricultural Land Use**

- Agriculture
- Murray City Limits
- Urban Services Area



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**LU-15: Future Transportation Land Use**

- Transportation
- Murray City Limits
- Urban Services Area





## TRANSPORTATION ELEMENT

### INTRODUCTION

The Kentucky Revised Statutes (KRS) 100.187 specifies the content of a Comprehensive Plan in Kentucky. KRS 100.187 (2) states a comprehensive plan must include a transportation plan element, which shall show proposals for the most desirable, appropriate, economic, and feasible pattern for the general location, character, and extent of the channels, routes, and terminals for transportation facilities for the circulation of persons and goods for specified times as far into the future as is reasonable to foresee. The channels, routes, and terminals may include, without being limited to, all classes of highways or streets, railways, airways, waterways; routings for mass transit trucks, etc.; and terminals for people, goods, or vehicles related to highways, airways, waterways, and railways.

The transportation network serving an area consists of roadways and other modes of transportation including air service, rail, bike trails, sidewalks and greenway trails. The roadway system is generally the primary mode of surface transportation and is comprised of a network ranging from regional roads to local streets. Regional roadways connect with neighboring counties, the state and the nation. Local streets provide access to area collectors and arterials that link neighborhoods to opportunities for employment, the consumption of goods and services, recreation, religion, and education.

The Transportation Element of this comprehensive plan update serves to provide guidelines for maintaining and improving a transportation system to facilitate local and regional travel demands throughout the planning period. The Transportation Element has been closely coordinated with the other plan update elements to provide for a viable system wide transportation network which satisfies the need for the safe, efficient movement of goods and people.

Recent planning studies for the area have been completed by the Commonwealth of Kentucky Transportation Cabinet. Information presented in the 1995 Urban Transportation Study and the 2008 Small Urban Area Study continues to be relevant and has been considered in the development of the Transportation Element of the Comprehensive Plan. This Transportation Element includes a major street plan complete with goals, objectives and actions to support it. The major street plan will be beneficial to the City of Murray as a guide for securing needed right of ways and upgrading and extending the roadway network serving the community in a prioritized manner. This Transportation Element also contains recommendations for improving other modes of transportation.

### TRANSPORTATION GOALS AND OBJECTIVES

Goals and objectives have been adopted by the City of Murray Planning Commission to address major issues and concerns that are and will be affecting the City of Murray now and into the future. The overall goal of the Transportation Element is to provide for the development and management of a transportation system that accommodates the various means of moving people and goods from place to place in a safe and efficient manner.

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Specific objectives identified by Murray to achieve the goal set forth above include:

- (1) Identify potential problem areas such as HWY 80 along 641 North and Brinn Road, N. 16th Street from Main Street to HWY 80, and the Five Points Intersection.
- (2) Support efforts which encourage the construction of the HWY 68/80 bridges across Kentucky Lake and Lake Barkley.
- (3) Coordinate efforts with state and local officials to work toward completion of projects identified in the Kentucky Transportation Cabinet Six Year Highway Plan.
- (4) Identify intersections that need to be realigned.
- (5) Continue to seek funding for state priority projects such as the Murray Business Loop, HWY 121 Bypass North improvement project, and the HWY 641 South widening and improvement project.
- (6) Establish a Strategic Traffic Management Plan that would expand cooperative efforts with KYTC regarding the 2008 Small Urban Area Traffic Study.
- (7) Maximize connectivity between existing and proposed developments so as to facilitate traffic flow throughout the city.
- (8) Continue a sidewalk maintenance program and expand the current sidewalk system in accordance with the Five-Year sidewalk improvement plan.
- (9) Establish suitable bikeways that ensure safety and promote bicycle travel through a bikeway improvement plan.
- (10) Re-inventory or reclassify streets as necessary.
- (11) Update subdivision regulations to ensure that residential developments are constructed with sidewalks.
- (12) Support government efforts to improve upon the facilities at the Kyle-Oakley airport.
- (13) Recognize the need for private railroad companies that will provide goods-movement services in areas where noise, pollution, accident and conflict potential with vehicular street traffic will be kept to a minimum while meeting required federal and state standards.
- (14) Encourage the use of public transportation and provide fixed routes through the Murray Calloway County Transit Authority.
- (15) Coordinate efforts with local authorities to avoid traffic delays and hazards at community events.
- (16) Increase public awareness programs and support government sponsored initiatives that encourage alternative sources of fuel (or alternative forms of energy) for transportation.

## EXISTING TRANSPORTATION FACILITIES

Transportation facilities are very important to the growth and development of an area. Keeping transportation facilities adequate to handle the needs of a community is a challenge for state and local governments. This section of the Transportation Element of the Murray Comprehensive Plan describes the current status of each mode of transportation. Maps showing the major transportation facilities are included.

### Roadways

The roadway system is the primary mode of surface transportation serving the City of Murray and Calloway County. The roadway system is comprised of a network ranging from regional roads to local streets. Regional roadways connect Murray with neighboring counties, the rest of Kentucky and the multi-state region. Local streets provide access to area collectors and arterials that link neighborhoods to business districts, industrial areas, community facilities, schools, parks, and other common destinations.



Primary access to Murray is via US 641 and US 68/80. US 641 bisects the area running north and south. US 68/80 traverses the area on an east-west alignment. Both US 641 and US 68/80 connect with I-24 providing linkage with the nation's interstate network. Upon completion of the final sections, US 68/80 will provide a connection to the Purchase Parkway in Graves County, a roadway that has been identified as the future I-69 corridor that will extend ultimately from Canada to Mexico. In addition to US 641 and US 68/80, KY 121 and KY 94 are primary routes that pass through the Murray area.

### Roadway Classification System

Functional classifications are used to group streets and highways according to the character of service they are intended to provide. This classification system recognizes that individual roads



and streets do not serve travel independently. Rather, most travel involves movement through networks of roads and can be categorized relative to such networks in a logical and efficient manner. Therefore, functional classification of roads and streets is also consistent with categorization of travel.

The two major considerations in classifying highway and street networks functionally are access and mobility. The classification system presented herein is consistent with the guidelines established in the American

# COMPREHENSIVE PLAN

Association of State Highway and Transportation Officials Geometric Design of Highways and Streets. The four functional classifications and their definitions are as follows:

## Principal Arterial System

The principal arterial system is designed to carry major traffic and carries most of the trips entering and leaving the urban area as well as most of the through movements bypassing the central city. The majority of fully or partial access controlled routes fall into this functional system. However, the system is not limited to controlled access routes. Principal arterials typically serve the major centers of activity of an urban area and the highest traffic volume corridors. These routes typically carry a high proportion of the traffic even though they constitute a relatively small portion of the roadway network.

## Minor Arterial System

The minor arterial system interconnects with and augments the principal arterial system. It accommodates trips of moderate length at a somewhat lower level of travel mobility than principal arterials. This system includes all arterials that are not classified as primary arterials. This system places more emphasis on land access and may carry local bus routes and provide intra-community continuity, but ideally does not penetrate identifiable neighborhoods.

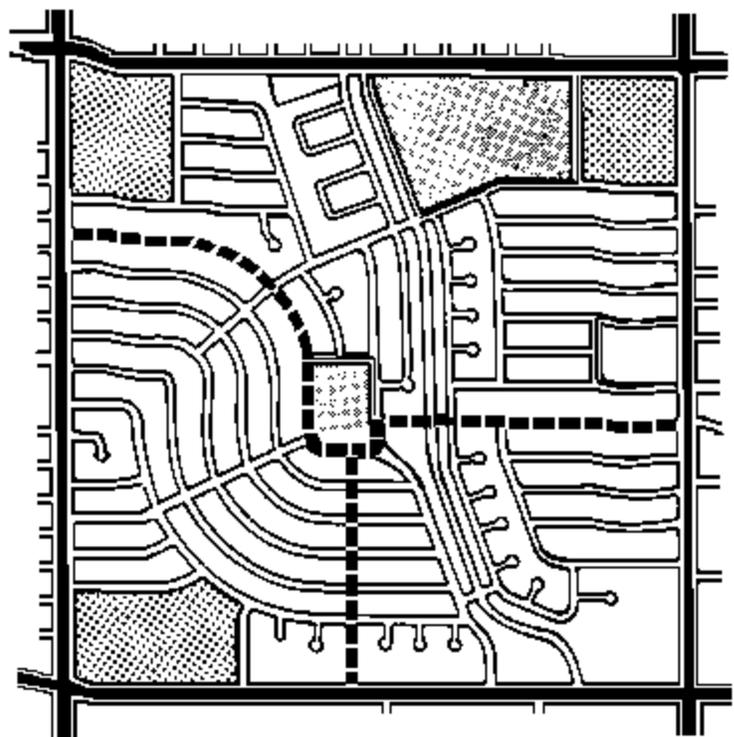
## Collectors

The collector system provides both land access service and traffic circulation within residential neighborhoods and commercial and industrial areas. It differs from the arterial system as it may penetrate residential neighborhoods, distributing trips from arterials through the area to the ultimate destination. Conversely, this system collects traffic from local neighborhoods and channels it into the arterial system.

## Local Streets

The local streets system offers the highest amount of access and the lowest amount of mobility. The system is comprised of all roadway facilities not in one of the higher systems defined above. Local streets primarily permit direct access to abutting lands and connection with higher order systems. Service to "through traffic" movement usually is deliberately discouraged.

Figure T-1 Traditional Roadway Network



### Legend

- |   |  |
|---|--|
|  Arterial street |  Collector street |
|  Commercial      |  Public           |

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The traditional approach to roadway planning in the United States incorporates a grid configuration with a hierarchy of roadways with varying functional classifications including expressways, arterials, collectors and local streets. The grid configuration forms a series of blocks. Super blocks are typically bounded by arterials. Within the super blocks, sub-blocks are formed by the various collectors and local streets. In general, access is greatest and mobility is lowest within the interior of the sub-blocks. Mobility increases and access decreases as you move away from each sub-block to the perimeter of the super blocks. Figure T-1 illustrates the traditional roadway network concept.

## Existing Roadway System

Existing roadways and right-of ways make up approximately 635 acres or nine percent of the land area within the Murray city limits and 933 acres or six percent of the land within the Murray planning area. Within the Murray city limits the amount of land in transportation uses increased from 541 acres in 2002 to 635 acres in 2008. Transportation uses make up approximately 13 percent of the developed land within the Murray city limits and the Murray planning area.

The transportation system serving the Murray area is comprised of a network of various hierarchy or functional classification roadways including local streets, collectors and arterials. The streets within the older portions of Murray are laid out in a grid format typical of period development across Kentucky and the region. Newly developed areas feature local street layouts that include curvilinear alignments and cul-de-sacs to help deter thru traffic in the area. However, the fundamental function of the system remains intact as the majority of the street system is inter-connected to a block framework that promotes mobility across the planning area.

Principal arterials serving the area include US 641 (north–south), portions of KY 121 (east–west) and KY 80 (east–west). Minor arterials include the remaining portions of KY 121, KY 94, KY 1327 (College Farm Road and Chestnut Street), KY 2075 (4<sup>th</sup> Street) and Sycamore Street. The system includes a number of collectors distributed throughout the planning area. Principal arterials, minor arterials and collectors that serve the planning area are shown on Map T-1. Table T-1 summarizes the approximate mileage for each classification of roadway within planning area.

Table T-1 Functional Classification Roadway Length within Planning Area	
Functional Classification	Miles
Principal Arterial	13
Minor Arterial	14
Collector	10
Local Street	125

The maximum recommended spacing of arterials is typically five miles. From an east to west directional perspective the number of arterials would appear to be adequate for the planning area. From a north to south perspective, additional arterials may be warranted. Previous studies within the planning area completed by the Kentucky Transportation Cabinet and others have recognized this need. The lack of arterials in a north–south direction impacts the area by increasing congestion along US 641 and Fourth Street.

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Collector spacing throughout the older portions of town appears to be adequate. Newly developing areas to the west and southwest include areas that appear to be deficient in the number of collectors that are provided. In typical grid arrangements, collectors are normally provided on approximately ½ mile increments. Identification of needed collector corridors in this portion of the planning area is warranted to

ensure that sufficient rights of ways are set aside for needed facilities to serve system requirements as growth continues.

The physical characteristics of the various streets comprising the system vary. Pavement widths, horizontal/vertical alignments, and intersection geometrics are variable, indicative of period standards in place when facilities were constructed. Inadequacies in relation to current standards in some instances impair mobility and present hazards under current traffic loadings.

## Previous Planning for Roadway Improvements

The 1995 Murray Urban Area Transportation Study completed by the Kentucky Transportation Cabinet Division of Modal Programs included a model of the roadway network serving the Murray Urban area. The modeling effort included an assessment of existing traffic conditions, traffic projections for the 2010 design year, and an evaluation of the street system under current and projected traffic conditions. The data derived from the effort is still valid for existing conditions as the network configuration remains essentially as modeled with minor exceptions. The results of the study qualify the ability of the roadway system within the planning area to handle projected traffic at the desired level of service. Level of Service (LOS), as defined by the Highway Capacity Manual, Highway Research Board Special Report 209, is a qualitative measure of operational conditions within a traffic stream, such as speed, travel time, freedom to maneuver, traffic interruptions, and comfort and convenience as perceived by the motorist. LOS ranges from A (little delay, high speed) to F (stop and go traffic). LOS C in an urban environment represents an acceptable range of traffic flow. The evaluation completed in the report identified the segments of the network that operated at a LOS below C and these segments were defined as deficient. The findings of the report revealed several arterials and some collectors with peak hour traffic exceeding or nearing roadway capacity including portions of US 641, KY 121, KY 94, KY 2075 (North 4<sup>th</sup>) and others.



The findings of the study included a number of project recommendations including operational improvements, minor spot improvements, and widening projects to improve level of service within the system. The recommendations contained in the original study that are still applicable today have been considered in the development of this Transportation Element.

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In 2008, The Kentucky Transportation Cabinet issued a report entitled the “Murray Small Urban Area Study.” The primary goal for the study was to identify potential operation modifications to improve the transportation within the Murray planning area. Focus was placed on identification and analysis of road system data for problem spots that are safety and congestion related. The process included a review of the primary arterial and collector routes serving the planning area and evaluating each route’s adequacy rate and volume to service flow ratio. In addition, a detailed review of crash history in the area was completed to evaluate the

critical rate factor along these state routes. Other considerations reviewed included environmental impact including environmental justice issues. From this effort a list of 18 items were identified for action. The recommended items are addressed in later sections.

The Kentucky Transportation Cabinet continually programs roadway improvements throughout the system it maintains. The most current plan is the 2008 Highway Plan. Three projects are included in the plan that addresses needs that were identified in the previous studies. They include:

- Surfacing of the remaining sections of KY 80 west of US 641
- Widening of KY 121 to five lanes from US 641 to Coldwater Rd.
- Widening of US 641 south to five lanes ending at the Clarks River Bridge

The Purchase Area Development District maintains a transportation committee that is responsible for transportation planning efforts throughout the eight county Jackson Purchase Area. The committee contains representatives from each of the counties through the region. Representatives specializing in various modes of transportation including surface, air & water are appointed to the committee. The committee routinely interfaces with the Kentucky Transportation Cabinet and includes representatives of the Cabinet. A primary function of the committee is identification of roadway improvement projects across the area for consideration in the Kentucky Highway Plan. The committee maintains a list of non-prioritized projects and tracks those which are included into the official plan. Several of the projects included in the non-prioritized list are in the Murray planning area. Projects on the list supported by the City of Murray have been reviewed and have been included, where appropriate in recommendations for future roadway improvements.

The Murray Calloway County Chamber of Commerce Transportation Committee in 2004 completed a conceptual plan for transportation improvements. Highlights of the plan include a proposed access controlled four lane bypass, primarily east of and adjacent to the Clarks River, from US 641 South of the corporate limits of Murray connecting with the new four lane section of KY 80. In addition, a new west bypass was included in the plan connecting US 641 south of Murray with Kentucky 121 near the Airport Road intersection. Other planned improvements include the proposed Murray Business Loop to connect KY 121 to KY 94 on the east side of Murray, a new connector between KY 94 near Doran Road to KY 121 near the west corporate limits. Also, widening of Industrial Road is proposed from KY 94 to Chestnut Street. The plan

has a number of other widening projects for existing routes. Many of the proposed improvements shown include construction of new sidewalks.

## Pedestrian and Bike Planning

Walking and cycling have long been recognized as important activities; however, mobility and access as measured in traditional planning practices focused on motor vehicle travel. There is increasing recognition that balanced transportation choices are important to individual travelers and society overall. Planning for non-motorized travel is critical to the overall transportation needs for Murray. The compact character of the community, presence of a major university campus and local environment offers an excellent opportunity to promote pedestrian and bicycle travel. A number of benefits of a well planned system can be attained including increased safety and comfort of pedestrians and cyclists, broadened travel options for non-drivers, reduced conflicts between motorists and other road users, reduced automobile traffic and the problems it creates, increase recreational activity and exercise, better accommodation of people with disabilities, and creation of more livable communities. Pedestrian walks and bike paths are in essence green improvements and result in potential significant savings of fuel that would otherwise be used for automobiles and other vehicles thus eliminating emissions to the environment.



Historically, there have been a number of planning efforts that have initiated in Murray to improve pedestrian and cycle travel. The 1990 Comprehensive Plan included a detailed plan for bikeways and walkways in the community. While the plan was well presented, the majority of recommendations in the plan were not implemented due to funding constraints and prioritization of other transportation improvements above bike path and walkway improvements.

Other planning efforts have addressed bikeways and walkways including the 2005 Parks and Recreation Master Plan and a bike plan study completed by Murray State Students in 2008. The 2008 plan is the most detailed and is shown on Map T-2.

All of the plans that have been previously developed still have relevance. The emphasis on implementation of bikeway and walkway improvements continues to increase nationwide and Murray officials are very interested in implementing projects. The City of Murray has been very successful in past years in obtaining funding for the replacement of sidewalks within the community. Officials indicate the program will be continued as long as funding can be obtained.

The key to implementing a sustainable program to improve bikeways and walkways is securing a reliable source of funding and development of a program that is fiscally attainable within the funding limitations. Additionally, regulatory requirements associated with new development must be reviewed and revised where necessary to ensure that bikeway and walkway improvements are prioritized within new developments.

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A program to implement bikeway and walkway improvements can be developed from the previous planning documents listed herein. The plans can be reviewed and priorities can be established based on needs such as mobility around the college campus area and recreational uses along greenways throughout the community.



The Kentucky Transportation Cabinet created the Pedestrian and Bicycle Design Guidance Task Force in response to the then new USDOT publication "Design Guidance Accommodating Bicycle and Pedestrian Travel: A Recommended Approach." The task force was headed by the Multimodal Programs division. Its goal was to develop policies to guide the Kentucky Transportation Cabinet on when, where, and how to include bicycle and pedestrian facilities. The task force has coordinated its efforts with other agencies nationwide to create and maintain resources to aid in the planning, design and construction of bikeway, walkway and multi-use trail improvements. Information is available on the web to guide community leaders with design and funding of these facilities.

Information from the design guidance can be utilized to identify appropriate improvements for each priority facility and budget estimates can be generated to establish a program that can be implemented.

## Public Transportation

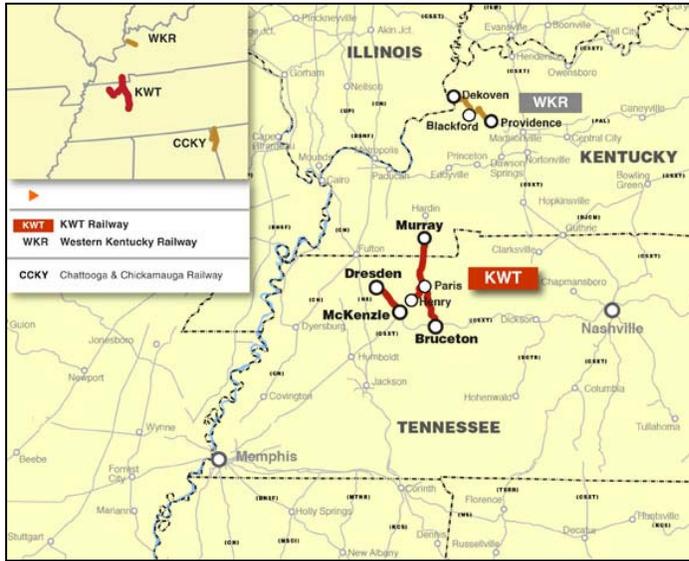
The Murray Calloway County Transit Authority is the public transportation agency in Calloway County. The transit authority is managed by an Executive Director that reports to the Transit Authority Board. The Transit Authority has established itself as a dependable, cost effective service within the community. The mission of the Transit Authority is to provide affordable transportation for people of Murray-Calloway County for educational, medical, recreational, and health care transportation needs.



The intent of the Murray Calloway Transit Authority is to make transportation accessible for local residents to improve their way of life. In addition, public transportation provides benefits to businesses by increasing their access to their customer base. Having public transportation benefits the environment and increases the quality of life by improving the livability and the economic vitality of the community and the entire region.

The service area of the Transit Authority is 348 square miles in Calloway, Marshall, and Graves Counties. The Authority has five full time positions plus part time drivers. Buses and vans operate on an on-call schedule with charges established by general location within the service area. The Authority also provides transportation for Murray State University athletic events and the major festivals in Murray. The Authority has 12 vehicles.

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The majority of the buses are RV cutaways that accommodate 14 passengers and two wheel chairs. The Authority also owns several mini-vans. The Transit Authority has just completed the construction of a new Transit Center. The new 1,500 square foot building houses the administrative offices of the Transit Authority. The new transit center is located just off Highway 121 North on Lowes Drive.

Ridership levels in 2008 are reported to be in the 75,000 range. The Authority is constantly reviewing operating enhancements to improve service. The

Authority has applied for funding to purchase additional vehicles through the Federal Economic Recovery Program. If successful, the Authority is planning to run buses along two to three routes within the city area. Public input will be solicited to help determine the actual route locations. The Authority also has a goal to partner with other area transit authorities in Paducah and Fulton to interconnect the systems at a hub in Mayfield. Other improvements under consideration are the construction of a maintenance garage for the fleet in the area of the new administration building and the construction of bus shelters along proposed new routes.

## Railways

Murray and southern Calloway County are served by the Kentucky West Tennessee Railway. This railway was acquired in 2005 by Genesee & Wyoming Inc. (GWI). GWI owns and operates short line and regional freight railroads in the United States, Canada, Australia and the Netherlands. Their operations currently include 63 railroads organized in nine regions, with more than 6,800 miles of owned and leased track and approximately 3,000 additional miles under track access arrangements. The Kentucky West Tennessee railway provides Murray businesses and industries rail access between Murray and the “Memphis to Nashville main line” at Bruceton, Tennessee.



## Murray Calloway County Airport

The Murray Calloway County airport was opened in 1961 and is operated by the Airport Board. Kyle-Oakley field is a single runway airport serving the recreational and commercial aviation needs of Murray and Calloway County. The runway is 6,200 feet long by 100 feet wide. The airport offers instrument landings. Traffic control is provided by the Memphis Air Traffic Control Center.

The airport terminal has been recently expanded. It has 24-hour restrooms, pay phone, and snack/vending machines. The terminal also includes a pilot lounge, flight planning area, and access to reports on weather through Meteorlogix. Thirty-five small hangars and three large hangars are available.

The airport serves as a valuable resource for the region. The airport runway is long enough to accommodate small jet traffic and is frequently used by area industries for corporate transportation. The airport is expected to be of benefit for attracting businesses and industries interested in making investments in the economy of Murray.

The nearest commercial passenger air service is provided through Barkley Regional Airport located in Paducah, Kentucky approximately 45 minutes away. Northwest Airlinik offers twice daily commuter service connections with Memphis International airport.



## FUTURE TRANSPORTATION FACILITIES

The Future Transportation Facilities section of the Murray Comprehensive Plan describes the planned future transportation system in the planning area. The future transportation facilities were developed based on the goals and objectives established for the plan and sound planning principles. A part of enhancing the lifestyle of Murray residents includes the planning of transportation facilities to support the land use and community facilities. The future transportation portion of the plan has been prepared with the goal of enhancing the quality of life in the Murray planning area through the integration of modern growth policies and environmental enhancement related to the transportation system. An adequate transportation system results in the ease of movement of residents, goods, and services within the Murray planning area and thereby complements the unique lifestyle and the overall quality of life in Murray. An adequate transportation system is also important to recruiting and retaining commercial and industrial investment in Murray.

## Future Transportation Principles

The future transportation principals and resulting goals defined in this section are a restatement of the transportation goals and objectives adopted by Murray for the Comprehensive Plan and listed at the beginning of this Transportation Element. Each principle is defined along with a related goal and several strategies to achieve that goal. The strategies outline actions that can be taken to work toward the attaining of the goal. The full list of goals and objectives adopted by Murray for the Comprehensive Plan is contained in Appendix A.

The Transportation Facilities Principles discussed in this section include some of the principles that are the basic tenants of this Comprehensive Plan and were included in the Land Use and Community Facilities Elements. However, the importance of transportation facilities to maintaining the compact nature and enhancing the community character of Murray leads to the introduction of the new transportation related principle titled “Move People and Goods Efficiently.”

### **1. Move People and Goods Efficiently**

The restriction of the movement of traffic, commonly referred to as congestion, is a characteristic of any urban area. Traffic congestion is many times relative. What someone used to small town life might consider traffic congestion; others used to a larger urban area might consider relatively smooth traffic flow. Increases in the number of personal vehicles, even in small towns, contribute to more traffic being on roadways. Many times new residential or commercial development put more vehicles in a given area thereby impeding the flow of traffic. The type and geographic distribution of development is usually the cause of impeded traffic movement. In addition, Murray is a regional center for commercial services, employment, and recreation that draws traffic from multiple counties. Murray lies on one of the major north south routes from Western Kentucky into Tennessee. A large percentage of the Murray State University students commute to Murray several times each week.

One way to improve traffic movement is to reduce the number of vehicle trips per resident. Reducing trips using automobiles increases the movement of traffic and improves air quality, saves energy, and increases bicycle and pedestrian safety. Public transportation is one method for reducing the number of routine automobile trips. Also, public transportation is a method for improving the movement of traffic during special events in Murray. As long as Murray remains relatively compact, the large number of university students who might use public transportation presents an opportunity to generate a reduction in automobile trips and thereby improve traffic movement.

The movement of traffic can be enhanced by improving and expanding the transportation system. Also, traffic management measures may be instituted to improve the movement of traffic.

Walking, bicycle riding, and the use of other smaller low-impact vehicles may also be used to reduce the number of automobile trips. Other methods for reducing the number of trips or the length of trip are related to development methods. Placing smaller commercial areas closer to residential areas generally keeps automobiles off major thoroughfares. Other forms of mixed use development also can place residents in closer proximity to commercial areas and encourage alternative means of transportation.

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This “moving people and goods efficiently” principle addresses ways to reduce the increased movement of traffic through public transportation, the expansion and enhancement of roadways, and the use of traffic management techniques. Other forms of transportation like walking and bicycling are addressed in the “quality of life” principal below.

**Move People and Goods Efficiently Goal:** Expand and enhance the transportation system to improve the flow of traffic and reduce automobile dependency by increasing access to other less congestive transportation modes like public transportation.

## Strategy 1: Enhance and Expand Public Transportation

The Murray Calloway Transit Authority provides public transportation services to the citizens of Murray and Calloway County. Transportation is generally provided on a “call before you ride” basis. The desire is for the Transit Authority to develop a set of routes and a time schedule for making the routes. Additional increases in the demand for public transportation are required to make establishing routes successful.

Murray will consider encouraging the use of public transportation by establishing routes and installing attractive and convenient bus shelters at strategic locations along the routes. In addition, the Planning Commission will consider, in the revision of the zoning ordinance and land development standards, the integration of development requirements to install attractive and convenient bus shelters and safe bus pull-offs into new development and redevelopment projects. Also, allowing a higher development density in direct proximity to transit routes should be included in the revision of the zoning ordinance and land development standards. Murray should also pursue a partnership with Murray State University to assist in the movement of students from satellite parking lots to campus destinations.

## Strategy 2: Enhance Traffic Movement for Community Events

Murray is the site of numerous community festivals and events that generate large amounts of traffic movement. In addition, the basketball games, football games, and other special events at Murray State University result in traffic movement problems.

Murray will develop a traffic management strategy for these times of increased traffic movement. Consideration will be given to ways to use the public transportation system to assist in improving traffic movement. In addition, Murray and the Transit Authority will consider partnering with Murray State University to utilize Transit Authority resources to shuttle participants to events at the university.

## Strategy 3: Enhance Traffic Management Measures

Traffic management is the process of optimizing the efficiency of the existing roadway network. Traffic management options are generally applied to existing roadways before more capital intensive road widening is considered. Monitoring of the roadway system to track traffic growth is an important element of a good traffic management plan. Monitoring and traffic management plan development allows the prioritization of street improvements and the identification of congested roadways as areas that require special analysis during the development review process.

The adoption of regulatory measures is another approach to traffic management. Effective regulatory measures can make a big impact on the management of the impacts of traffic growth.

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Limiting the number of access points and greater controls on the location and spacing of driveway cuts on arterial roadways can increase the efficiency and safety of major arterials to motorists. The safety of bicyclists and pedestrians can also be enhanced by the reduction of access points onto these street networks. In general, the transportation system concentrates traffic on a limited number of major arterial roadways. As Murray grows, more and more pressure is placed on a relatively small number of roadways to handle the flow of traffic.

Roadway connectivity from neighborhood to neighborhood, as well as from neighborhoods to commercial areas is a tool that can be a great help in the management of traffic. Residential development trends have created clusters of homes isolated from one another, all relying on the same arterial roadway to connect to each other and the wider community. Increased neighborhood roadway connectivity would reduce the number of neighborhoods relying on certain roadways to connect themselves to each other and to the community as a whole. Increased connectivity would also provide for multiple routes of travel, relieving pressure on major arterials by providing options to the motoring public.

Murray will establish a Strategic Traffic Management Plan in cooperation with KYTC that builds upon the Small Urban Area Traffic Study conducted for Murray. Murray will coordinate with KYTC in the establishment of additional monitoring to identify areas where additional traffic management would be beneficial to the flow of traffic. As part of the plan, Murray will inventory and reclassify its streets as necessary.

As part of its revision to the zoning ordinance and land development standards, the Planning Commission will establish driveway cut and spacing requirements that assist traffic movement and increase safety to motorists and pedestrians. In addition, the Planning Commission will integrate neighborhood connectivity into the revision of the zoning ordinance and land development standards.

The traffic model for the community that was completed in 1995 must be updated to aide in the planning process for new routes and widening projects. The updated model will be integral in providing guidance for the number of lanes required and will provide information to enhance the design selection of the appropriate lane and shoulder widths for each segment in accordance with current guidelines. In addition, the model will provide a tool for providing data for use in other operations evaluations such as signal timing/coordination studies and access management improvements.

#### Strategy 4: Enhance and Expand the Roadway System

Enhancing or expanding the roadway system may be necessary in instances where traffic management measures on existing roadways cannot be effective for enhancing traffic movement. Also, the location and density of development may dictate the enhancement or expansion of the roadway system. Enhancement of the system generally takes the form of road widening or the realignment of intersections. Expansion of the roadway system requires the anticipation of future growth and the construction of new roadways sufficient to handle the growth along with the existing traffic. Future land use patterns are important in the planning of expansions to the roadway system.

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## Planned Roadway Improvements

A number of improvements to the roadway system in the area have been identified to address the goals and objectives set forth in the comprehensive plan. Many of the improvements were identified in previous planning efforts as described herein. Map T-3 illustrates the proposed location of improvements. The following summarizes major planned improvements grouped for each functional classification:

### Principal Arterials

KY 80: The Kentucky Transportation Cabinet has authorized as part of the Six Year Roadway Plan completion of the portion of KY 80 from US 641 to Mayfield. Completion of surfacing improvements on the final section is programmed for the 2009 construction season. This will provide for a four lane divided limited access facility connecting with Mayfield and the Purchase Parkway (Future I-69) to the west. To the east the route connects with I-24. Construction of a four lane bifurcated section of KY 80 is underway in the Land Between the Lakes Recreational Area. Design work is also underway to determine the type of bridges to be constructed over Kentucky Lake and Lake Barkley. Work is also underway to design the section of roadway east of the Lake Barkley Bridge to the Cadiz Bypass. The ultimate goal is to have a four lane limited access facility that connects Murray with I-24.

US 641: The Kentucky Transportation Cabinet has programmed widening improvements to US 641 south from the current five lane section to the Tennessee State Line. Design is near completion on a five lane urban section that will extend from Glendale Rd. to the Clarks River Bridge. Construction of this section is scheduled for 2010. Plans are to improve the remaining sections in a southerly direction to a four lane divided facility with limited access. Design of the remaining sections has been delayed due to funding limitations at the current time.

Murray East Bypass: Conceptual planning efforts by the transportation committee of the Murray Calloway County Chamber of Commerce in 2004 identified the need for a fully controlled access eastern bypass within a floodplain. The conceptual proposal entails construction of a four lane divided access controlled facility extending along an alignment adjacent to the Clarks River extending from US 641 south of the Clarks River to the new Kentucky 80 east of US 641. Funding for this project has not been programmed to date. The construction of the Murray Business Loop is anticipated to reduce the need for this project. Accordingly, additional review of the project appears warranted.

KY 121: The Kentucky Transportation Cabinet Six Year Plan includes this project to improve KY-121 to five lanes between Coldwater Road and US-641. The design is being completed currently in-house by the KYTC. It will incorporate a context sensitive boulevard concept through the initial portion, transition to a 5 lane urban section, and taper back to two lanes beyond Coldwater Road.

### Minor Arterials

Murray Business Loop: A business loop is being designed on the southeast side of Murray. Plans are to construct a two lane rural section along an alignment that traverses to the east of the business district from Glendale Road to Kentucky 94. The purpose of this proposed two lane connector is to help alleviate truck traffic on KY 121 through downtown Murray. Initial funding was through a \$1 million congressional earmark. The environmental document has been

## COMPREHENSIVE PLAN

completed and approved. Murray intends to pursue ROW acquisition upon completion of design.

Five Points Intersection: The Five Points intersection at 16<sup>th</sup> Street, Coldwater Road, and College Farm Road on Murray State University's western edge has been under study for a number of years. The project was programmed in the KYTC Six Year Plan at one time. A number of options have been studied. One option is the construction of a roundabout, which is favored by the City of Murray and Murray State University. KYTC has completed a study of a roundabout at this location. KYTC has also studied realigning the terminus of Coldwater Road to remove it from the five legged intersection and the potential use of one-way couples using Coldwater Road and 16<sup>th</sup> Street between College Farm Road and KY 121 to improve capacity. The congestion problems with this intersection still persist and additional study should be completed to determine the preferred alternate for alleviating the problem. Upon determination of the preferred solution, the City of Murray should work closely with the Kentucky Transportation Cabinet to have the project included back into the six year plan.

Murray West Bypass: A bypass is proposed around the western portion of the planning area. This route would relieve congestion along US 641 and would improve mobility by providing a more direct route from the residential areas on the west side of Murray to the Murray State Campus and the KY 121 corridor. Ideally, the route should extend to connect with Kentucky 80. It is envisioned the bypass could eventually extend to US 641 south of Murray. Phasing of the route is recommended and the initial phases would extend the route from Wiswell Road to KY 121. The second phase could extend the route from KY 121 to KY 80. Future phases would complete the connection to US 641 to the south. The proposed alignment for the initial phases of the road would follow along the Oaks Country Club Road, Hudson Road, and on new alignment to connect up with Airport Road at KY 121. Subsequent phases would follow the existing Airport Road alignment to KY 80. The number of lanes for the facility should be studied closely. In the absence of detailed traffic data, it would appear that a two lane facility may be adequate initially. Sufficient right of way should be acquired to enable the route to be widened as needed periodically to add lanes.

4<sup>th</sup> Street and Sycamore Street Intersection: Upgrade of this intersection to a urban intersection is warranted to address adequacy, capacity and safety issues. The current design of the intersection is substandard given it is a "Y" intersection with one leg of the "Y" allowing traffic to travel in both directions while the other leg allows only 4<sup>th</sup> Street south bound traffic to turn onto Sycamore St.

Ky 94 West: Widening and other improvements on Ky 94 West will be necessary to improve the flow of traffic in the areas between 12<sup>th</sup> Street and the proposed West Bypass. Generally, widening will be in the form of turn lanes to increase the level of service of this roadway.

College Farm Road: Widening, generally in the form of turn lanes, will be necessary to improve the flow of traffic along College Farm Road (Ky 1327) from 5 Points to Robertson Road. Turn lanes in the area around the Murray State University Agricultural Exposition Center and Calloway County High School will be especially beneficial in improving the level of service of this roadway.

# COMPREHENSIVE PLAN

## Collectors

16<sup>th</sup> Street and Brinn Road Widening: This project consists of improving the existing 16<sup>th</sup> Street and Brinn Road from a two lane section to an urban three lane section with bike lanes. The improvements along this north-south route will extend from Murray State's campus (KY 1327–College Farm Road north to KY-121. Ultimately widening of the route north towards KY 80 appears warranted to maintain its function as a collector in a northwest portion of the planning area that is currently experiencing growth.

New Collector - Doran Road Extension to KY 121: This project consists of the construction of a new connector that will function as a collector on new alignment extending from State Route 94 West and Doran Road to KY 121. This route would be expected to relieve congestion along US 641, providing an alternate north–south route through the mid portions of the planning area.

Opportunity Drive Extension: This route is proposed as a collector to serve the northwestern portion of the planning area which has been subject to significant growth. The City of Murray worked closely with KYTC to provide a point of access along KY 80 for Opportunity Drive. This route would extend on a new alignment in a southerly direction to connect up with Walmart Drive within a rapidly growing commercial area adjacent to KY 121.

Industrial Road Widening: The construction of the Murray Business Loop will direct traffic to a point where Industrial Road intersects with KY 94. Industrial Road provides a connection between Chestnut Street and Kentucky 94. Improvement of the link between KY 94 and Chestnut Street is warranted for improving mobility. Re-alignment to improve the 90° curve along Industrial Road is warranted. The pavement section should be evaluated and if necessary improved. Two 12 ft. wide lanes should be provided to accommodate truck traffic. In addition striping and signing will be needed.

New Collectors - Growth Areas: Map T-3 shows the location of recommended collector street improvements for growth corridors in the city. Collectors should be designed and constructed to the cross-sectional template standards adopted in the city's subdivision ordinance. An update of the city's traffic model is suggested to determine the recommended number of lanes for these improvements as well as the improvements suggested for the arterials above. In some instances a three lane section may be warranted to maintain an adequate level of service.

Existing Collectors: The improvement of several existing collectors including Wiswell Road, Doran Road from Wiswell Road to Ky 94 West, and South 16<sup>th</sup> Street from Wiswell Road to Sycamore Street will improve the flow of traffic as Murray continues to grow. The improvement of the connectors will generally be in the form of widening and turn lanes.

## Local Streets

Intersection Re-alignments and Improvements: Murray has improved several offset intersections around town, including one at North 10<sup>th</sup> Street and Chestnut Street. Realignment of these intersections is recommended where practical to improve mobility.

There are also several intersections where general improvements would benefit the flow of traffic. Specifically, one of these intersections is South 16<sup>th</sup> Street and Sycamore Street.

# COMPREHENSIVE PLAN

US 641 Frontage Road: Murray planning staff is looking at plans to connect the frontage roads along the east and west sides of US 641 North along the Bee Creek area to improve circulation in the area.

Traffic Calming Improvements: Neighborhoods in Murray's urban core appear to desire traffic calming. Currently Murray has no formal traffic calming plans/regulations. In the past Murray has placed four-way stop signs, but realizes this is not an optimal solution. Other measures are available and should be studied on a case by case basis for providing a solution to problems such as speeding, excess traffic etc. Enhancement of collectors in the area adjacent to observed problems will help reduce problems associated with the excessive traffic located on local routes. Lateral obstructions, offset alignments, offset parking and other measures have been used successfully in the region and are worthy of consideration in Murray.

## **Roadway Inventory and Pavement Management**

To further enhance the transportation system, the roadway inventory will be updated and all of the roadways re-classified in accordance with the functional classification system that is nationally recognized. The portion of the city's subdivision ordinance should be reviewed to determine if standard roadway cross-section (template) requirements are current with criteria recommended by the American Association of State Highway Transportation Officials. Deviations should be evaluated and the ordinance should be updated as applicable. Deficiencies identified in the inventory and re-classification process should be identified and plans for improvements to meet revised requirements should be developed and included in the city's transportation improvement plan.

To ensure the roadway system is properly maintained, Murray will develop a pavement management system in accordance with requirements set forth by the American Society for Testing and Materials (ASTM). The pavement management system will provide for a network rating of pavement condition for each component of the network using visual evaluations and non-destructive tests. The evaluations allow for a pavement condition rating that can be used to prioritize roadway maintenance and provide a basis for street maintenance funding to maintain the quality of the roadway system.

### Strategy 5: Continue to Support Funding of Local Transportation Projects

The size of the Murray budget does not generally allow the funding of large roadway projects. Roadway projects must therefore be funded through state government with state and federal appropriations. More often than not, state and federal appropriations do not keep up with planning and local need. Murray will continue to work with state and federal agencies and legislative delegations to encourage the funding of local projects on the state's Six-Year Plan and to encourage special appropriations.

## **2. Enhance Unique Small Town Community Character**

Murray is a unique town with a progressive regional university that has won numerous awards for its educational value. Murray has also been recognized as a top retirement destination. Murray is in the center of an agricultural area and has the small town feel generally associated with agriculture. This blend of economies supports services and activities not generally associated with similar sized towns in Kentucky. The blends of these different cultures and the life style they support give the residents of Murray a distinct pride in their community and its

# COMPREHENSIVE PLAN

character. The character of Murray will be enhanced through the ability to move people and goods efficiently throughout the area.

**Community Character Goal:** Enhance Murray's unique community character by protecting and enhancing core neighborhoods, the downtown, and historic areas, while providing for the efficient flow of people and goods throughout.

## Strategy 1: Develop Progressive Zoning Ordinance and Land Development Standards

Zoning procedures and the standards by which land is developed are very important in shaping the future character of the Murray area. The Planning Commission recognizes that its overall land development process needs to be improved and will revise the existing zoning ordinance and land development standards to reflect the kind of community that Murray strives to become. Different sections of this Transportation Element include items that should be considered in a new zoning ordinance and land development standards. Examples of changes to be considered by the Planning Commission include roadway section and highway cut requirements.

## **3. Enhance, Preserve and Protect The Environment**

Murray is a very environmentally aware community. The environmental programs at Murray State University and the ever increasing awareness of environmental impacts from human activity have fostered this environmental awareness. This element recognizes the desire of the area's citizens that the development of transportation facilities occur in an environmentally friendly manner and that the resulting developed facilities contain significant environmentally friendly features or green space, as appropriate. Streams, their associated floodplains, and forested areas are the most significant environmentally sensitive features in the Murray area. The common trend in environmentally friendly communities is to recognize that protection of environmentally sensitive areas and the provision of green space are important public facilities and not just desirable amenities.

The development of transportation facilities in Murray should not compromise environmental integrity. Environmentally sensitive roadway and other transportation facility construction recognize that preservation is more important than mitigation of impacts. Sensitive environmental areas should be identified in advance of roadway project development and alternative uses of land planned accordingly. Best management practices should be used as key measures to protect developing areas.

Landscaping is also a useful technique to add to the concept of a more visually pleasing environment in Murray. Opportunities exist in the development of transportation projects to include landscaping. An example of a landscaped project is the new KY-121 section just off US 641. In this project, Murray, KYTC, and Murray State University have partnered in the development of the project so that the KYTC design and funding will include a landscaped median. After construction, Murray State University will maintain the landscaping as a gateway to their campus.

**Environmental Goal:** Maintain a natural environment by protecting, preserving, and enhancing natural resources and promoting design, development and construction practices that create green space, neighborhood connectivity, and a visually pleasing environment.

# COMPREHENSIVE PLAN

## Strategy 1: Include Beautification in New Roadway Projects

This strategy is to add to the beautification of Murray theme that is found throughout this Comprehensive Plan. Where feasible and practicable, Murray will incorporate landscaping features in its development of new transportation facilities. Murray will work with local, state, and federal agencies to incorporate landscaping in the transportation projects funded by these agencies in the Planning Area.

## Strategy 2: Promote Environmentally Sensitive Transportation Facility Development

The intent of this strategy is to encourage the incorporation of environmentally sensitive measures into the design of transportation facilities. Identifying and mapping sensitive areas and Integrating environmental and more conservation oriented measures into design can result in the creation of a more environmentally friendly project. Murray will integrate environmentally friendly measures into the design of its transportation facilities. It will work with state and federal agencies to insist that environmentally friendly designs are used for projects in the Planning Area.

## **4. Develop and Enhance Quality of Life Measures**

Quality of life is a key component for Murray to keep it's current residents, attract new retiring residents, or attract new commercial and industrial investment in the community. Murray currently has a high quality of life, but there are measures that can be taken to increase its attractiveness for future residents and related commercial and industrial investment. There are many things that contribute to a high quality of life and some of these measures have already been addressed in Principles 1-3. Additional measures are discussed in this section.

Quality of life components that are related to transportation facilities include bike trails, walking trails, and sidewalks. The potential for decreasing the number of automobile trips using walking or biking in Murray is good as many destinations are within walking or biking distance. If walking and bicycling, especially using sidewalks, are to compete with driving, the sidewalk environment must be inviting and user friendly. Making sidewalks more user friendly usually means separating them from moving traffic. Wider sidewalks or tree plots not only makes walking safer, but also buffers pedestrians from spray, dust, and noise. Good site design can make the sidewalks more attractive, thereby enticing walkers and bike riders to use them. Regularly spaced, street trees can be added to provide shade, beauty, and visual interest.

**Quality of Life Goal:** Develop new programs, events, and other quality of life measures while enhancing existing cultural and recreational opportunities and where possible integrate these quality of life measures into all aspects of life in Murray.

## Strategy 1: Develop System of Recreational Walking and Bicycle Trails

Like parks, recreational walking and bicycle trails are an important component of the quality of life. When incorporated with open/green space, they present areas that are not only visually pleasing but also contribute to a healthy life style for the citizens using them. Recreational trails can also be used to provide neighborhood connectivity. The Parks and Recreation Master Plan identified a greenway connecting many of the neighborhoods in the southern and western portion of the Planning Area. In many instances land for this greenway trail and other recreational trails can be acquired during the land development process using techniques previously described for open/green space.

# COMPREHENSIVE PLAN

The development of new recreational trails is an important aspect of the reduction of traffic flow in the planning area. When residents can utilize walking and bike trails to move between neighborhoods, automobile trips are reduced. The Planning Commission will evaluate new developments looking toward neighborhood connectivity and the acquisition of land suitable for new recreational trails. As part of this effort, a bikeway improvement plan will be developed.

## Strategy 2: Enhance the Use of Sidewalks

Sidewalks are a form of recreational trail and facilitate the opportunity of residents to move within and between neighborhoods without the use of automobiles. Sidewalks on both sides of the street in residential neighborhoods also contribute to a friendly atmosphere giving residents the opportunity to interact more freely than if sidewalks were limited to only one side of the street. The existing subdivision regulations require sidewalks within the street right-of-way on each side of arterial and collector streets in all subdivisions that are developed inside the corporate city limits, those lying in whole or in part inside the city limits, and those lying one-half mile from outside the corporate city limits. In certain instances the Planning Commission may waive the use of sidewalks.

As part of the revision of the zoning ordinance, the subdivision regulations will be reviewed and consideration will be given to extending the requirement for sidewalks to the entire Urban Services Area. In addition, the sidewalk waiver provision in the subdivision regulations will be reviewed. Changes in the subdivision regulations will also be considered to increase the width of sidewalks on one side of the street in appropriate situations to facilitate inter-neighbor and intra-neighborhood connectivity through the accommodating of alternative means of low-impact transportation. The use of these alternative means of transportation could be included in an alternative source of fuel encouragement program.

In addition, Murray will continue its sidewalk maintenance program. It will also continue to expand the current sidewalk system in accordance with the Five-Year Sidewalk Improvement Plan.

## **5. Maintain Economic Opportunity**

Approximately 25 percent of the jobs and 30 percent of the income result from jobs in the public sector giving Murray a stable employment base. Approximately 13 percent of the jobs and 20 percent of the income come from manufacturing. Despite current challenges in the manufacturing sector due to the national downturn, future economic potential for the Murray area appears good. The nearing completion of the industrial park on Highway 641 North gives the area excellent future potential for attracting new industrial investment and the resulting jobs. The continued growth of the Murray Calloway County Hospital and the completion of the expansion there also bode well for the future of the Murray area. Agriculture will also continue to play an important role in Murray's economic future.

The quality of life is high in Murray and actions taken as a result of this Comprehensive Plan should ultimately make it even better. The quality of life and proximity to Kentucky Lake and the Land Between the Lakes National Recreational Area should prove to be positive and important factors for the Murray area in recruiting new businesses, new retirees, and developing income from tourism.

# COMPREHENSIVE PLAN

**Economic Goal:** Build upon Murray's quality of life assets and location to encourage new capital investment and the creation of quality jobs to enhance Murray's strong economic base.

## Strategy 1: Enhance and Expand the Airport

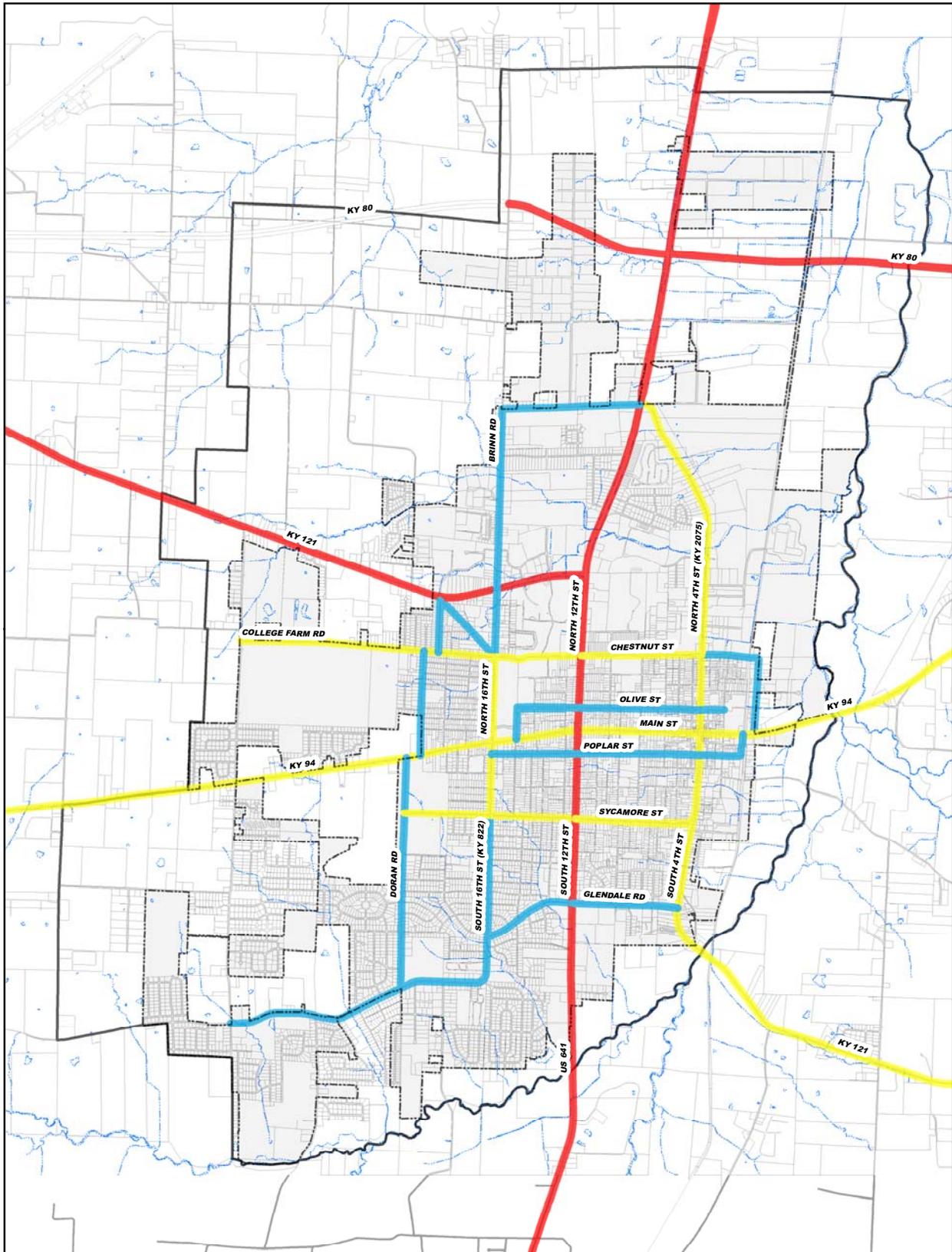
The Murray Calloway County airport is an important element in the future economic development of Murray and Calloway County. Murray will work with Calloway County and the Federal Aviation Administration toward an expansion of the facilities at Kyle-Oakley Field.

## Strategy 2: Enhance and Expand Rail Service

The rail line from Tennessee into Murray is a valuable economic development asset for the area. Expansions of this rail service create the opportunities for conflicts with vehicular traffic and the goal of smooth traffic movement. Murray will work with the railway company on future expansions to provide for economic development while minimizing impacts on the population and the environment.

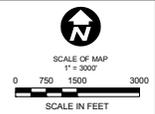
## Strategy 3: Support Regional Transportation Development Efforts

Regional transportation projects have a significant impact on economic development in Murray. When these regional projects improve access to and from Murray, the opportunity for economic investment increases. As part of its economic development efforts, Murray will work with KYTC and other state and federal agencies to encourage the construction of regional transportation system improvement projects like the U.S. Highway 68/80 bridges over the Tennessee and Cumberland Rivers.

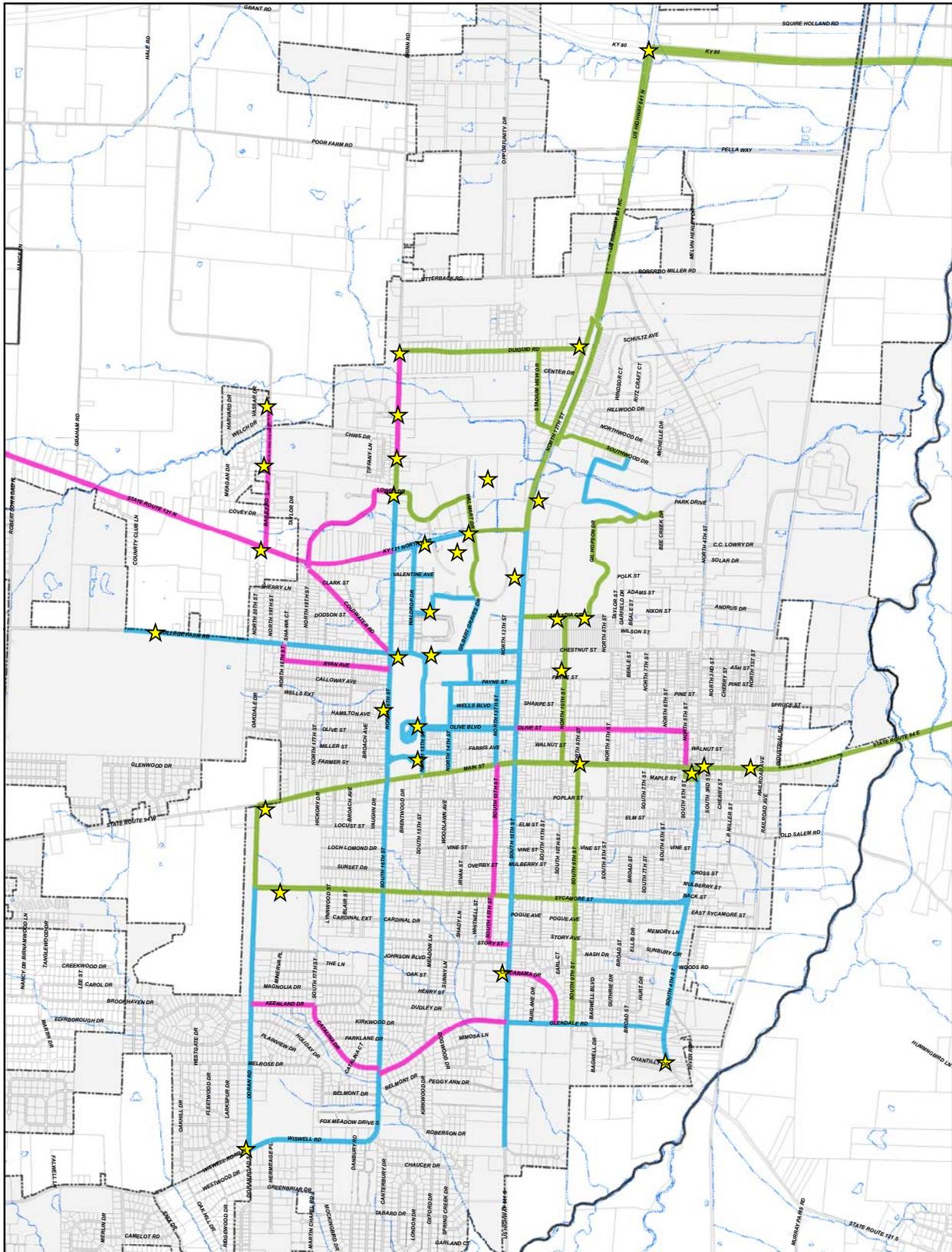


MAP T-1: Existing Roadways in the Murray Planning Area

- Principal Arterial
- Minor Arterial
- Collector
- Murray City Limits
- Urban Services Area



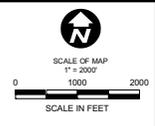
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APRIL, 2009

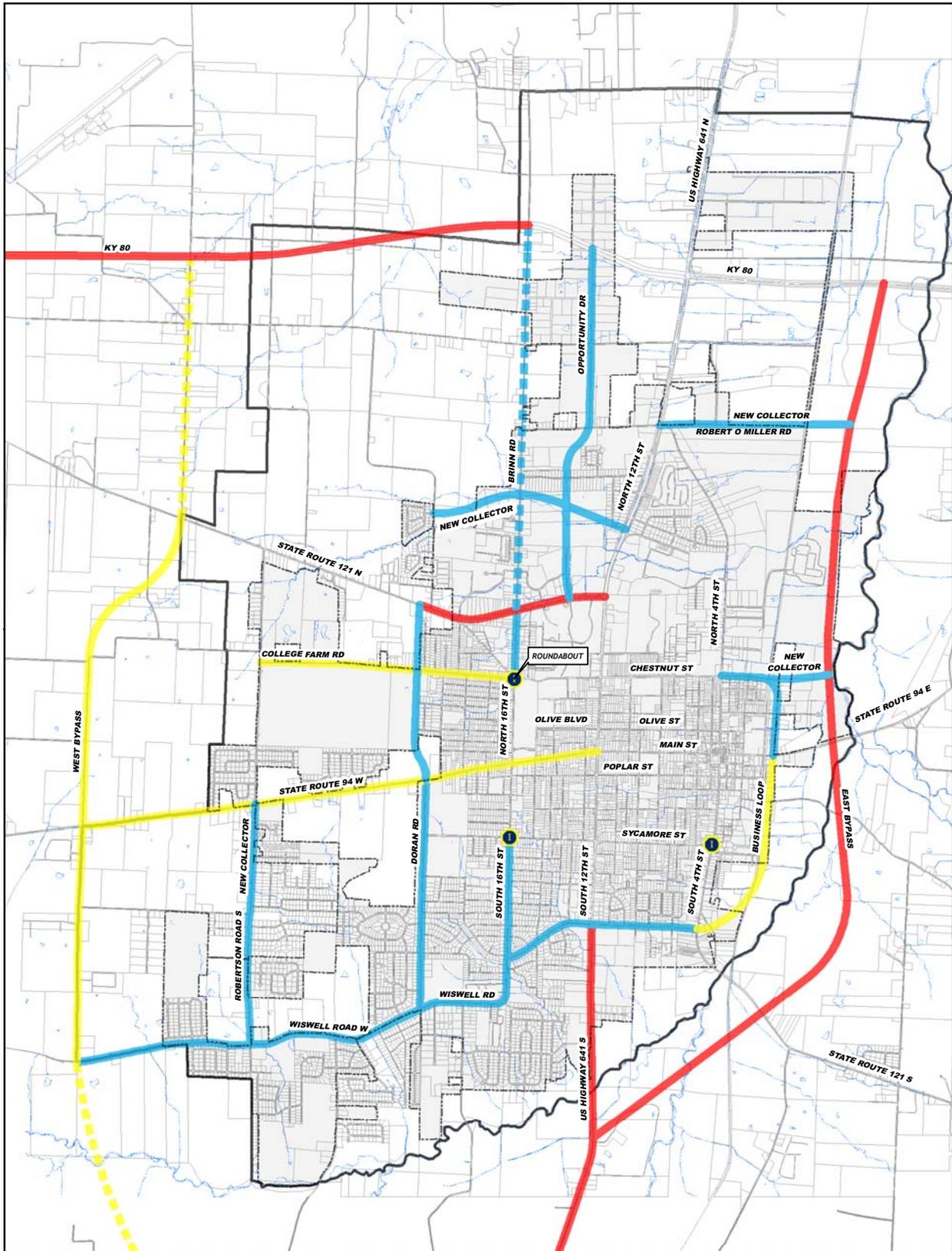


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**MAP T-2: Cycling Paths**

- Phase 1
- Phase 2
- Phase 3
- ★ Points of Interest
- Murray City Limits
- Urban Services Area



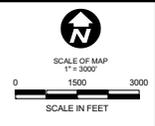


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KENTUCKY  
APRIL, 2009



**MAP T-3: Planned Roadway Improvements in the Murray Planning Area**

- Collector Improvement
- Collector Improvement (FUTURE)
- Minor Arterial Improvement
- Minor Arterial Improvement (FUTURE)
- Principal Arterial Improvement
- 1 Intersection Improvements
- Murray City Limits
- Urban Services Area





## COMMUNITY FACILITIES ELEMENT

### INTRODUCTION

Kentucky Revised Statutes (KRS) 100.187 specifies the content of a comprehensive plan in Kentucky. KRS 100.187 (4) states that comprehensive plan shall include a community facilities plan element which shall show proposals for the most desirable, appropriate, economic, and feasible pattern for the general location, character, and the extent of public and semipublic buildings, land, and facilities for specified times as far into the future as is reasonable to foresee. The facilities may include, without being limited to, parks and recreation, schools and other educational or cultural facilities, libraries, churches, hospitals, social welfare and medical facilities, utilities, fire stations, police stations, jails, or other public office or administrative facilities.

KRS 100.187 (6) states the comprehensive plan may include any additional elements such as, without being limited to, community renewal, housing, flood control, pollution, conservation, natural resources, regional impact, historic preservation, and other programs which in the judgment of the planning commission will further serve the purposes of the comprehensive plan.

These two paragraphs from the Kentucky Statutes frame the requirements of the Community Facilities Plan. The Murray Community Facilities Plan is divided into two sections; utilities and other community facilities. The focus of the Community Facilities Plan is to insure that adequate lands and facilities are available to support the community now and into the future.

### UTILITIES

Utilities play a large part in the growth and development of an area. Keeping utilities operating efficiently is a challenge to the company or governmental entity responsible for the utility. This section of the Community Facilities Element of the Murray Comprehensive Plan addresses water supply, wastewater, stormwater, natural gas, electricity, telecommunications, and solid waste. The current status of each utility is generally described. In addition, future plans of each utility related to serving its existing and future customers are delineated. Maps showing service areas and/or system facilities are included for all utilities except solid waste.

### Goals and Objectives

Goals and objectives have been adopted by the City of Murray to address the major issues and concerns that are and will be affecting the City of Murray now and into the future. The goals and objectives that relate to the utilities section of the Community Facilities Plan are listed below. The list includes the general area of each goal followed by an objective,

(1) Public Utilities and Services – Continuously review and monitor city infrastructure services and practices (water, electricity, sewer, natural gas, sanitation, telecommunications, stormwater) to identify new ways to deliver these services in an efficient, cost effective manner while taking into consideration the impact of any new infrastructure.

(2) Public Utilities and Services – Provide for the safest and most efficient integration of cellular antenna towers for cellular or personal communications services within the community, primarily through private enterprise, but in cooperation with government.

(3) Environment – Continue to promote community outreach programs such as “Make a Difference Day” and “Adopt a Highway” that stress environmental protection

(4) Environment - In conjunction with Murray State University’s Community Recycling Center, establish a cooperative recycling plan.

## Water System

### Planning

The Murray Water System supplies potable water to the City of Murray and portions of surrounding Calloway County. Operating office facilities for the water system are located on Andrus Drive. The water system serves approximately 7,400 residential, 1,300 commercial, and 12 industrial customers. The water system current has a water loss of approximately 9 percent. Plans for the water system are summarized in the “Water Distribution System Master Plan” dated May 1997. The plan described Murray’s water system and identified future system needs out to year 2020. This summary breaks down the plan into the areas of Source, Treatment, Pumps, Storage, Distribution, and Future Plans. Each of these areas is described below.

### Source

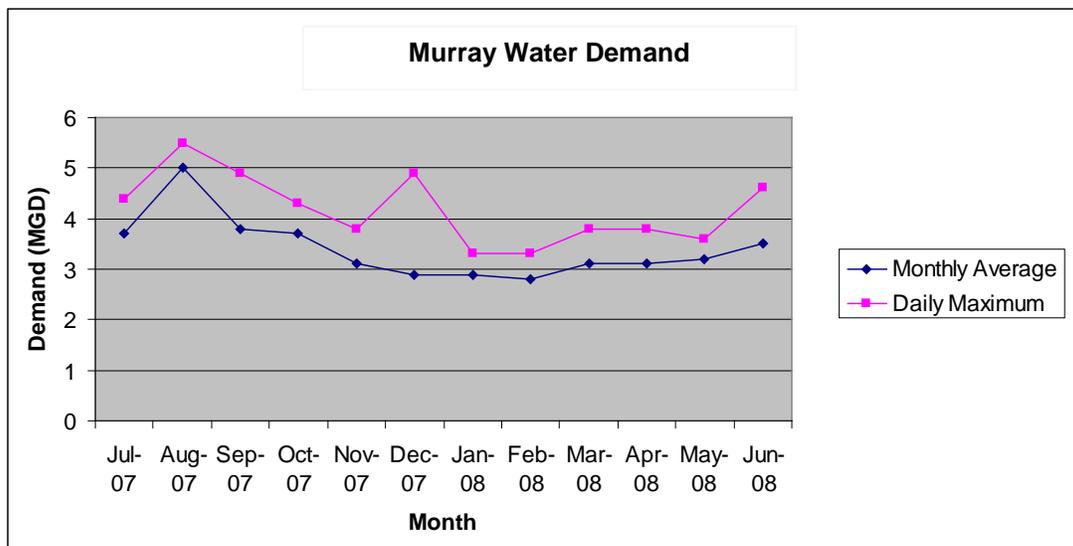
Groundwater is used as the raw water source. A well field consisting of five wells, each with a capacity of 1,000 gallons per minute (gpm), pump water to the Murray water treatment plant for treatment. There the water is chemically and physically treated and discharged to a 1,000,000 gallon clearwell.

### Treatment

Upgraded in 1990, the water treatment plant has a rated capacity of 7 million gallons per day (MGD). Figure CF-1 shows the monthly average and daily maximum water demand for the period of July 2007 to June 2008. The data shows a monthly average pumping volume at the treatment plant ranging from 5.0 MGD in August 2007 to 2.8 MGD in February 2008. Daily maximum pumping volumes ranged from 5.5 MGD in August 2007 to 3.2 MGD in February 2008. The 1997 plan projected the water demand to be 6.5 MGD by the year 2020.



**Figure CF-1. Water Demand for Murray, July 2007-June 2008**



### Pumps

Four high service pumps are available to draw water from the clearwells and discharge to the distribution system. Two older pumps have a rated capacity of 1,800-gpm while two newer pumps, installed during the 1990 water treatment plant upgrade, have a rated capacity of 2,600-gpm.

### Storage

In addition to the clearwell at the water treatment plant, there are three storage facilities in the distribution system; two standpipes on the western portion of the city and one elevated tank at the northern edge of the system near the Industrial Park. Table CF-1 summarizes the pertinent data associated with each of the storage facilities.

**Table CF-1 Existing Storage Facilities**

Storage Facility	Location	Type	Overflow Elevation (ft.)	Available Storage (gal.)
Tank A	Intersection of 18 <sup>th</sup> and Miller Streets	Standpipe	660.1	1,000,000
Tank B	Robertson Road South	Standpipe	667.0	1,000,000
Tank C	Highway 641 – North	Elevated	662.10	500,000
Clearwell	Water Treatment Plant	Reservoir	488.00	1,000,000
<b>TOTAL</b>				<b>3,500,000</b>

Source: Murray Water Distribution System Master Plan, 1997

# COMPREHENSIVE PLAN

## Distribution

The central portion of the distribution system is a looped, grid system, which allows for continuous service should one portion be temporarily closed for repairs. Water from the treatment plant to the system storage tanks flows through the distribution grid and not through a centralized transmission system.

Upgrades to the distribution system were made as a result of the 1997 plan to obtain increased pressures to satisfy fire flow demands and to enhance system function in certain parts of the system. The 1997 plan also indicated a need to change the control tank from the 18<sup>th</sup> Street Tank to the Robertson Road South Tank and to install a telemetry system to record tank levels. These changes have not yet been implemented.

## Future Plans

Murray has been considering the acquisition of Calloway County Water District No. 3. A study of the acquisition has been completed and the options are being evaluated. The acquisition will probably occur at some time in the future. Other short term planned improvements from the 1997 plan and from discussions with Murray Public Works staff are shown in Table CF-2.

Table CF-2: Short Term Planned Water System Improvements	
Improvements	Location
750,000 gal elevated storage tank	Highway 94 west, just beyond Hunter's Pointe Subdivision
West Distribution System Loop	Loop between Squire Road and end of line on Wiswell Road along Oaks Country Club Road and Wiswell Road (in service area of WD No. 3)

Source: Murray Water Distribution System Master Plan, 1997

Other projects, originally planned for the early 2000's, that have been delayed because of lack of planned growth in the project area are shown in Table CF-3. In addition, system improvements indicated in the 1997 plan as necessary to adequately meet projected water demands by the year 2020 are shown in Table CF-3. The 1997 plan indicated that an expansion of the water treatment plant and high service pumping should be studied in more detail. Although the demand projections in the 1997 plan do not indicate that an expansion of the plant will be necessary, the age of the plant and pumping facilities indicates that, at least, some refurbishing and renovation will most likely be required before the year 2020.

<b>Table CF-3: Long Range Water System Improvements</b>	
<b>Improvements</b>	<b>Location</b>
8,640-l.f. of 12-inch	Along Roy Graham Road between Highway 121 and Poor Farm Road
3,300-l.f. of 12-inch	Along Poor Farm Road between Roy Graham Road and Bailey Road
4,830-l.f. of 12-inch	Along Poor Farm Road between Bailey and Brinn Roads
7,300-l.f. of 8-inch	Along Bailey Road between Poor Farm Road and Highway 121
1.0 MG elevated	Near the intersection of Robertson Road South and Quail Creek Road
1.0 MG elevated (College Farm)	On the MSU Farm near the intersection of Robertson Road North and College Farm Road
500-l.f. of 12-inch	From the proposed Southwest No.2 Tank to the intersection of Robertson Road South and Quail Creek Drive
700-l.f. of 12-inch	From the proposed College Farm Tank to the intersection of Robertson Road North and College Farm Road

Map CF-1 shows the Murray Water System.

## **Wastewater System**

### **Planning**

The Murray Wastewater System supplies wastewater treatment to the City of Murray and portions of surrounding Calloway County. Operating offices for the wastewater system are located on Andrus Drive in the same building as the water system operating offices. The system currently serves approximately 6,150 residential, 1,250 commercial, and 12 industrial customers. The wastewater system is summarized in the “Wastewater Facilities Plan Update for the City of Murray” dated August 2000. The plan identifies future system needs up to year 2020. This summary breaks down the plan into the areas of Collection, Transmission, Treatment/Disposal, and Future Plans. Each of these areas is described below.



# COMPREHENSIVE PLAN



## Collection

The Murray wastewater collection system is a separate sanitary system that includes gravity sewers ranging in size from 6-inches to 36-inches in diameter. Due to topography, the system is primarily gravity flow. The total population served by the sewer system is estimated to be approximately 14,000 (2.28 persons per household).

## Transmission

There are five (5) wastewater pumping stations. The largest of the pumping stations is the 3.5 MGD East Fork of Clark’s River Pump Station located near the intersection of the Clark’s River and KY 121 South. The station was constructed in 1974, expanded in 1982, and renovated in 1997. Table CF-4 summarizes the pertinent data associated with each of the pumping stations.



**Table CF-4: Existing Pumping Stations**

ID	Pumping Station	Pump Type	Estimated GPM / pump
PS No. 1	Old Benton Road No.1	Submersible	125
PS No.2	Old Benton Road No.2	Submersible	95
PS No.3	Industrial Park	Submersible	244
PS No.4	Bailey Road	Submersible	180
PS No.5	East Fork Clarks River	Dry Pit	2,300

Source: Wastewater Facilities Plan Update for Murray, 2000

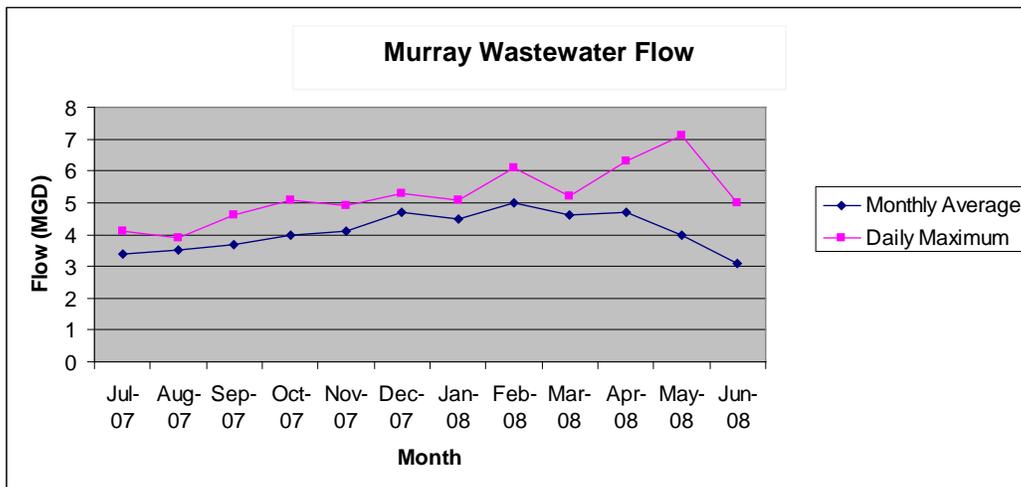
## Treatment / Disposal

The Bee Creek Wastewater Treatment Plant in Murray is located at the southeast corner of the intersection of the CSX Railroad and Bee Creek in northeast Murray. The plant discharges into Bee Creek which is a wet weather tributary to the East Fork of the Clark’s River. The facility has an average treatment capacity of 5.25 million gallons per day (MGD) with a peak hydraulic capacity of 13 MGD. Figure CF-2 shows the monthly average and daily maximum wastewater flow for the period of July 2007 to June 2008. The monthly average flow to the wastewater treatment plant ranged from 5.0 MGD in February 2008 to 3.1 MGD in June 2008. The maximum daily flow during this same time period ranged from 3.9 MGD in August 2007 to 7.1

MGD in May 2008. Average daily wastewater flow projections for the year 2020 were estimated by the plan to be 10.3 MGD with maximum daily flows of 25.8 MGD.

The treatment process train consists of influent pumping, followed by screening, grit removal, flow measurement, three oxidation ditches for biological treatment, five final clarifiers, chlorination/dechlorination, and then effluent pumping. Sludge is treated using the Cannibal Process and sludge disposal is to a landfill.

**Figure CF-2. Flow at the Murray Wastewater Plant, July 2007 - June 2008**



### Future Plans

Murray has been identifying problem areas and rehabilitating the collection system to reduce the infiltration and inflow. Current estimates are that at least 1 MGD of this extraneous flow has been removed at an expenditure of \$2 million. Estimates are that another \$5 million could be spent on system rehabilitation.

Murray is in the process of signing an agreed order with the Kentucky Division of Water. The agreed order will require Murray to construct improvements to their collection system and wastewater treatment plant to meet regulatory limits relating to treatment and system overflows. No tap on ban is envisioned as a result of the agreed order.

The 2000 plan envisioned the construction of a new wastewater treatment plant for Murray. The flow to the plant currently approaches or exceeds the design capacity during the higher flow months of the year. Murray hopes to postpone the timing of construction for the new plant by continuing to remove infiltration and inflow from the system. As part of the agreed order, Murray is looking at the construction of new headworks at the treatment plant as Phase 1 of the expansion.

Funding has been secured for serving future development north of Saratoga Springs Subdivision by constructing an interceptor to connect with the existing collection system at the Wiswell Road and Robertson Road intersection. In addition, a new pump station, force main, and interceptor are being studied to serve areas west of Saratoga Springs Subdivision. Future plans also include new collection lines in the area of the Industrial Park West. These new collection lines will flow to the pump station on Max Hurt Drive.

Murray is working on an update to its wastewater plan that should better define its wastewater needs. Map CF-2 shows the Murray Wastewater System.

### **Stormwater Quality Management**

#### **Planning**

The City of Murray's stormwater quality management activities are summarized in the "City of Murray Stormwater Quality Management Plan 2008." The plan is broken down into seven general categories; Local Water Resources, Public Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination, Construction Site Runoff Control, Post Construction Stormwater Management, and Pollution Prevention/Good Housekeeping for municipal operations. The plan addresses community involvement and communication rather than physical components.

The stormwater program in Murray is supervised by the stormwater engineer who reports to the Director of Planning and Engineering and whose office is located in City Hall. The city is currently creating a digital stormwater map containing storm sewers, conveyance structures, etc.

#### **Local Water Resources**

The main surface water bodies in Calloway County are the Clarks River, Bee Creek and Kentucky Lake. Kentucky Lake is the largest body of water in the county, but is located on the east border of Calloway County outside of the permitted stormwater area. Clarks River and Bee Creek reside within the East Fork Clarks River and Middle Fork Clarks River watersheds, located within the Tennessee River Basin.

Stormwater runoff from Murray drains into Bee Creek, Middle Fork, and Clarks River and each are classified as Impaired Water bodies with the total maximum daily load (TMDL) under development for the pollutant causing impairment. The primary pollutant for Bee Creek is Fecal Coliform; the primary pollutants for Middle Fork are nutrients/eutrophication and Fecal Coliform; and the primary pollutants for Clarks River are Fecal Coliform, organic enrichment and nutrient/eutrophication. Each of these streams are also on the Kentucky Division of Water 305b list with Bee Creek and portions of Clarks River not supporting aquatic life, drinking water, fish consumption, and primary contact recreation.

Through Nonpoint Source Implementation 319h grants, the Four Rivers Basin Team is in the process of developing a Watershed Based Plan for the East and Middle Forks of Clarks River. The purpose is to address sources of pollution, develop solutions, and establish Best

Management Practices (BMPs) in both impaired and threatened streams. The focus area is along Clarks River from Bee Creek upstream.

### **Public Involvement and Participation**

The City of Murray Public Involvement and Participation program has been very successful through addressing the city council and allowing the citizens to voice their opinions and concerns. Being a member of the Four Rivers Basin Team allows the city to work with several volunteers that sample the surrounding watersheds. The Stormwater Hotline and Adopt-a-Creek programs are tools that have proven valuable in increasing citizen's awareness and educating them to recognize stormwater problems. Through the Adopt a Creek program, the City anticipates cleaning 2 streams per year with the help of 25 to 50 community volunteers.

### **Illicit Discharge Detection and Elimination**

The City of Murray is in the process of digitally mapping the complete storm sewer system inside the city limits. They currently have conveyance structures and outfalls inventoried in hard copy form. The land area of the city consists of 13 sub-watersheds; three of which have been mapped in digital format. All structures are manually inspected and photographed for structural integrity and illicit discharges. These inspections and the compilation of information will continue each year until the digital storm sewer system mapping is complete.

### **Construction Site Stormwater Runoff Control**

Construction cannot begin within the city limits until a Notice of Intent has been filed and approved by the Division of Water. Submitted plans are reviewed to ensure that they address city requirements and address water quality. After construction begins, the City of Murray Stormwater and Drainage Engineer conducts periodic site inspections to protect water quality in the area. Inspections are conducted bi-weekly and after rainfall events.

### **Post Construction Stormwater Management**

The City of Murray Engineering Department has had in place since 2001 a Stormwater Conveyance Facilities Ordinance. This ordinance requires that any development within the city and its jurisdiction shall provide properly sized stormwater management facilities capable of controlling increased stormwater runoff relative to its pre-developed condition. The post construction BMP's are vital in the reduction of stormwater runoff. To help the environment and promote green activities, the Engineering and Planning departments have taken steps toward promoting rain gardens, alternative pavements, and low impact development strategies that will further program development.

### **Regional Stormwater Facilities**

Murray staff has studied the construction of regional stormwater facilities to reduce the impact of stormwater runoff from areas that were developed before the stormwater ordinance was enacted. The potential location of these regional facilities and the drainage system in the Murray area are shown on Map CF-3.

## Natural Gas

### Management

The City of Murray owns the Natural Gas System that serves the Murray Comprehensive Plan area. The Murray Natural Gas System operates under the direction of the City of Murray Department of Public Works and Utilities. The offices for the Natural Gas System are located on Andrus Drive. The system annually sells 1.3 million cubic feet per year. System sales of natural gas have increased by 48 percent since 1990.

### Service Area

The Murray Natural Gas System supplies natural gas to the City of Murray, portions of Calloway and Graves Counties and transports gas for the City of Hardin in Marshall County. Murray Natural Gas serves approximately 5,500 customers with residential and commercial customers using approximately 50% of the demand and industrial customers using the other 50%.

### Facilities

The City of Murray is served by two transmission companies: Texas Gas and ANR Pipeline. The Texas Gas Transmission supply line is a six-inch line with 520 psi pressure main that runs along KY 121. The ANR Pipeline is an eight-inch line with 500 psi pressure main that runs west into the city near Vanderbilt Chemical Company.

The system is mostly steel with cathodic protection. Gas system employees install all gas mains and house service lines, while licensed merchants provide house piping in accordance with state plumbing and NFPA regulations. The system has an extensive on going maintenance program that has resulted in a low amount of unaccounted for gas. The system has begun the installation of radio read meters to minimize meter reading costs.

### Future Plans

General plans are to expand the system to serve additional residential areas to the east of Murray. In addition, a loop on the east side of Murray is planned to increase system pressures in that area. The long term natural gas supply and the distribution system appear adequate to serve the future land use needs of the Murray Comprehensive Plan area.

Map CF-4 shows the Murray Natural Gas System.

## Electrical

Electrical services in the City of Murray Comprehensive Plan area are provided by the Murray Electric System, with offices on Olive Street, and West Kentucky Rural Electric Cooperative, with a billing office in Murray and main offices on the south side of Mayfield. The service area and the services provided by each of these electrical utilities are discussed below.



## **Murray Electric System**

Service Territory: Murray Electric's service territory is primarily within the city limits of Murray. The utility currently provides service to approximately 7,700 customers. The Tennessee Valley Authority is the electricity provider for Murray Electric. Since Murray Electric's service area is surrounded by the West Kentucky Rural Electric Cooperative, there is no room for expansion and the utility's main function is providing service to its existing customers.

Planning: Murray Electric has a 2001 Strategic Plan that describes the long range planning efforts for its electrical system. Murray Electric System has been and will continue to be proactive in system planning, improvements, and implementing new customer service improvements and collaborating with partner TVA in meeting the demands of an ever changing and fast-growing community. Since the adoption of the Strategic Plan, Murray Electric has remodeled its main office building and purchased adjacent property. A need has been identified for a new facility for warehousing, vehicle storage, crew quarters, pole and transformer loading and unloading, and storage. Murray Electric believes its staffing is sufficient to serve the needs of its customers.

Murray Electric takes delivery of wholesale power from TVA at its Primary Substation. From this point it is delivered to 5 other substations, 3 of which were built within the last 10 years. The West Murray Substation, built in 1965 is currently being upgraded to increase its capacity. Murray Electric has sufficient substation and distribution system capacity to meet the needs of current and future projected customers.

The last City of Murray comprehensive Community Facilities Plan, completed in 1990, indicated that planning should begin for converting Murray Electric's overhead power lines to underground power lines with a 15 year time frame for completion of the project. This project was found to be not feasible due to the cost of converting existing above ground lines to underground lines. However, Murray Electric now uses steel poles instead of wooden poles when poles need to be replaced. In addition, any new subdivisions have underground service. The use of steel posts and underground service in new subdivisions is believed to result in lesser damage and down time during extreme weather events.

Future Plans: Future projects for Murray Electric include (1) a second delivery point on the major transmission line into the city to serve as a backup for the current one delivery point from TVA, (2) replacing of transformers at the District Substation, and (3) systematic replacement of substation breaker relays and step-voltage regulator controls for interfacing with the remote monitoring and control system.

### **West Kentucky Rural Electric Cooperative**

Service Territory: West Kentucky RECC serves approximately 49,000 customers in Calloway, Marshall, Graves, Carlisle, Fulton, and Hickman Counties. The distribution of customers is approximately 31,440 residential, 8,524 commercial and small industrial, and 6 large industrial. In Calloway County, West Kentucky RECC operates 3 substations serving 10,178 residential, 129 small industrial and commercial, and 2 large industrial customers. The service area includes all of the City of Murray not served by Murray Electric System. The Tennessee Valley Authority is the electricity provider for West Kentucky RECC.

Planning: West Kentucky RECC is in the process of updating its long range plan. The staff's focus is to continue to construct projects that upgrade service to existing customers and provide the facilities necessary to serve future customers. Recent projects have been completed to upgrade substations, including the installation of new circuit breakers. In addition, projects have been completed to provide dedicated feeds from the substations for Murray industry. Also, a second double circuit has been installed on Poor Farm Road to increase system capacity and reliability in that area.

Calloway County is served by three Western Kentucky RECC substations, Stella Substation, East Murray Substation, and Coldwater Substation. The Stella and the East Murray Substations serve the Murray planning area. The Stella Substation is located on the west end of Poor Farm Road. This substation is fed by a 161kV transmission line supplied by the Tennessee Valley Authority. The substation consists of five residential and one industrial circuit. The industrial circuit serves Vanderbilt Chemical, Pella, Webasto, and all of Max Hurt Drive. It will also serve the new industrial park located on U.S. Highway 641, north of Max Hurt Drive.

The East Murray Substation is centrally located on Outland School Road. This substation consists of three residential circuits and one residential/industrial back-feed circuit. The industrial back-feed circuit provides automated back-feed to the industrial customers served by the Stella Substation.

Future Plans: West Kentucky RECC has been adding approximately 400 customers each year. For 2007 its peak usage was 197 MW and for 2008 its peak usage was 185 MW. The 2007 peak was due to the unusual extreme heat. The projected normal draw for 2012 is estimated to be 196 MW. Within the next five years, projects are planned to (1) increase capacity on one of the Stella Substation circuits, (2) install a new 3 phase circuit on the East Murray Substation, and (3) upgrade the 3 phase on Highway 121 south of Murray.

The system has stable load projections. These projections, coupled with the upgrades undertaken over the last few years, indicate there is sufficient substation and distribution system capacity to meet the needs of existing and future customers.

Map CF-5 shows the electrical system serving the Murray planning area.



## Telecommunication

Telecommunications, including broadband internet services, in Murray and Calloway County are provided by Murray Electric System, West Kentucky Rural Telephone Cooperative, ATT, NewWave Communications, Comcast, Galaxy, and Verizon. The services provided by each of these providers are listed below:

### Murray Electric System

- Telephone
- Cable television
- Broadband

### West Kentucky Rural Telephone Cooperative

- Telephone
- Broadband

### NewWave Communications

- Telephone
- Broadband
- Cable Television

### Comcast

- Telephone
- Broadband
- Cable Television

### ATT

- Telephone
- Broadband
- Wireless

### Galaxy

- Cable Television
- Broadband

### MediaCom

- Cable Television
- Broadband

### Verizon

- Wireless

With the multitude of telecommunication providers in Murray and Calloway County, there should be sufficient system capacity to meet the needs of existing and future projected customers. Map CF-6 shows the service territory of broadband providers in the Murray area.

## Solid Waste Management

### Planning

The City of Murray's solid waste management activities are summarized in the "Calloway County Solid Waste Management Five Year Plan 2008-2012." The plan describes Calloway County's and the City of Murray's solid waste activities in four general areas; collection, transfer, disposal, and recycling. Details of the City of Murray's and Calloway County's participation in each of these areas are described in the following:



## Management

The City of Murray's solid waste activities are managed by the Superintendent of the Murray Sanitation Department, who reports to the City of Murray Director of Public Works. The operating offices for the Sanitation Department are located on Andrus Drive. Calloway County's solid waste activities are managed by the Calloway County Solid Waste Coordinator, whose office is located in the Court House and reports to the Calloway County Judge Executive.



## Collection

The City of Murray has mandatory curbside solid waste collection for its residents and businesses. A fleet of collection trucks operated by the Murray Sanitation Department collects solid waste at curbside. The Sanitation Department also has roll off containers available for businesses and industries. Murray also conducts annual leaf and brush collection.

Calloway County does not have mandatory solid waste collection. Several licensed private solid

waste companies operate in the county to collect solid waste for those citizens who desire to have curbside collection.

## Transfer Station

The City of Murray operates the only solid waste transfer station in Calloway County. Calloway County residents may deliver their solid waste to the transfer station for disposal. Murray contracts with a private solid waste company for pickup at the transfer station and transport and disposal at a land fill.

## Disposal

The solid waste from the Murray transfer station is transported to Northwest Tennessee Disposal Company landfill in Troy, Tennessee. This landfill operates under permit from the Tennessee Department of Environment and Conservation. The landfill has an estimated remaining life of over thirty years.

## Recycling

The City of Murray does not have curbside recycling. There are recycling bins at the Andrus Drive facility for city and county residents that wish to recycle paper, aluminum, metal, and cardboard. The city and county sponsor quarterly "Make a Difference Day" when recycling facilities are available for a multitude of solid wastes, including e-waste. Several private companies collect a variety of materials for recycling, like scrap metal, tires, batteries, and motor oil.

Murray has a fall leaf collection program. The leaves collected each fall are used by a local industry as soil amendments. Brush collected throughout the year is ground and used as mulch at city park facilities.

## **Future Plans**

Murray plans to look at alternative locations for the transfer station to make drop off and handling of the solid waste more efficient. In addition, plans are being implemented for new equipment to be used in industrial and commercial solid waste collection.

Murray's solid waste activities appear to be adequately funded through user fees. The residents in Calloway County outside the city pay user fees for private curb side pickup. The combination of city and private solid waste activities should be adequate to serve portions of the Comprehensive Plan area that are projected to develop in the future.

A goal of the "Calloway County Solid Waste Management Plan" is to increase recycling efforts, especially curb side recycling, in both the city and county. The City of Murray, Murray State University, and Calloway County Government have begun a collaborative effort in the recycling of cardboard and paper. This effort is utilizing a recycling center located on North 16th Street in Murray. The goal is to eventually expand this effort into the recycling of other products.

## **OTHER COMMUNITY FACILITIES**

In addition to Utilities, there are numerous other community facilities that play a large part in supporting the well being of an area. These agencies cover a wide spectrum of the life of the community. This section of the Community Facilities Element of the Murray Comprehensive Plan addresses several of these agencies. The current status of each agency is generally described. In addition, future plans of each agency related to serving the existing and future population are described. Maps showing service areas and/or agency locations are included.

## **Goals and Objectives**

Goals and objectives have been adopted by the City of Murray to address the major issues and concerns that are and will be affecting the City of Murray now and into the future. The goals and objectives that relate to the other community facilities section of the Community Facilities Element are listed below. The list includes the general area of each goal followed by an objective,

(1) Community Relations - Encourage participation to enhance the community through citizen support, neighborhood groups, service by citizens on Boards and Commissions, government outreach programs including Fire and Police Academies, West Kentucky Night, and other civic organizations such as Character Counts, Community of Promise, Leadership Murray, Leadership Tomorrow, Town & Gown, and CASA.

(2) Community Relations - Work toward better coordination of community development activities with County officials and representatives.

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(3) Community Relations - Improve intergovernmental relations with county, state, and federal governments, the university, the Purchase Area Development District, and other agencies that promote Murray.

(4) Community Relations - To continue assisting Murray and Calloway County's elderly and people with disabilities to be more independent and to live a fuller life.

(5) Economy - Support economic growth sponsoring entities such as the Economic Development Corporation, Chamber of Commerce, Murray Convention and Visitor's Bureau, Murray Main Street, and MSU Regional Business and Innovation Center that would:

- Encourage growth in the downtown business sector.
- Utilize land for industrial development and continue recruiting new manufacturers.
- Promote the use of the new Murray EDC Industrial Park on 641 North.

(6) Economy - Work with the educational systems in their effort to provide an educated, skilled work force.

(7) Economy - Continue investigating sources of revenue that will provide for growing service demands, finance capital improvements, and close the gap of unfunded mandates.

(8) Economy - Support regional economic planning efforts; in particular the Regional Industrial Park to be located in Graves County.

(9) Public Facilities and Services - Investigate expanding E-Government services and utilize internet capabilities that quickly process and deliver information. Consider the possibility of making Murray a "wireless city."

(10) Public Facilities and Services - Enhance commercial and residential public safety services by:

- Expanding the S. 16<sup>th</sup> Street fire station to a centralized public safety facility (police, fire, and 911 dispatch) that will better serve the southwest annexation area, Murray State University, and the downtown area.
- Construction of a new fire station on HWY 641 North that will provide adequate coverage for residential, commercial, and industrial development.
- Promote the safety of the community and a feeling of security among the residents as well as encourage citizen participation through programs such as the Citizen and Youth Police Academies.
- Continue to update fire and police equipment by seeking state and federal funding through grants.

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(11) Public Facilities and Services - Maintain government facilities so that they promote accessibility, efficiency, and safety for citizens and government employees.

(12) Public Facilities and Services - Secure library facilities and services that satisfy resident needs, including timely, helpful, and readily available services that are attractive, accessible, convenient, and provide continuing education to all.

(13) Public Facilities and Services - Enhance the City of Murray Park System by:

- Continuing to seek funding for maintaining existing neighborhood parks and encouraging developers to dedicate land for the purpose of adding additional neighborhood parks in newly developed areas.
- Search for private land opportunities to expand the City Park System by citizens and private enterprise dedicating land, gifts, and through philanthropy.
- Continuing to look for alternative sources of revenue such as the leasing of government property for a narrow and limited range of commercial uses.
- Investigate the possibility of creating a Regional Park that will attract recreational leagues to participate in sporting activities.

(14) Public Facilities and Services - Provide adequate health care services and facilities to accommodate all citizen needs and continue to seek funding for health care expansion and facility improvement.

(15) Housing - Encourage a greater sense of community within the city's residential neighborhoods through the organization of neighborhood associations or similar groups, with emphasis on safety, beauty, and overall pride.

(16) Environment – Review the need for adopting a policy to encourage the construction of public and commercial buildings according to “Green-Building” standards

### Law Enforcement

Law Enforcement in the Murray Comprehensive Plan is provided by the City of Murray Police Department, the Calloway County Sheriff, Murray State University, and the Kentucky State police. The law enforcement agencies are described in this section.



### City of Murray Police Department

The Murray Police Department consists of a staff of 38, including 32 sworn officers. The Police Chief, one of the sworn officers, exercises administrative control over the department. One of

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the officers is dedicated to crime prevention and community relations and serves as the department's media spokesperson. The department does not provide resource officers in the Murray City Schools. The department operates dispatch for both the Murray Police Department and Fire Department. The department's fleet consists of 7 patrol vehicles, 5 investigative vehicles, 3 administrative vehicles, and one utility truck.

The department's operating space consists of the 3,300 square foot Police Station that was constructed in 1988. The department also occupies approximately 4,000 square feet in the Public Safety Building, which used to be the city hall. The operating space includes communication/dispatch room, a squad room, administrative office space, interview room, equipment room, and an evidence vault. The department currently has no satellite police stations and has no plans to establish one. The Murray Police Department contracts with Calloway County for animal control.

All the Murray departments operate on the same radio frequency and are in the process of converting to UHF to be able to communicate with the County and Murray State University law enforcement. The Murray Police Department in 2008 implemented a computer dispatch system for easier record keeping. All the department's patrol vehicles have Mobile Data Terminals. Event scenarios are used on loan from the Kentucky League of Cities.

Both Murray and Calloway County operate Enhanced 911 systems. They are in the process of implementing a Phase 2 wireless system where 911 calls from cell phones in the Murray area are routed to the city dispatch center rather than to the Kentucky State Police.

In 2007, the Murray Police Department received accreditation which is good for 5 years. The accreditation lowers the department's liability insurance. In addition to funds from the general fund, the department receives income from the liquor license ordinance that was implemented in 2001. The pay scale for officers of the Murray Police Department is about the median for officers of other third class cities in Kentucky.

Current needs for the department include 3 new officers, driving simulators, and more interview rooms. In addition, the evidence room will eventually need to be expanded. The City of Murray is in the architect procurement stage for a new Public Service Building on 16<sup>th</sup> Street to be shared by the Police Department and Fire Department. This new building should facilitate the discussions between Murray and Calloway County toward a combined dispatch system. In addition, the new Public Safety Building should serve the needs of the Murray Police Department for several years into the future.

Map CF-7 shows the location of the Murray Police Station.

### **Calloway County Sheriff**

The Calloway County Sheriff's office is located at 304 Maple Street in a building separate from the Calloway County Courthouse. The Sheriff's Department consists of 21 full time employees and 3 part time employees. Of the full time staff, 7 are patrol deputies, 2 are investigators, 2 are resource officers in the schools, 5 are court security deputies, and 5 are in telecommunications. The department owns a fleet of vehicles that serve patrol and administrative functions.

The Sheriff's department is a member of the Pennyryle Narcotics Task Force that gives it jurisdiction in 23 counties. The department is working with the Murray Police Department, the

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Murray State University Police, and the Kentucky State Police to develop a Crime Scene Task Force. The department implemented in 2008 a Memorandum of Understanding with Murray State University that granted Murray State's 15 officers county wide jurisdiction and makes them available on an as needed basis. In addition, the two agencies trade off answering alarms at the Hancock Biological Station and the county schools.

The Sheriff's department has radios to communicate with the Kentucky State police and the police in the adjoining Tennessee Counties. Mobile Data Terminals have been installed in all except 4 of the department's vehicles; plans are underway to add these in the near future.

Future plans for the Calloway County Sheriff's Department include adding 2 full time deputies. In addition, the department hopes to acquire the Old Health Department Building for more office space for telecommunications, dispatch, and narcotics. The department hopes to establish a satellite office for the Kentucky State Police in its new office facility.

Map CF-7 also shows the location of the Calloway County Sheriff's Office.

### **Murray State University**

The Murray State University Police are primarily responsible for safety and security on the Murray State University campus. The department consists of 15 officers and other support personnel. As described above, the department, through a Memorandum of Understanding, works with the Calloway County Sheriff's Department to assist in law enforcement in Calloway County.

### **Kentucky State Police**

The Kentucky State Police has a nearby post in Mayfield. The state police have 3 officers assigned to the Murray area to assist the City of Murray Police and the Calloway County Sheriff's Department in law enforcement activities.

### **Fire Protection**

Fire protection is provided in the Murray Comprehensive Plan area by the City of Murray Fire Department and by the Murray- Calloway County Rescue Squad. These two fire protection agencies are discussed in this section.



### **City of Murray**

The City of Murray Fire Department provides fire protection within the Murray city limits. The department's staffing, dispatch, and equipment and the city's water system result in an ISO rating of 4 for those structures within the city limits. The department operates out of two fire stations. Station 1 is the downtown station and is located at the old city hall. Station 2 is located on 16<sup>th</sup> Street. Station 1 is equipped with a Brush Truck, an Engine 1 Class A Pumper, an R1 Rescue Unit, and a Service Rescue Unit #2. Station 2 is equipped with a Pierce Class A Pumper, an Engine 3 Class A Pumper, and a Tower Truck.

The operating staff of the Murray Fire Department consists of 30 fire fighters and 4 office staff which includes the Fire Chief, Fire Marshall, Training Officer and 1 Administrative Assistant.

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Rescue services in Murray and Calloway County are provided by the Rescue Branch of the Murray Fire Department. This branch was developed through a joint agreement between the City of Murray and the Calloway County Fiscal Court to provide an immediate response, county wide, to vehicle accidents where extrication of victims may be needed.

Future plans for the Murray Fire Department include the construction of the new Public Safety Building at the location of Fire Station 2. This new building, shared with the Murray Police Department will become Fire Station 1. A new Fire Station 2 will be constructed in the vicinity of US 641 North and Old US 641. Architectural services for this new fire station are currently being procured along with the architectural services for the new Public Safety Building. In addition, the need exists for a new fire station in the southwest section of the planning area.

In addition, Engine 1 will need replacing in 5-7 years. Personnel needs include 12 additional fire fighters, 4 for each shift. Current space at the fire stations does not allow the addition of fire fighters at the present time. The addition of fire fighters will have to be after the construction of the new fire stations.

Map CF-7 shows the location of the existing and proposed new fire stations for the Murray Fire Department.

### **Calloway County**

Fire protection outside the Murray city limits is provided by Calloway County Fire and Rescue, Inc., an all volunteer organization. Calloway County Fire and Rescue serves a single fire district composed of 11 fire stations. The ISO ratings of the areas served by the fire stations range from 7 to 10, with 8 stations rated a 7 and 2 stations rated a 10. Calloway County Fire and Rescue consists of approximately 65 volunteer firefighters.

Map CF-7 shows the county fire stations and the districts served by the fire stations.

## **General Government Facilities**

Several state and federal agencies maintain office facilities in Murray. However, the two primary government agencies that maintain office facilities in Murray are the City of Murray and Calloway County. The facilities of these two agencies are discussed in this section.

### **City of Murray**

The facilities of the City of Murray; in addition to the Police Department, Fire Department, Utility Departments, Tourism, and Mass Transit facilities discussed elsewhere in this plan; are the City Hall and the Cemetery. City Hall was completed in 2002 and consolidated the billing, meter reading, and finance functions of the city operated utilities; the planning, engineering, and Geographical Information Systems; and the general governmental administration functions in one building. In addition, the offices of the Director of Public Works and the



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Superintendent of Streets are in City Hall. City Hall is currently at full capacity with no vacant office space.

When the new Public Safety Building is constructed and occupied by the Police Department and Fire Department, the city will have to determine the best use for the current Police Station and the Old City Hall. These properties are located adjacent to an area church that may be interested in acquiring them for future expansion or parking.



At the City Cemetery, there is one small office building. The city is in the process of constructing a larger maintenance building that will be equipped with water and sewer facilities. A second mausoleum was built in 1994. The last acquisition of property for the cemetery was in 2000. The current land is believed to be sufficient for the next 10 to 15 years. There are lands adjacent to Cemetery property that currently might be available for purchase if a need arose to further expand the Cemetery.

Although the current office facilities for the City of Murray are adequate, the lack of space for growth at City Hall will necessitate room for expansion at some time in the future. Map CF-8 shows the location of City Hall and the City Cemetery.

### **Calloway County**

Government facilities for Calloway County Government, in addition to the Sheriff's office discussed earlier, include the Court House, the Judicial Center, and the Road Maintenance Facility. The locations of these facilities are shown on map CF-8.



### **Murray Convention and Visitors Bureau**

The main focus of the Murray Convention and Visitors Bureau is to attract events to Murray that generate tourism revenue for local businesses. The Robert O. Miller Conference Center; a multi-purpose, historic facility in Murray; houses the Murray Convention & Visitors Bureau and Murray Main Street. The Center is also rented out to the public for special events for a nominal fee. The facility, totaling over 14,000 square feet, contains a meeting room of over 1,000 square feet. The space is rented out for the purpose of conventions, wedding receptions, forums, business meetings, etc. The location of the Convention and Visitors Bureau is shown on Map CF-8.

The Convention and Visitors Bureau is currently developing a "brand" for Murray to use in its tourism promotion activities. The Bureau has developed and promotes events like the Ice Cream Festival, R/C Aircraft Fly In, Lumberjack Challenge, Highland Festival, Trail of Treats, Dickens Alley, Fiddle Festival, Freedom Festival, Downtown Saturday Market, and the City-Wide Yard Sale. In addition the Bureau promotes nearby attractions like the Hazel Antique District, Kentucky Lake, and the "Land Between The Lakes National Recreational Area".

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Tourism activities are supported by a number of facilities owned and operated by other entities like Murray State University. One example of this is the West Kentucky Livestock and Exposition Center, a venue for rodeos, American Quarter Horse Association shows, tractor pulls, pony pulls and the Murray Motocross. Also, on the campus of Murray State is the Regional Special Events Center (RSEC), home to Murray State basketball. The RSEC also hosts a variety of events, including the annual West Kentucky Boat and Outdoor Show, Home and Garden Show, circuses and concerts. The American Society of Golf Architects designated the Frances E. Miller Memorial golf course as one of the best-designed 18-hole courses in America. Miller offers a variety of challenges, with over 50 sand bunkers and scenic water hazards.



Murray has long been known for its attractiveness to retirees. In 1987, "Rand McNally's Retirement Places Rated" named Murray and the surrounding lakes area as the number one place in the nation to retire. Since then, Murray has welcomed hundreds of retirees choosing to relocate to Murray from all over the United States.

In 2001, Murray was selected as a Certified Retirement Community by the Kentucky Tourism Development Cabinet and is one of only eight communities with this special designation. Murray is noted as one of the great places in the state and the nation to settle down for retirement due to specific criteria. Low crime rate, quality hospital care, low cost of living and tax rates, mild climate, friendly atmosphere, availability of adult education classes, and close proximity to a major city are just a few of the benefits for those retiring in Murray.

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**"IF YOU ARE SEEKING A WELL-ROUNDED COMMUNITY WITH  
PLENTY OF OUTDOOR RECREATION, LOW HOUSING COSTS  
WITH A FOUR SEASON CLIMATE, THEN MURRAY  
MAY BE JUST WHAT YOU'RE LOOKING FOR."  
-RETIREMENTAMERICA.COM**

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Murray was recently selected as a "100 Best Communities for Young People" by the America's Promise organization. Murray was chosen because of the community's efforts to fulfill five essential promises critical to the well-being of young people: caring adults who are actively involved in their lives; safe places in which to learn and grow; a healthy start toward adulthood; an effective education that builds marketable skills; and opportunities to help others.

The attractiveness of Murray as a retirement and relocation should result in a steady future demand for residential housing and the accompanying demand for commercial services. In addition, the Convention and Visitors Bureau would like to see the development of a Convention Center that could host a range of large events and conventions.

## Murray Calloway County Parks and Recreation

### Planning

The Murray Calloway County Parks and Recreation Department is a joint effort by the City of Murray and Calloway County. The department is managed by a Board of Directors appointed by the City Council and the Fiscal Court. Funding comes from the city and county as well as from grants. The Murray Calloway County parks system is comprised of two community parks totaling over 162 acres. The parks system for Murray and Calloway County is described in the “Murray–Calloway County Parks and Recreation Master Plan” dated March 2005. The community parks operated by Murray - Calloway County Parks and Recreation consist of Central Park and Chestnut Park.

### Central Park and Bee Creek Soccer Complex

The Central Park and Bee Creek Soccer complex is composed of approximately 144 acres. The southern entrance to the park is off Arcadia Circle and the access to the Bee Creek Soccer complex on the northern end is off Fourth Street. This area is located in the northern portion of the City of Murray. Existing facilities in the park include:

- (1) Five baseball and softball fields. Four of the fields are in a wagon wheel arrangement with the restroom/concession/press box building in the center.
- (2) The Bee Creek Soccer Complex with 15 soccer fields. The arrangement could provide for more fields. In addition, there are paved parking lots, playground, and a restroom/concession facility.
- (3) An “L” shaped swimming pool and bathhouse. In 2004, improvements were made with a new liner and improvements to the filtration system.
- (4) Six picnic shelters including the one in the Bee Creek area.
- (5) Six playgrounds located throughout the site. The playground in front of the swimming pool will be relocated and an “aquatic sprayground” put in its place.
- (6) Rotary Memorial Walkway, located between the ball field complex and the main road. The walk is highlighted with Willow Oak Trees that are planted with memorial plaques with the names of past governors of Rotary.
- (7) The Water School House, an old school house relocated to this site.
- (8) The Old Courthouse located north of the ball field complex. The Courthouse was the first courthouse and first public building in the Jackson Purchase area and was built in 1823.





(9) An amphitheater originally developed using grant funds for an open air performance area. The long term goal is to develop a cover for the stage area.

(10) A Disc Golf Course completed in the fall of 2006, rapidly becoming the park's most used facility. The 18-hole course is located off Arcadia Drive.

(11) A variety of trails in the park with natural surfaces. The Ryan Loop extends from the tobacco barn area and is approximately one half mile. The John Mack Carter Nature Trail outlines the park. The Maple Trail starts

near the area of the old courthouse and extends to the western portion of the site and to the Bee Creek area.

### **Chestnut Park**

Chestnut Park was the original Murray Park and consists of 18.4 acres. The park is located south of Chestnut Street and is bordered on the east by 8th Street and on the west by 10th Street. Payne Street goes through the center of the park.

The existing facilities in the park include:

- (1) A small park headquarters building.
- (2) Two lighted baseball/softball fields.
- (3) Three lighted basketball courts.
- (4) A playground
- (5) Four picnic shelters.
- (6) A newly paved lighted walking trail in a figure eight pattern throughout the park.

The locations of the Murray Parks are shown on Map CF-8.

### **Adequacy of Park Land and Expenditures**

The Parks and Recreation Master Plan compared the ratio of citizens per acre of park in Murray and Calloway County to the ratio obtained from a survey of 1,242 parks and recreation departments across the country. The national median was 132 citizens served per acre of park land. In the year 2004 Murray had 112 citizens per acre and Calloway County had 206 citizens served per acre. Projecting out to 2020 population shows that the city would have 117 citizens served per acre and the county would have 240 citizens served per acre. This comparison indicated that the residents of the City of Murray are much better served with park land than the residents of Calloway County.

The Parks and Recreation Master Plan also compared the expenditures for parks and recreation facilities and services in Calloway County with those of other parks and recreation organizations in Kentucky. It found the overall expenditure of the local and county government

bodies for parks and recreation facilities and services in Calloway County to be less than \$12.05 per capita. The average per capita expenditure for 40 cities and counties in Kentucky with parks and recreation departments was found to be \$33.76. The plan also found the cities and counties in Kentucky known for strong park programs spend in the range of \$58 to \$130 per capita. The Master plan concluded this less than average expenditure is evident in the overall shortage of park space, the lack of parks in some parts of the county, and the lack of parks programming.

### **Future Plans**

The Parks and Recreation Master Plan provided a list of action items for future activities of the park system in Murray and Calloway County. Several of the action items in the plan have been completed, including the establishment of an off leash dog park. Some of the more significant items remaining to be completed include:

- (1) Continue to seek alternative sources of revenue for parks and recreation.
- (2) Develop a new outdoor "aquatic sprayground".
- (3) Develop a skate park (a group is currently raising funds to be matched by the City).
- (4) Develop a greenway system to connect parks, schools, and neighborhoods.
- (5) Develop a Veteran's Memorial (funds are currently being raised).
- (6) Develop a new park in the southwest portion of the city.

### **Calloway County Public Library**

The Calloway County Public Library consists of two buildings, the main building and an adjacent Library Arts Annex. The main building contains approximately 10,000 square feet and was initially constructed in 1970 with an addition in 1975. The Library Arts Annex was developed by restoring a Victorian House and consists of approximately 3,000 square feet. The location of the library is shown on Map CF-8.

The library currently houses approximately 65,000 items. Because of space limitations, unused items are discarded on a regular basis. There are approximately 80 parking spaces at the library. Current services provided by the library include public bathrooms, reading space, meeting space, genealogy, and computers. The library houses the Regional Office of the Kentucky Department for Libraries and Archives.

There is no written long range plan for the library. However, expansion of the facility is being considered. The facility does not meet some of the requirements in Kentucky's "Minimum Facility Standards for Public Libraries." Plans are to expand the library on adjacent property to 25,000 to 30,000 square feet and remodel the existing building in the process of the expansion. The expansion would approximately double the existing 1,600 square feet of available meeting space. Circulation items in the expanded library would be increased to 80,000 to 100,000 items. Parking spaces would be increased from 80 to 100. The additional space would allow the number of computers available to library patrons to increase from the current 11 to 30. After the expansion, the Library Annex could be made available for use by others.

## Public Schools

The public school system serving the City of Murray Comprehensive Plan area includes the Murray Independent School District, the Calloway County School District, and the Murray Vocational Center. These educational organizations are discussed in this section.

### Murray Independent School District

In 2008 Murray Independent School District had a total enrollment of approximately 1,425 students in K-12 and 100 preschool students. Students in grades 9-12 attend Murray High School and students in grades 4-8 attend Murray Middle School. Students in Kindergarten through grade 3 attend the Murray Elementary School. The Murray Independent School District has approximately 118 certified instructional personnel and 282 total employees. Map CF-9 shows the boundary of the Murray Independent School District and the locations of the District's facilities.

Recent improvements within the Murray Independent School District include an addition and renovation at Murray Middle School. The renovation at the Middle School included the demolition of one building and the connecting of the other two buildings. One of the connected buildings was built over 60 years ago and was formerly the site of the high school. The Middle School building includes an auditorium, a gymnasium, and a football/baseball field that also serves the high school.



The boundary of the Murray Independent School District and the Calloway County School District that surrounds it are shown on Map CF 8. Over the last twenty years approximately 100 pieces of property have been taken from within the fixed district boundary by expansions of the Murray hospital and Murray State University. The loss of students from these properties and the removal of these properties from the tax roll have significantly impacted the revenue of the Murray Independent School District.

Due to its landlocked boundaries enrollment within the Murray Independent School District has stabilized. The construction of new facilities are not envisioned, however renovations will be made from time to time to keep the current facilities up to date.

### Calloway County School District

In 2008 the Calloway County School District had a total enrollment of approximately 3,053 students in K-12 and 200 preschool students. Students in grades 9-12 attend Calloway County High School and students in grades 5-8 attend Calloway County Middle School. The Calloway County School District has three elementary schools serving kindergarten through grade 4 and a preschool. The three elementary schools are the East Calloway Elementary, North Calloway Elementary, and Southwest Calloway Elementary. The Calloway County School District has approximately 244 certified instructional personnel and 500 total employees. Map CF-9 shows the locations of the Calloway County School District facilities. Enrollment at each of the Calloway County schools is as follows:

## COMPREHENSIVE PLAN



Calloway County High School	-	968
Calloway County Middle School	-	700
East Calloway Elementary School	-	337
North Calloway Elementary School	-	574
Southwest Calloway Elementary School	-	474

Recent improvements within the Calloway County School District include renovations at the high school and the elementary schools. Additional improvements are planned at four schools. Enrollment is stable and projected population growth in Calloway County does not indicate the

need for additional school construction in the near future.

### **Murray Calloway County Area Technology Center**

The Murray Calloway County Area Technology Center is located at 1800 Sycamore Street on property owned by the Murray Independent School district and is operated by the Kentucky Education and Workforce Development Cabinet. The primary purpose of the area technology center is to serve high school students by enhancing and expanding student career options that lead to continuation of education at the postsecondary level and/or successful employment upon graduation from high school. Students receive instruction in sound academic principles, theory, laboratory and clinical experiences to ensure they can compete successfully in today's changing workplace. The enrollment is approximately 300 students. The programs available are Automotive Technology, Carpentry, Culinary Arts, Health Sciences, Machine Tool Technology, Marketing Education, and Welding.



### **Murray State University**

#### **General**

Murray state University is a state funded university of approximately 10,000 students and 1,350 faculty and staff. It is composed of five academic colleges and a school of agriculture. There are nine residential colleges on campus. The main campus is comprised of 74 major buildings and two libraries. The university libraries hold approximately 398,824 volumes, 33,801 audio-visual materials, 1,569 periodical titles, and 207,121 microforms.

The University extends its services to its space bound students through its Regional campuses in Paducah, Hopkinsville, Madisonville, and Henderson; and through its distance learning programs.

## Enrollment/Student Body

For the fall 2007 semester, the student body consisted of a total of approximately 10,300 students. Of the total, approximately 7,600 were full time and 2,700 were part time. Approximately 60% were female and 40% were male. At the undergraduate level the percentages of full-time and part-time students have stayed fairly consistent over the years. Of the fall 2007 student population, approximately 84% were undergraduate students while 16% were graduate students. Most undergraduate students (82%) are full-time, whereas 69% of the graduate students are part-time.



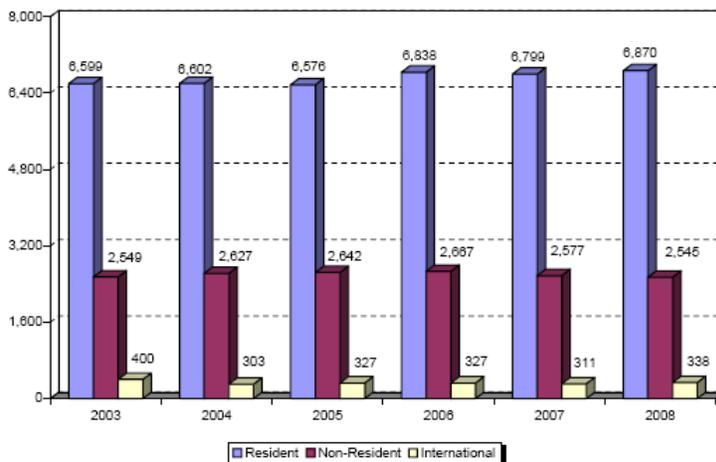
The student body represented 43 states, 52 foreign countries, and 102 Kentucky Counties. The out-of-state population was 28% of the total. Students older than 24 years made up 32% of the total population. During the fall of 2007 the total headcount of 10,156 represented a decrease of 148 students over that of the previous fall headcount. The designated 18-county service

region provided 55% of the total student population. Murray State receives its first-time freshman students who are Kentucky residents mainly from Calloway, Christian, Graves, McCracken and Marshall Counties. Figures CF-3 and CF-4 show the enrollment by resident status and full time/part time status, respectively.

The undergraduate student to faculty ratio at Murray State during the fall of 2007 was 16 to 1. Full-time faculty was 86% of the total faculty. Faculty with Ph.D. or terminal degree in their field in 2006 made up 78% of the total. Fifty-four percent of full-time instructional faculty was tenured. Twenty-four percent of faculty were not on tenure track. Minority faculty made up 11% of the full-time instructional faculty. Females were about 39% of full-time instructional faculty. Figure CF-5 shows the composition of the Murray State staff.

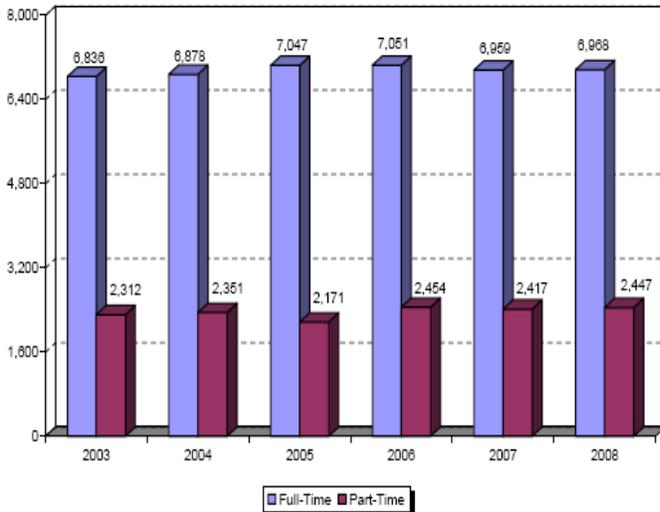


**Figure CF-3. Spring Enrollment by Resident Status 2003-2008**

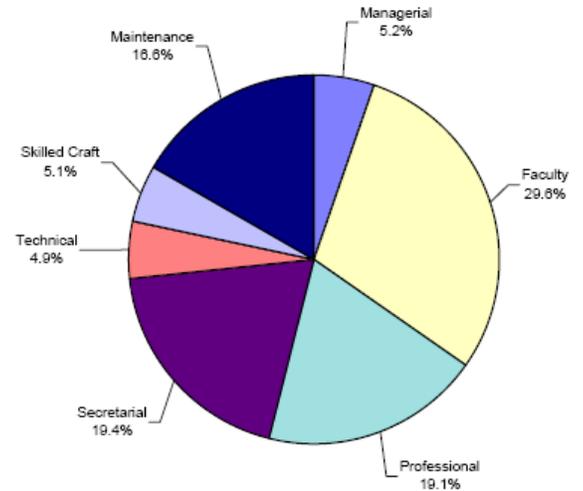


# COMPREHENSIVE PLAN

**Figure CF-4. Spring Enrollment by Full-Time and Part-Time 2003-2008**



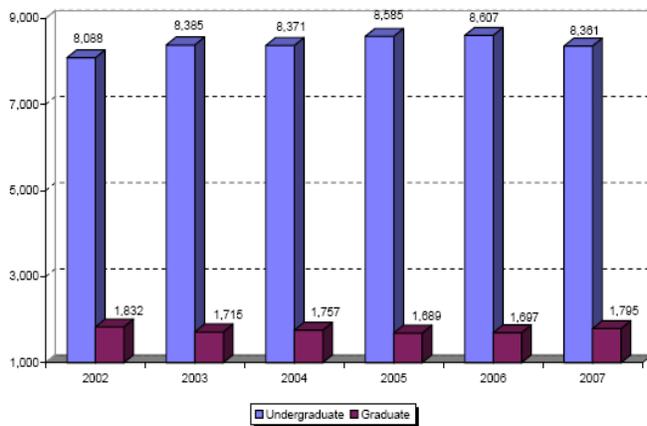
**Figure CF-5. Full-Time Faculty and Staff Fall 2007**



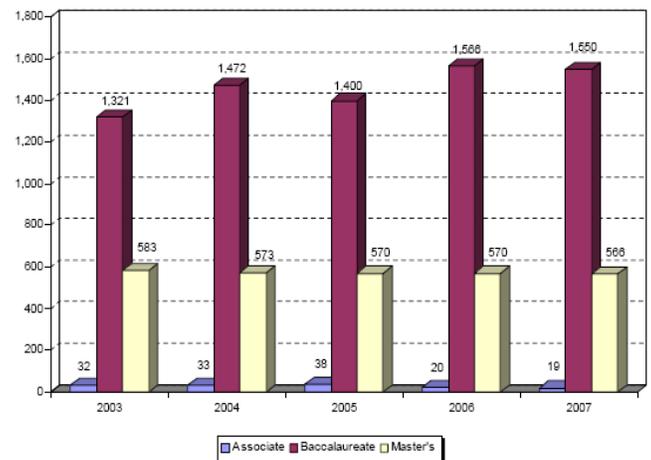
## Faculty/Class Size/Academic Offerings

The average class size at Murray State was 20. Classes that have less than 20 students made up 57% of all classes and classes that have more than 50 students made up 4% of all classes. For the 2007-2008 year, academic offerings at Murray State included 11 associate degree programs, 64 bachelor's degree programs, and 42 master's degree and specialist programs. Figure CF-6 shows enrolment trends by degree level. Figure CF-7 shows the trends in degrees conferred.

**Figure CF-6. Enrollment by Degree Level Fall Semester 2002-2007**



**Figure CF-7. Degrees Conferred 2003-2007**



## National Honors

Murray State has received the following national honors:

- *U.S. News & World Report* ranked MSU among America’s best public universities for the 16th consecutive year. Murray ranked ninth in the nation, Kentucky’s highest rated public university.
- *U.S. News & World Report* also selected Murray number 14 among the South’s “Great Schools at Great Prices.”
- The *Princeton Review* ranked MSU among the nation’s “Best Southeastern Colleges.”
- *Kiplinger’s Personal Finance* magazine chose Murray among America’s Top 100 Public Colleges for academic value. MSU ranked number 76 out of more than 500 colleges reviewed.
- Murray was rated among the best for online education by *GetEducated.com*.
- The *New York Times* recently recognized Murray for leadership in graduation rate improvement.
- *Crime at College* ranked Murray the 11th safest campus location in the nation.

## University Facilities

Map CF-10 shows the buildings and grounds of the main campus and Map CF-11 shows the boundaries of the properties owned by the university. Table CF-5 gives a summary of the facilities at the various Murray State campuses.

Table CF-5. Summary of Murray State University Facilities	
Campus	Square Footage
Main Campus	3,361,740
West Farm	246,734
North Farm	8,034
Biological Station	38,387
Breathitt Veterinary Center	49,048
Hopkinsville Campus	39,131
Paducah Campus	95,347
Total	3,838,421

## Future Plans

Murray State has recently completed an update to its Master Plan. The update was presented to the Board of Regents on February 29, 2008. The Master Plan Update, prepared in 2007, was to update the 1993 Master Plan by providing specific guidance for key campus growth areas and to provide guidance for the placement of facilities currently being considered. Specific expansion areas and facilities in the Master Plan Update included the residential campus, campus parking, site for a new Safety and Security Building, site for a new Library Building, and improvements to the 15<sup>th</sup> Street Campus Gateway.

General plans for the residential campus do not envision the construction of additional high-rise buildings. Due to the lack of available capital, Murray State envisions partnering with a private developer to construct new residential units in a “Campus Village” concept. The number of part time students at Murray State is increasing, generating a need for additional parking spaces. The Master Plan envisions a total net gain of 279 parking spaces. These parking spaces are planned to be created by relocating some existing parking lots and expanding some smaller lots into larger ones. New parking lots are envisioned to be developed in a “green” manner to enhance the visible aesthetics and provide stormwater treatment and control.

The general trend of Murray State campus development is to the west. Current development on the west side of 16<sup>th</sup> Street has increased student crossings of this busy street. Campus planners indicate that the campus probably won’t extend much further to the south. Murray State currently has three agricultural farms to support the University’s agricultural programs. The Murray State Regents have voted to form a task force to look at expanding the agricultural properties and program.

Overall enrollment at the main campus of Murray State has been relatively stable over the past few years. It is envisioned to remain that way and the emphasis for growth is at the satellite campuses.

## Hospital and Public Health Facilities

### Murray-Calloway County Hospital

Murray-Calloway County Hospital is located at 803 Poplar Street. It is a public/not for profit facility serving West Kentucky and Northwest Tennessee. It began as the William Mason Memorial Hospital in 1910, was purchased by the Murray Hospital Association in 1947, and was called Murray Hospital from 1947 to 1964. In 1964 it became Murray-Calloway County Hospital. The location of the hospital is shown on Map CF-7.



Murray-Calloway County Hospital employs approximately 1,000 with 830 full time equivalent employees. The Medical Staff consists of 71 physicians, representing 28 medical specialties. The hospital currently has 152 acute licensed beds and 226 long-term care beds located at Spring Creek Health Care Nursing & Rehabilitation. The hospital is accredited by the Joint Commission on Accreditation of Healthcare Organizations, the

Kentucky Health Facilities and Health Services, American Association of Blood Banks, and the Kentucky Department of Health and Human Services. The hospital is a member of the American Hospital Association, the Kentucky Hospital Association, the Premier Healthcare Alliance, and the Twin Lakes Hospital District.

## COMPREHENSIVE PLAN

The hospital offers the following services – Acute Inpatient Rehabilitation, Adult Day Care, Ambulance, Adult Day Care, Blood Bank, Cardiac Rehab, Cardiovascular, Center for Diabetes, Center for Health & Wellness, Center for Rehab & Sports Medicine, Critical Care/Progressive Care, Emergency, Health Express Mobile Screening Unit, Home Care, Hospice, Laboratory, Medical Records, Miracle Moments Maternity, Nutrition, Obstetrics, Pastoral Care, Pharmacy, Radiology, Regional Cancer Center, Rehabilitation Services, Shared Care Adult Day Care, Social Services, and Inpatient and Outpatient Surgery.



Spring Creek Health Care, owned by Murray-Calloway County Hospital, was renovated in June of 2006. The new construction added 64 beds, including 14 private rooms, a full-service kitchen, and many improved amenities including a separate room for physical therapy and occupational therapy. This expansion also allows for x-rays to be taken on-site, expediting care plans and serving as a convenience to the residents and staff while avoiding the historical ambulance transfer to the hospital. West View and Long Term Care, also owned by the hospital, have been operated as one facility for the past 15 years. Even as early as 1991, when the hospital bought West View, there was talk of bringing both facilities together under one roof.

### Future Plans

Murray-Calloway County Hospital has a Strategic Plan that sets specific goals for the hospital. The most recent Strategic Plan established the following goals:

- provide the highest quality services in the region,
- create a culture of excellence for all stakeholders,
- implement a physician recruitment and retention process,
- become a regional healthcare facility,
- improve the physical facilities to support organizational goals, and
- maintain and improve financial performance

Each goal has a set of key initiatives aimed at accomplishing the goal. The key initiatives related to improving the physical facilities include the most recent addition of the Women's Pavilion, Acute Inpatient Rehabilitation Unit, Spring Creek renovations, and renovations to the Medical Arts Building, as well as the current hospital expansion that is underway.

Since the founding in 1910 the hospital has strived to provide the highest quality health care services for the region. Beginning in the 1970's & 1980's the hospital added new beds, laboratory facilities, and a major renovation and expansion. In the 1990's, Murray Calloway County Hospital added a freestanding Regional Cancer Center. Within the last ten years the hospital added the Centers for Sleep Studies, Rehabilitation & Sports Medicine, Diabetes, Health and Wellness, and the acquisition and expansion of Spring Creek Health Care Nursing & Rehabilitation.

Murray Calloway County Hospital is continuing its long-range plan to provide the highest quality health care services to the region by expanding its facilities to include a five story, 158,000 square foot expansion that will be ready by the end of 2009. Murray-Calloway County Hospital's expansion will include a new main entrance and lobby, as well as a state of the art Emergency Room, Radiology and Cardio-Pulmonary facilities that will be located on the first floor. There will be outpatient and inpatient surgery including new surgical suites and pathology on the second floor. Critical, progressive and intensive care units will be located on the third floor with 56 new private rooms located on floors four and five. When completed, Murray and Calloway County will have one of the finest state of the art medical facilities in Western Kentucky and should attract more of the best medical practitioners to the region.

### **Calloway County Health Center**

The Calloway County Health Center is the Calloway County unit of the Purchase Area Health Department. The center works in the areas of preservation of community health, disease prevention, health statistics, health education, and environmental protection. The Center's General Health Services include AIDS and other sexually transmitted infections, cardiovascular and diabetes services, PAP and mammography services, tuberculosis programs, and communicable diseases. Its Home Health Services include in-home care and home and community based waiver services, an alternative to nursing home placement for Medicaid eligible patients.

The Environmental Health program includes issuing permits and investigating complaints related to a variety of environmental health risks. Also included are the testing of private water supplies and the issuing of subsurface wastewater disposal permits. The program also responds to nuisance complaints regarding the control of rodents, mosquitoes, and birds. Periodic distribution of rodent bait and lead paint testing and follow-up are also part of this program. Other programs conducted by the Health Center include Health Education, Nutrition Education, Maternal and Child Health Services, Tobacco Prevention and Cessation, and Safe Communities.

The location of the Calloway County Health Center is shown on Map CF-7.

## **FUTURE COMMUNITY FACILITIES PRINCIPLES**

The planning principles related to Utilities and Other Community Facilities and resulting goals defined in this section are a restatement of the community facilities goals and objectives adopted by Murray for the Comprehensive Plan. Each principle is defined along with a related goal and strategies to achieve that goal. The strategies outline actions that can be taken to work toward the attaining of the goal. The full list of goals and objectives adopted by Murray for the Comprehensive Plan is contained in Appendix A.

All of the Community Facilities Principles discussed in this section are the same as the Land Use Principles except for "Preserve Strong Public Utilities". "Preserve Strong Public Utilities" could probably be a subset of the one Land Use Principle, "Preserve Compact Nature", not listed in this section. However, because of the importance of public utilities to the life, growth, and development of the community, it is listed and discussed here as a stand-alone Community Facilities Principle.

## **1. Preserve Strong Public Utilities**

The City of Murray is fortunate to own and operate water, wastewater, stormwater, electric, telecommunications, solid waste, and natural gas utilities. These utilities primarily serve within the Murray city limits, but service is provided outside the city limits where there is a demand and the service can feasibly be provided. Having strong public utilities allows Murray to plan and develop the utilities and related services in a manner to facilitate the growth of the city. Making sure these utilities remain strong is a priority with the City of Murray.

**Strong Utilities Goal:** Preserve strong public utilities by conducting timely planning that leads to strong systems that serve without interruption with rate structures that adequately support system expansion, operation, and maintenance.

### **Strategy 1: Maintain Up To Date Planning**

Planning is very important to maintaining a strong public utility. Although plans with 20 year horizons may be useful in developing system road maps for the future, they have proven not sufficient to meet the shorter time frames necessary for efficient operation of public utilities. While 10 year planning time frames may be appropriate for large capital expenditures, like treatment plants and major utility transmission improvements, 1 year and 5-year periods are the work horses of utility planning.

Murray will evaluate its public utility planning efforts and develop up to date master plans with 5 and 10 year planning horizons for the water, wastewater, stormwater, electric, solid waste, and natural gas systems. Once developed, they will be formally reviewed each year. The plans will be revised every five years.

### **Strategy 2: Provide Systems with Redundancy**

In the operation of public utilities there are strong systems and systems that just meet basic needs. Systems that just meet basic needs have service disruptions when system components fail. Strong systems have constructed facilities that provide backups to key components and continue to provide service even with failures of system components.

As part of each utility's master planning, system redundancy will be evaluated. Capital planning associated with the master plans will include the development of projects that provide the maintaining of high levels of service in time of system component failure.

### **Strategy 3: Maintain Sound Rate Structure**

The rate structure plays a key role in determining whether a public utility is a strong utility or one that just provides the minimum level of service. The rates for services should be set at levels to provide top quality operations and maintenance, system redundancy to maintain continuous operation, systems expansions, and a depreciation fund for the replacement of system components that have passed their useful life. Rates for the operation of a public utility should be set based on sound business principles and never on political considerations. Grants should not be used to fulfill the basic mission for providing utility service, but to shorten the time frame for system expansions.

Many times utility rates are adjusted at long time intervals that bear no correlation to the changing needs of the utility. Many public utilities find automatic adjustment of rates based on economic indicators to be very useful. Many utilities also find useful more frequent and smaller adjustments of rates based on business needs.

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As part of the master planning for its public utilities, Murray will review the rates of its public utilities and assess their ability to fund the components mentioned above for strong utilities. Murray will also consider integrating yearly rate adjustments into the rate ordinance based on utility needs or economic indicators. In addition, Murray will conduct comprehensive rate evaluations every five years as part of the utilities master planning.

## Strategy 4: Efficiently Manage the Assets

Murray's public utilities are valuable assets worth 10's of millions of dollars. Murray strives to manage these assets in a manner that allows them to increase their value to the community. Strong systems cannot be sustained if adequate operations and maintenance personnel are not employed to extend the life of the assets by keeping them in top operating order. Preventative maintenance programs and the stocking of, sometimes expensive, spare parts and components can be instrumental tools in managing the assets.

Murray will constantly monitor the programs in place for managing its public utility assets. New programs, including the integration of new software, will be developed when found necessary to properly manage these important assets.

## **2. Enhance Unique Small Town Community Character**

Murray is a unique town with a progressive regional university that has won numerous awards for its educational value. Murray has also been recognized as a top retirement destination. Murray is in the center of an agricultural area and has the small town feel generally associated with agriculture. This blend of economies supports services and activities not generally associated with similar sized towns in Kentucky. The blends of these different cultures and the life style they support give the residents of Murray a distinct pride in their community and its character. The character of Murray will be enhanced through the integration of improved planning, citizen participation, and the installation of community based technology to enhance the desired academic atmosphere.

**Community Character Goal:** Enhance Murray's unique community character by protecting and enhancing core neighborhoods, the downtown, and historic areas, while providing for the efficient flow of people and goods throughout.

## Strategy 1: Improve Community Development Coordination

There are several agencies that impact the planning and execution of community development in the Murray planning area. In addition to the City of Murray, these agencies represent Calloway County Government, State and Federal Government, the Purchase Area Development District, and Murray State University. When multiple agencies are involved, the speed at which a community development project progresses is generally a function of the amount of coordination that occurs.

Murray will develop steps to improve the character of the community through coordination with other governmental agencies to improve community development efforts. Tools to be considered for improved coordination include face to face meetings at a regularly scheduled frequency and regularly scheduled teleconferences.

## Strategy 2: Encourage Citizen Participation

The participation of the citizens is always important in developing and enhancing the community's character. Murray has lots of opportunities where citizens can be involved including service on boards and commissions, Fire and Police Academies, West Kentucky Night, Character Counts, Community of Promise, Leadership Murray, Leadership Tomorrow, Town and Gown, and Court Appointed Special Advocate. Another possible avenue for citizen involvement is through neighborhood associations.

Murray will continue to encourage and enlist citizen participation in the many activities that define the community's character. Murray will encourage the development of active neighborhood associations and assist the neighborhoods in their formation as part of the effort to encourage participation by its citizens.

## Strategy 3: Go "High Tech"

The sophisticated, academic image desired by Murray to define its community character can be facilitated through the integration of technology. Many cities have integrated into their operating strategies the expansion of electronic government services. The high availability of affordable broadband service in the Murray area facilitates the use of the internet to provide governmental services. Another use of technology that would be "over the top" in terms of enhancing the desired academic image would be establishing Murray as a "wireless city". In addition to benefitting local residents, access to wireless anywhere in the city would be a benefit to students when they visit off campus locations in Murray.

Murray will investigate the expansion of technology to enhance its image. Opportunities like enhanced electronic government services and the creation of "Wireless Murray" will be investigated.

## **3. Enhance, Preserve, and Protect the Environment**

Murray is a very environmentally aware community. The environmental programs at Murray State University and the ever increasing awareness of environmental impacts from human activity have fostered this environmental awareness. This principle recognizes the desire of the area's citizens that the development of land occur in an environmentally friendly manner and that the resulting developed land contain significant environmentally friendly green space. Streams, their associated floodplains, and forested areas are the most significant environmentally sensitive features in the Murray area. Environmentally friendly communities recognize that enhancement of the environment goes beyond land development activities to include other actions that impact the entire community. Several of these activities are discussed here.

**Environmental Goal:** Maintain a natural environment by protecting, preserving, and enhancing natural resources and promoting design, development and construction practices that create green space, neighborhood connectivity, and a visually pleasing environment.

## Strategy 1: Enhance Community Outreach

Events in the Murray area that reach the public and emphasize the protection of the environment include "Make a Difference Day" and "Adopt a Highway." Numerous additional opportunities for community environmental outreach exist, particularly in the public schools.

## COMPREHENSIVE PLAN

Murray will continue to promote existing community outreach activities. The addition of new events and new outreach audiences will be evaluated.

### Strategy 2: Increase Community Recycling

Murray's solid waste program currently conducts limited recycling. A recycling program is also conducted on campus by Murray State University. Environmentally friendly communities have strong recycling programs and Murray desires to increase its participation in recycling efforts.

Murray will seek ways to increase its participation in recycling programs. Murray will also evaluate the potential of increasing recycling by establishing a cooperative recycling program with Murray State University.

### Strategy 3: Improve Building Designs

Environmentally friendly communities strive to reduce their carbon foot print. One common way to accomplish this is to reduce the energy consumed by new buildings through the use of energy efficient designs. In addition, existing buildings can sometimes be retrofitted to reduce energy consumption. Another aspect of environmentally friendly buildings is the use of sustainable materials in their construction.

Murray will evaluate the use of environmentally friendly building design in all new city owned buildings and in existing city owned building retrofits. In addition, Murray will evaluate ways to encourage other public and private building owners to design, construct, and retrofit their buildings in an environmentally friendly manner. Options to be evaluated include the adoption of policies and ordinances, conducting of education to encourage voluntary programs, and voluntary programs with incentives.

### Strategy 4: Efficiently Integrate Cell Towers

Structures that support wireless services are a concern from an environmental and safety viewpoint. A progressive "high tech" environmentally friendly city generally embellishes the expansion of wireless services, but desires that the facilities supporting the services be constructed so as not to distract from the pleasing visual aspect desired for the community. In addition, safety concerns also dictate that the structures be located to minimize potential damage to residents and property in the event of failure during disasters.

Murray will work with public and private agencies in developing a plan for the location of facilities supporting wireless communications. The plan will seek to identify best locations for these facilities so they blend with the environment and be in safe locations. Murray will also seek ways to encourage the location of new wireless facilities on existing structures.

## **4. Develop and Enhance Quality of Life Measures**

Quality of life is a key component for Murray to keep its current residents, attract new retiring residents, or attract new commercial and industrial investment in the community. Murray currently has a high quality of life, but there are measures that can be taken to increase its attractiveness for future residents and related commercial and industrial investment. There are many things that contribute to a high quality of life and some of these measures have already been addressed in Principles 1-3. Additional measures are discussed in this section.

**Quality of Life Goal:** Develop new programs, events, and other quality of life measures while enhancing existing cultural and recreational opportunities and where possible integrate these quality of life measures into all aspects of life in Murray.

### Strategy 1: Maintain a Safe Environment

A safe community is a community where its citizens can move about freely without fear of being a victim of a crime. A safe community also is able to protect property from destruction by fire. In a safe community, citizens can visit government and other buildings without fear of safety and accessibility problems.

Murray will seek ways to continue to improve police and fire protection services to the community. The construction of the new Public Safety Center and the new fire station on Highway 641 North will be completed. Murray will also continue to seek ways to improve building safety and accessibility for its employees and the public.

### Strategy 2: Maintain a Caring Environment

Residents of communities with a high quality of life sense a feeling that the community and its leaders truly care about them and their needs. The caring of a community is expressed in the manner a community provides for its elderly, disabled, and youth. Murray strives to be a retirement destination. As an outgrowth of attracting retirees, the median age of Murray's population will continue to increase, necessitating the provision of more and better services for the elderly.

Murray will continue to seek ways to make the quality of life better for all its citizens, especially the youth, the elderly, and the disabled. Murray will evaluate the formation of an Advisory Group to seek ways to enhance services to these target groups.

### Strategy 3: Maintain a Healthy Environment

Murray has excellent health care facilities available for its citizens. The availability of good health care is an important measure of the quality of life, especially to an aging population. Health care has, to a large degree, become a technology driven enterprise. Funds must continually be sought to finance the technology improvement necessary to provide adequate health care.

Another aspect of a healthy environment is the availability of programs that educate citizens on things they can do to improve their health. Murray Calloway County Hospital and the Calloway County Health Center offer several excellent programs that serve this need, like nutrition and smoking cessation. An additional aspect of a healthy environment becoming more and more important to community citizens is the ability to visit public places without the exposure to second hand smoke from tobacco products. This could be an important element in the attraction of retirees to the Murray area. Several of the area's restaurants have voluntarily become "smoke free".

A third aspect of a healthy community is the opportunity to participate in recreational activities that contribute to a healthy life style. Access to sidewalks, parks and recreational trails create these healthy life style opportunities.

Murray will continue to seek ways to fund advances in health care and to expand the desired health care services and facility improvements. Murray will continue to encourage healthy life

style programs like nutrition and smoking cessation. Murray will encourage voluntary designation of additional “smoke free” places. In addition, Murray may assess the need for and desire of its citizens to establish a “smoke free” ordinance, as has been done by many cities and states.

### Strategy 4: Enhance and Expand the Park System

The access to public parks and recreational trails is an important measure of the community’s quality of life. It is also an important element in the attraction of the retired community to Murray. The Land Use Element of the Comprehensive Plan discusses way to enhance the park system through the land development process. Other means are available to assist with park expansion and include citizen philanthropy and income from leasing park facilities for a limited range of commercial services.

Murray will continue to seek ways to expand and enhance the public park system, including recreational trails. Murray will also continue to seek grants and citizen and business philanthropy to assist funding of the needed park system enhancement.

### Strategy 5: Improve the Public Library

In a community focused on maintaining an academic nature, the provision of library services is very important. These services are also important to the age group of the retirees Murray hopes to attract, as many of them are not yet fully a part of the digital media revolution. Murray has an excellent library and recognizes the need to expand library facilities and services to enhance their availability to the area’s citizens.

Murray will support the planned expansion of library facilities and services. Support may take the form of assistance with needed utilities, public services, and other means available to city government.

### Strategy 6: Increase Adult Education

Adult education is a community amenity that contributes to a high quality of life, especially for an aging population. Older citizens want to stay active and continue the learning process, which has been found to have health benefits.

Murray will continue to seek ways to maintain an active community adult education program. This will include seeking ways to cooperate with the public schools and Murray State University to leverage their resources for providing community based adult education.

## **5. Maintain Economic Opportunity**

Approximately 25 percent of the jobs and 30 percent of the income result from jobs in the public sector giving Murray a stable employment base. Approximately 13 percent of the jobs and 20 percent of the income come from manufacturing. Despite current challenges in the manufacturing sector due to the national downturn, future economic potential for the Murray area appears good. The nearing completion of the industrial park on Highway 641 North gives the area excellent future potential for attracting new industrial investment and the resulting jobs. The continued growth of the Murray Calloway County Hospital and the completion of the expansion there also bode well for the future of the Murray area. Agriculture will also continue to play an important role in Murray’s economic future.

## COMPREHENSIVE PLAN

The quality of life is high in Murray and actions taken as a result of this Comprehensive Plan should ultimately make it even better. The quality of life and proximity to Kentucky Lake and the Land Between the Lakes National Recreational Area should prove to be positive and important factors for the Murray area in recruiting new businesses, new retirees, and developing income from tourism.

The Land Use Element included several economic strategies related to land use. Additional strategies are included here.

### Strategy 1: Support and Enhance Economic Development

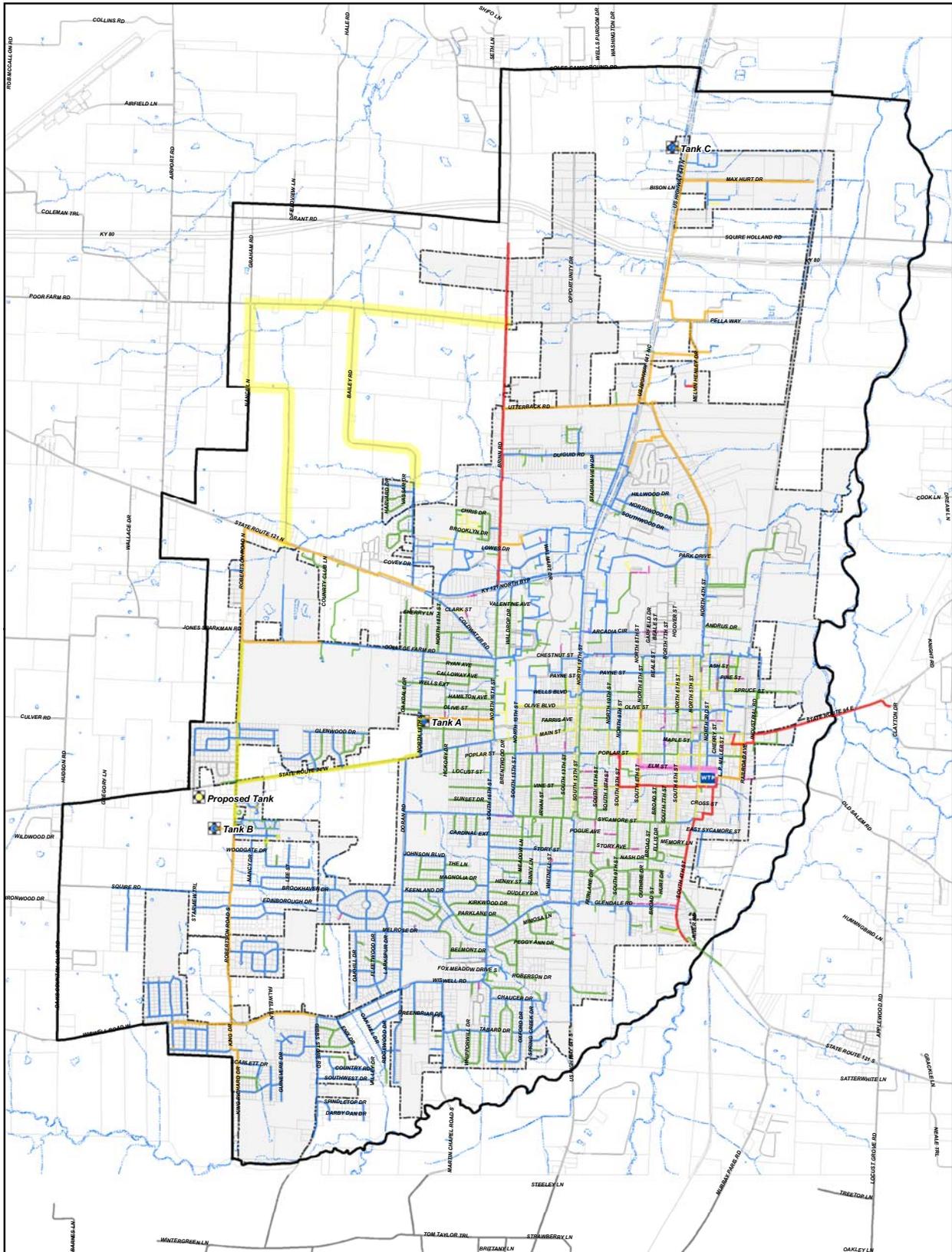
The economic development team in Murray supported by local government consists of the Economic Development Corporation, Chamber of Commerce, Convention and Visitors Bureau, and Murray Main Street. Another excellent economic development resource in the Murray area is the Regional Business and Innovation Center at Murray State University. These agencies support a range of economic development activities including encouraging downtown growth, developing industrial land, and recruiting new investment in industrial facilities. In addition to the local economic development activities, Murray benefits from regional economic development activities like the Purchase Area Regional Industrial Park in Graves County.

Murray will coordinate and continue to support the local economic development team. In addition, Murray will continue to support regional economic development initiatives.

### Strategy 2: Improve Educational Opportunities

A key element in attracting outside investment to create economic opportunity is the quality of the local work force. Maintaining a quality work force happens by design, not by chance. Murray State University, the public schools, and the Area Technology Center provide a strong nucleus of educational agencies to provide the kinds of training needed by the Murray area work force.

The Murray economic development team will coordinate activities between these educational institutions and assist them in structuring the correct educational programs for the Murray area.



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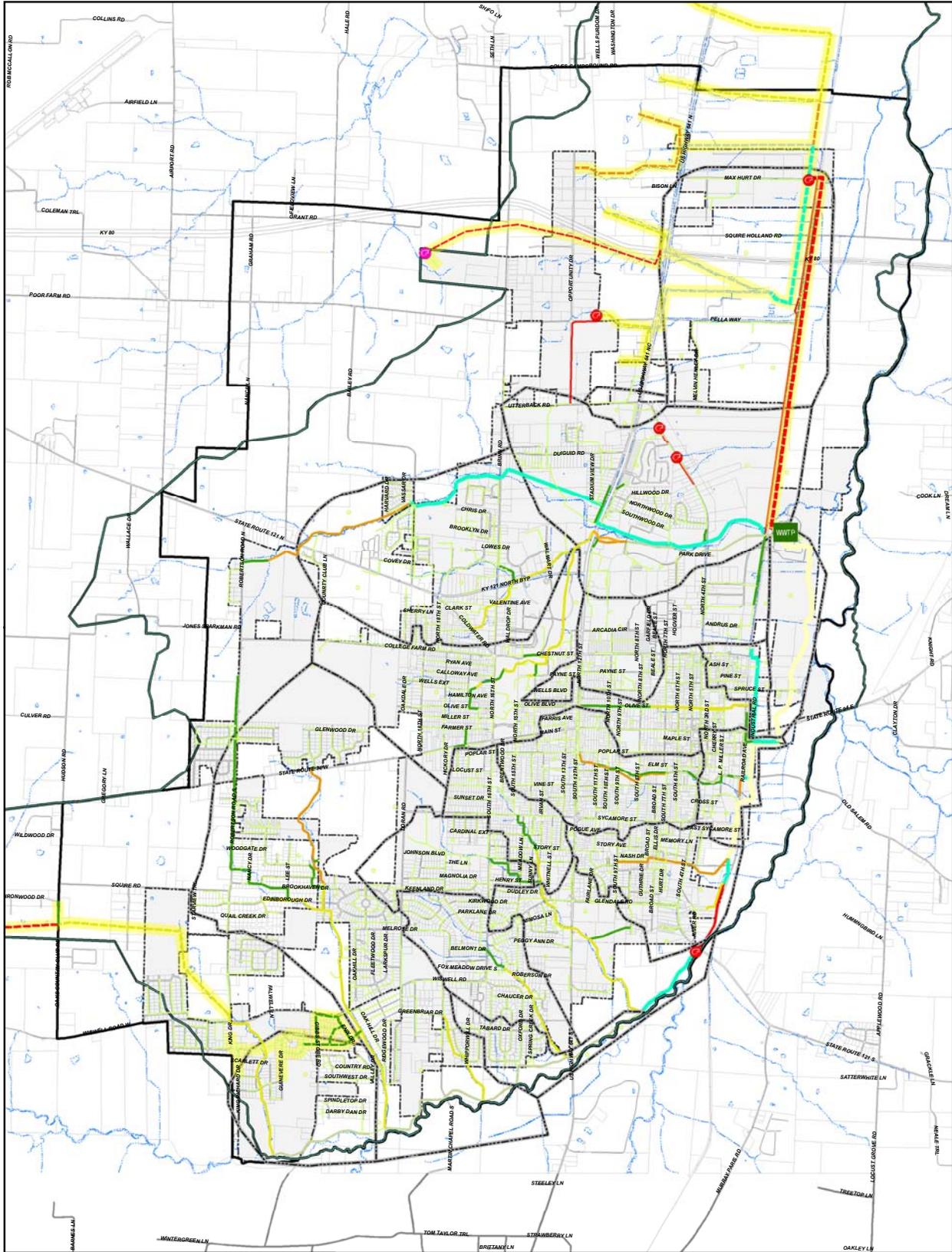


**CF-1: Murray Water System**

- 1" Water Main
- 2" Water Main
- 4" Water Main
- 6" Water Main
- 8" Water Main
- 10" Water Main
- 12" Water Main
- 16" Water Main
- 24" Water Main

- Existing Tank
- Proposed Tank
- Water Treatment Plant
- Proposed Water Mains
- Murray City Limits
- Urban Services Area

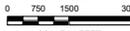


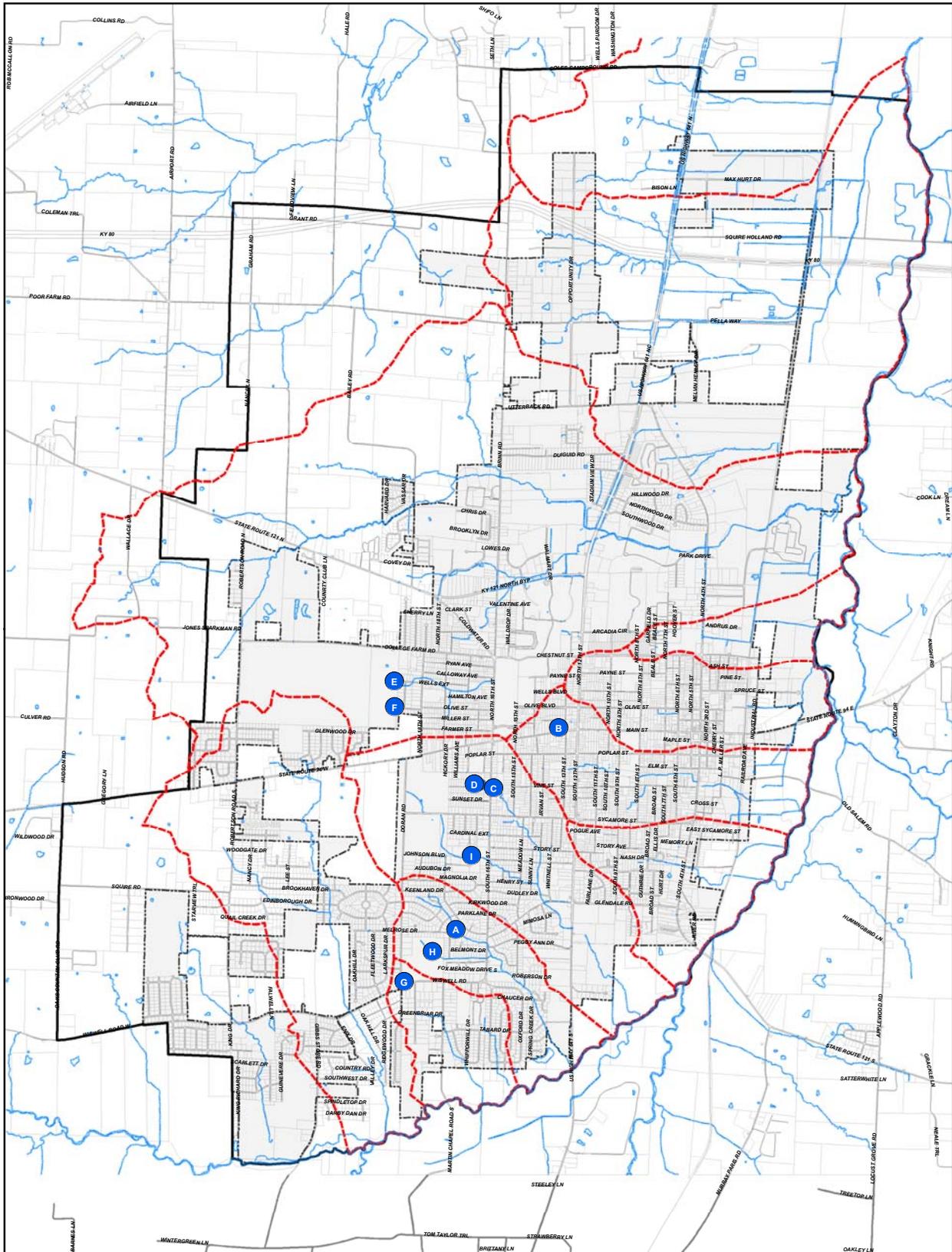



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**CF-2: Wastewater System**

<ul style="list-style-type: none"> <li> Wastewater Treatment Plant</li> <li> Existing Lift Station</li> <li> Proposed Lift Station</li> <li> Murray City Limits</li> <li> Urban Services Area</li> <li> Proposed</li> </ul>	<p><b>Proposed (B-down)</b></p> <ul style="list-style-type: none"> <li> 4, FM</li> <li> 8, FM</li> <li> 8, GR</li> <li> 10, GR</li> <li> 12, GR</li> <li> 15, GR</li> <li> 18, GR</li> <li> 24, GR</li> <li> 24, FM</li> </ul>	<p><b>Existing Sewers</b></p> <ul style="list-style-type: none"> <li> Small Diameter Sewers &lt;10"</li> <li> 36" Sewer</li> <li> 24" Sewer</li> <li> 18" Sewer</li> <li> 16" Sewer</li> <li> 15" Sewer</li> </ul>	<ul style="list-style-type: none"> <li> 12" Sewer</li> <li> 10" Sewer</li> <li> 12" Force Main</li> <li> 6" Force Main</li> <li> 4" Force Main</li> <li> Drainage Basin</li> <li> Planning Boundary</li> </ul>
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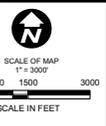


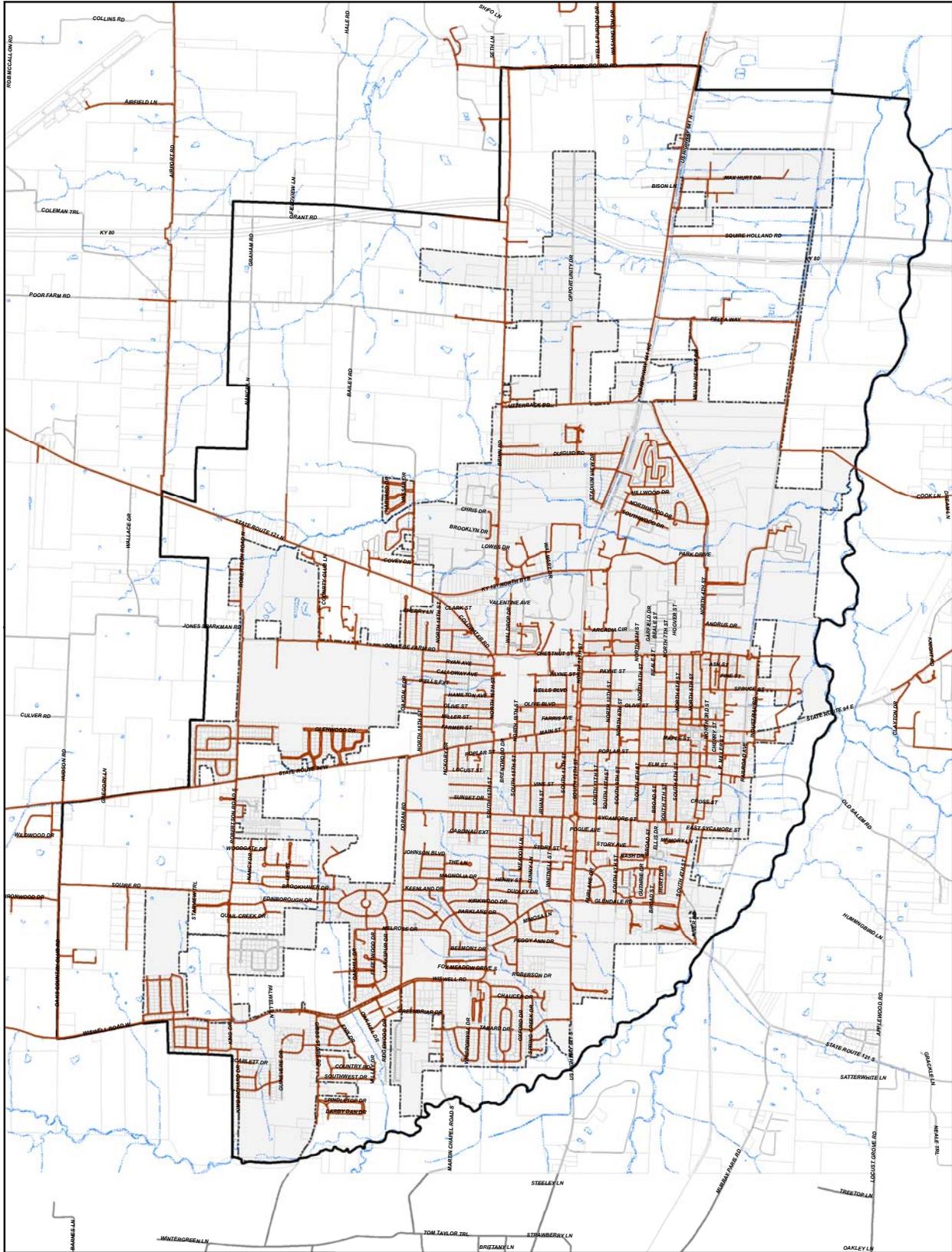
**CF-3: Stormwater Facilities**

**Potential Detention Ponds**

- A** Belmont Court Park
- B** 1300 block West Main
- C** 16th Street Fire Station
- D** Loch Lomond Drive
- E** Monroe Avenue
- F** Lincoln Avenue
- G** Doran Road @ Wisewell
- H** Fox Meadows
- I** The Lane

- Rivers and Streams
- Murray City Limits
- Urban Services Area

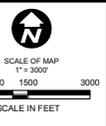


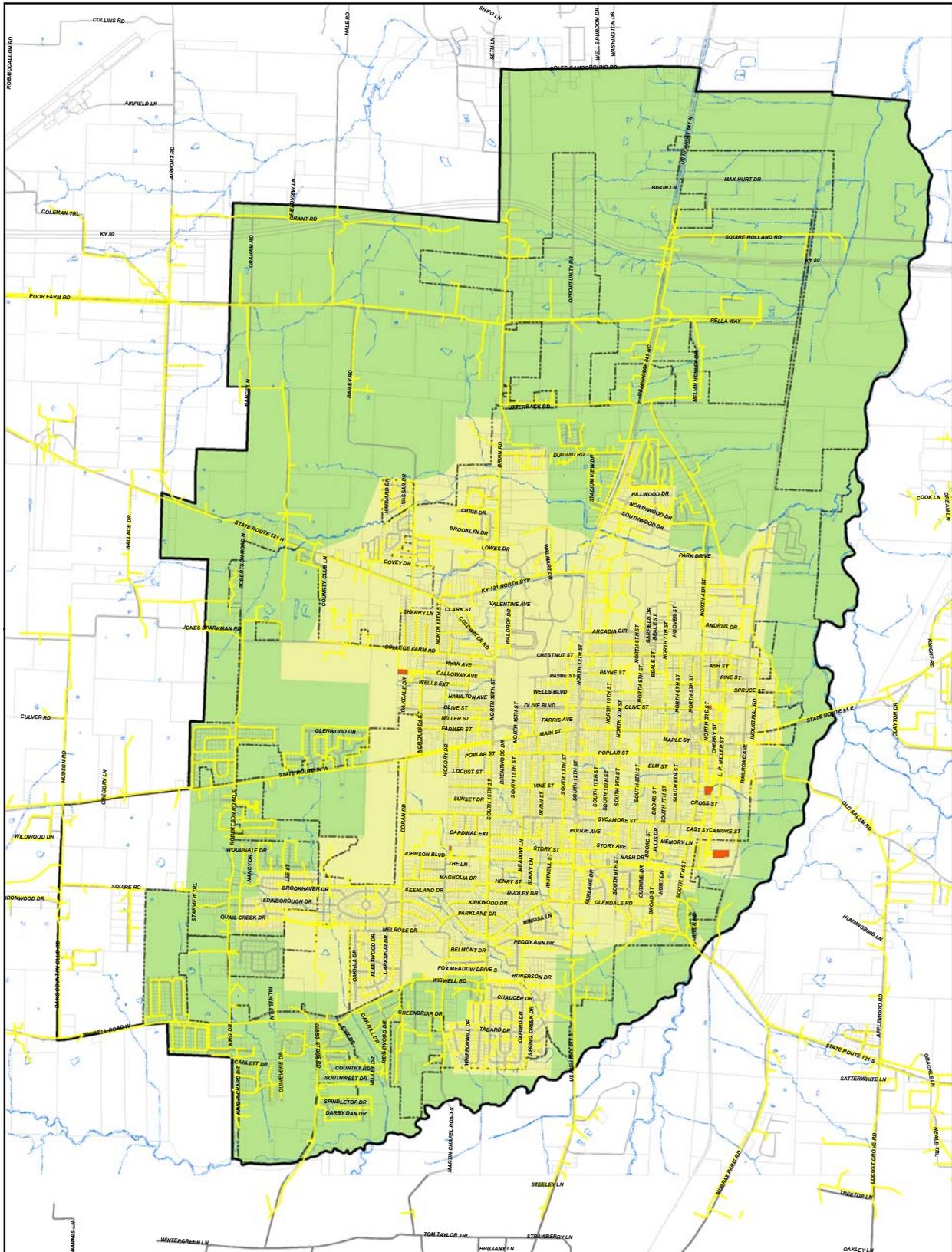


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**CF-4: Natural Gas System**

-  Natural Gas Pipeline
-  Murray City Limits
-  Urban Services Area





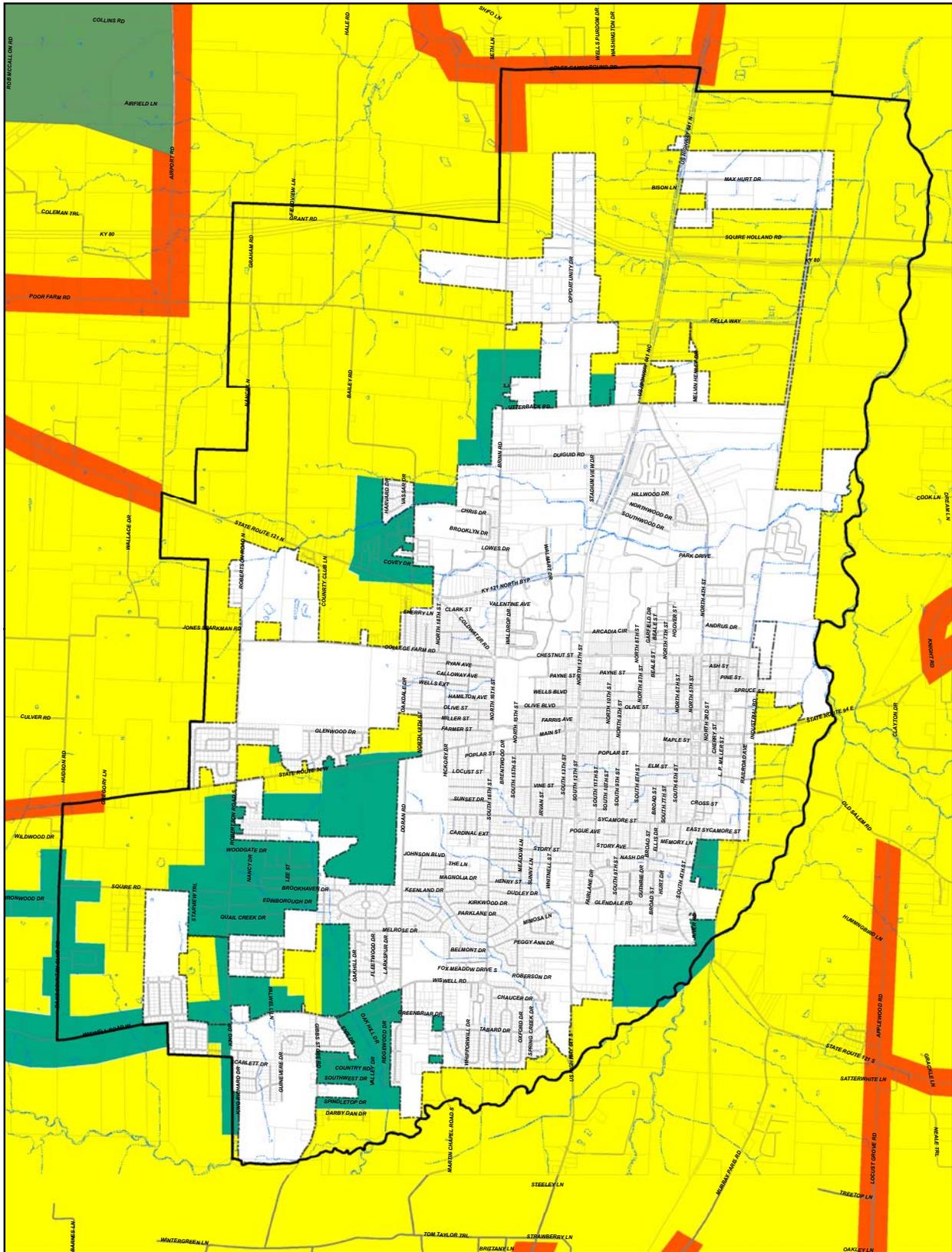
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**CF-5: Electric Systems**

- Murray Electric Substations
- Murray Electric Service Area
- West KY RECC Service Area
- Murray Electric Underground Primary Service Lines
- Murray Electric Overhead Primary Service Lines
- West KY RECC Service Lines
- Urban Services Area

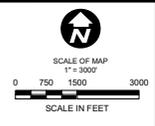


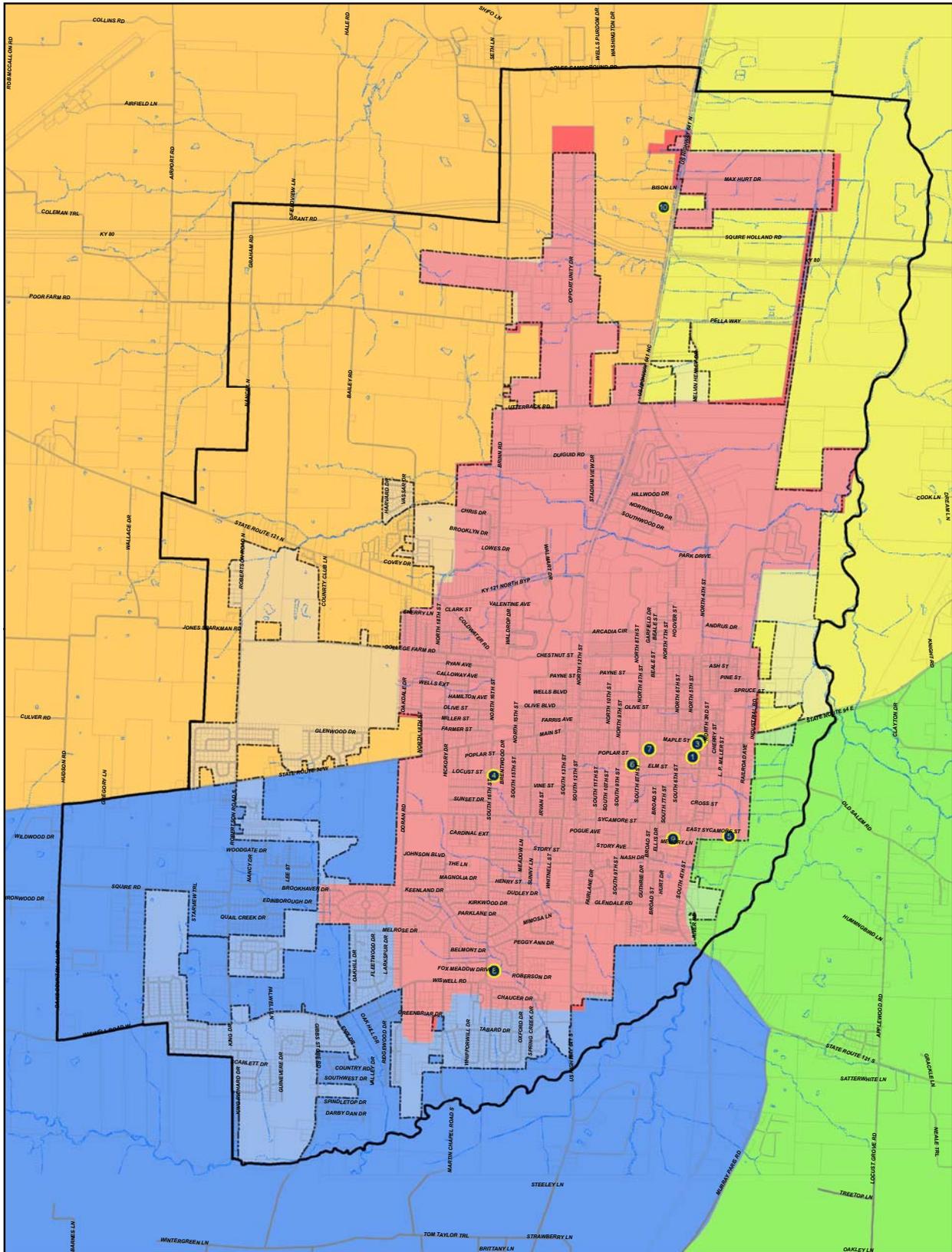
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- CF-6: Telecommunications**
- Murray Electric Systems (Encompassed in White)
  - West Kentucky Rural Telephone Cooperative
  - New Wave Communications
  - MediaCom
  - Urban Services Area





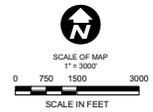
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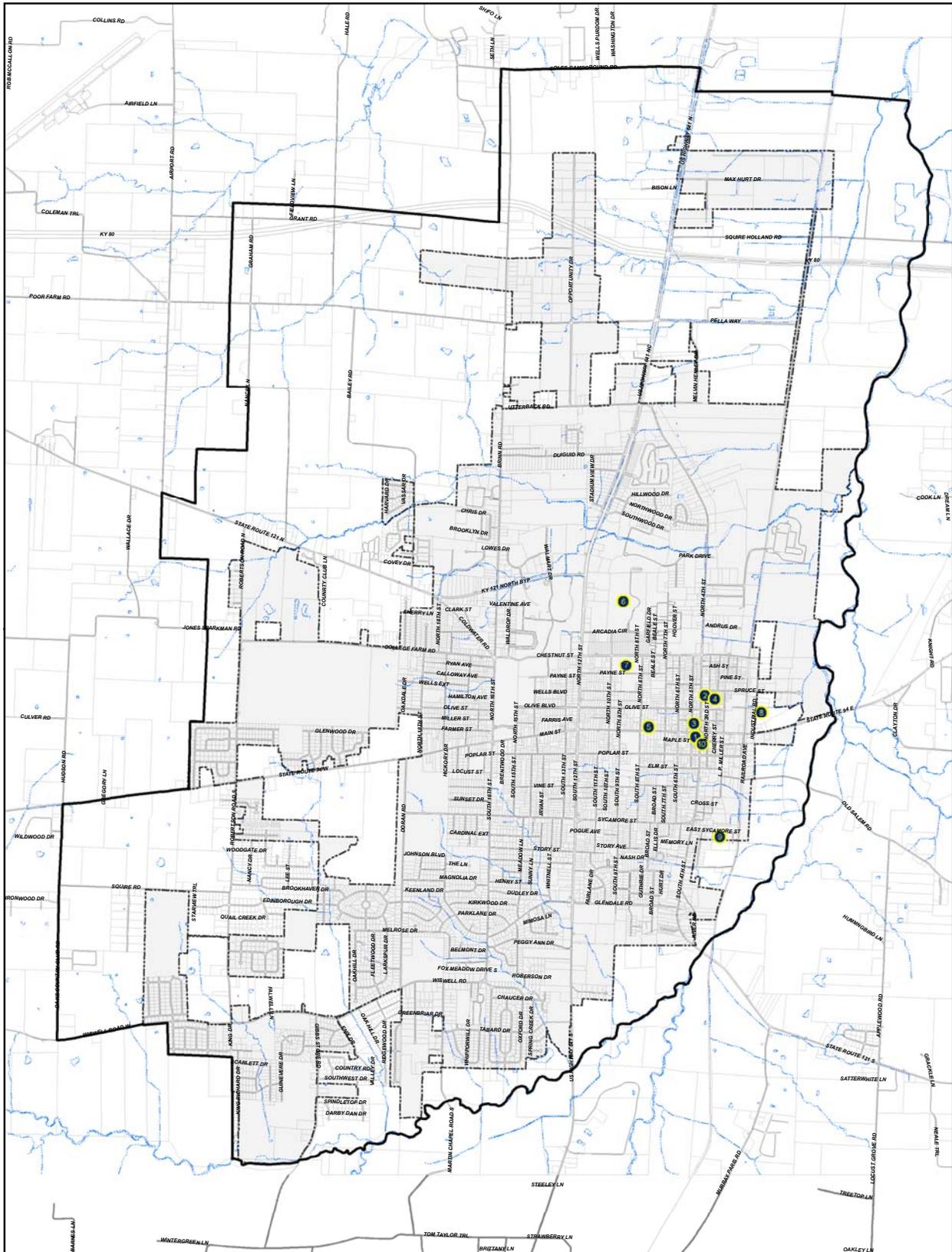


**CF-7: Law Enforcement, Fire, & Medical Facilities**

- 1 Murray Police Station
- 2 Calloway County Sheriff's Office
- 3 Murray Fire Station No.1
- 4 Murray Fire Station No.2
- 5 Calloway County Rescue Squad
- 6 Murray-Calloway County Hospital
- 7 Wellness Center
- 8 Spring Creek Health Care
- 9 Calloway County Health Center
- 10 Murray Memorial Gardens Cemetery

- City of Murray Fire District
- Almo-Dexter Fire District
- Kirksey Fire District
- Harris Grove Fire District
- New Concord Fire District
- Murray City Limits
- Urban Services Area





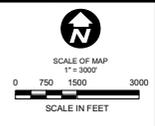
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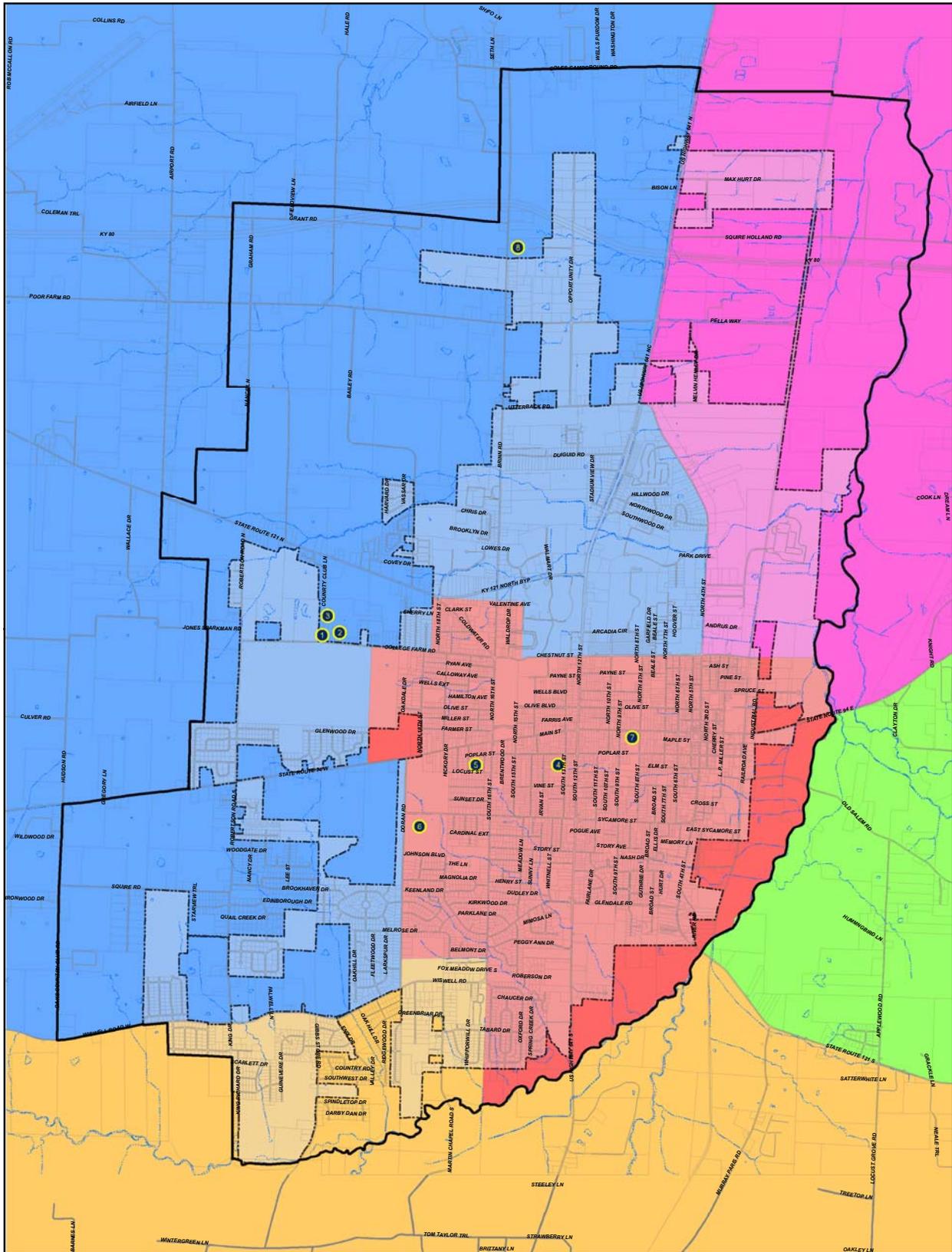


**CF-8: Courthouses, Judicial, City, Parks, & Library Facilities**

- 1 Calloway County Courthouse
- 2 Calloway County Judicial Center
- 3 City Hall
- 4 County Jail
- 5 Murray-Calloway County Library
- 6 Central Park
- 7 Chestnut Park
- 8 State Highway Department
- 9 Calloway County Road Department
- 10 Murray Convention & Visitor's Bureau

--- Murray City Limits  
— Urban Services Area





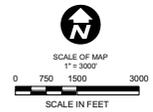
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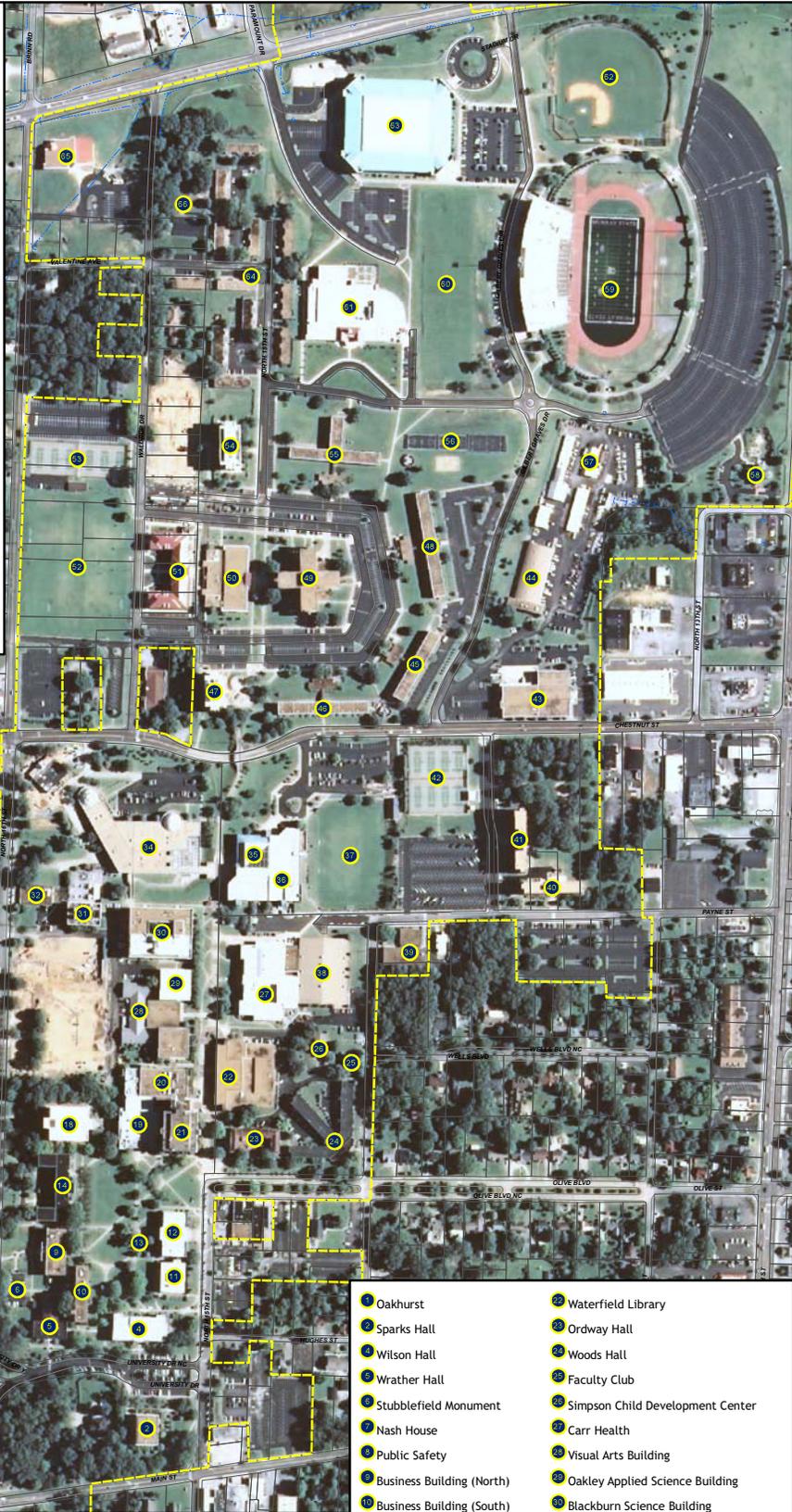
**CF-9: Schools & District Boundaries**

- 1 Calloway County Board of Education
- 2 Calloway County High School
- 3 Calloway County Middle School
- 4 Murray Board of Education
- 5 Murray Elementary School
- 6 Murray High School
- 7 Murray Middle School
- 8 North Calloway Elementary School

- Murray Independent
- Calloway District 1
- Calloway District 2
- Calloway District 3
- Calloway District 5
- Murray City Limits
- Urban Services Area



- 41 Regents College
- 42 Bennie Purcell Tennis Courts
- 43 General Services Building
- 44 Facilities Management
- 45 Richmond College
- 46 Clark College
- 47 Elizabeth College
- 48 Franklin College
- 49 Hart College
- 50 Winslow Dining Hall
- 51 Site of new Clark College
- 52 Intramural Sports Field
- 53 Outdoor Tennis Courts
- 54 Hester College
- 55 Springer College
- 56 North Basketball Courts
- 57 Transportation Services
- 58 Alumni Center
- 59 Roy Stewart Stadium
- 60 Football Practice Field
- 61 Susan E. Bauerfeind Student Recreation & Wellness Ctr.
- 62 Reagan Baseball Field
- 63 Regional Special Events Center
- 64 College Courts
- 65 Regional Business and Innovation Center
- 66 Murray-Calloway County Economic Development Center



- 1 Oakhurst
- 2 Sparks Hall
- 3 Wilson Hall
- 4 Wrather Hall
- 5 Stubblefield Monument
- 6 Nash House
- 7 Public Safety
- 8 Business Building (North)
- 9 Business Building (South)
- 10 Lowry Center
- 11 Pogge Library
- 12 Wells Monument
- 13 Wells Hall
- 14 Science Complex
- 15 Alexander Hall
- 16 Faculty Hall
- 17 Lovett Auditorium
- 18 Doyle Fine Arts Center (North)
- 19 Doyle Fine Arts Center (South)
- 20 Waterfield Library
- 21 Ordway Hall
- 22 Woods Hall
- 23 Faculty Club
- 24 Simpson Child Development Center
- 25 Carr Health
- 26 Visual Arts Building
- 27 Oakley Applied Science Building
- 28 Blackburn Science Building
- 29 Central Heating & Cooling Plant
- 30 Howton Agricultural Engineering Building
- 31 Public Advocacy
- 32 Collins Industry and Technology Center
- 33 Curris Center
- 34 University Store
- 35 Cutchin Recreational Complex
- 36 Cutchin Fieldhouse
- 37 Mason Hall
- 38 White College

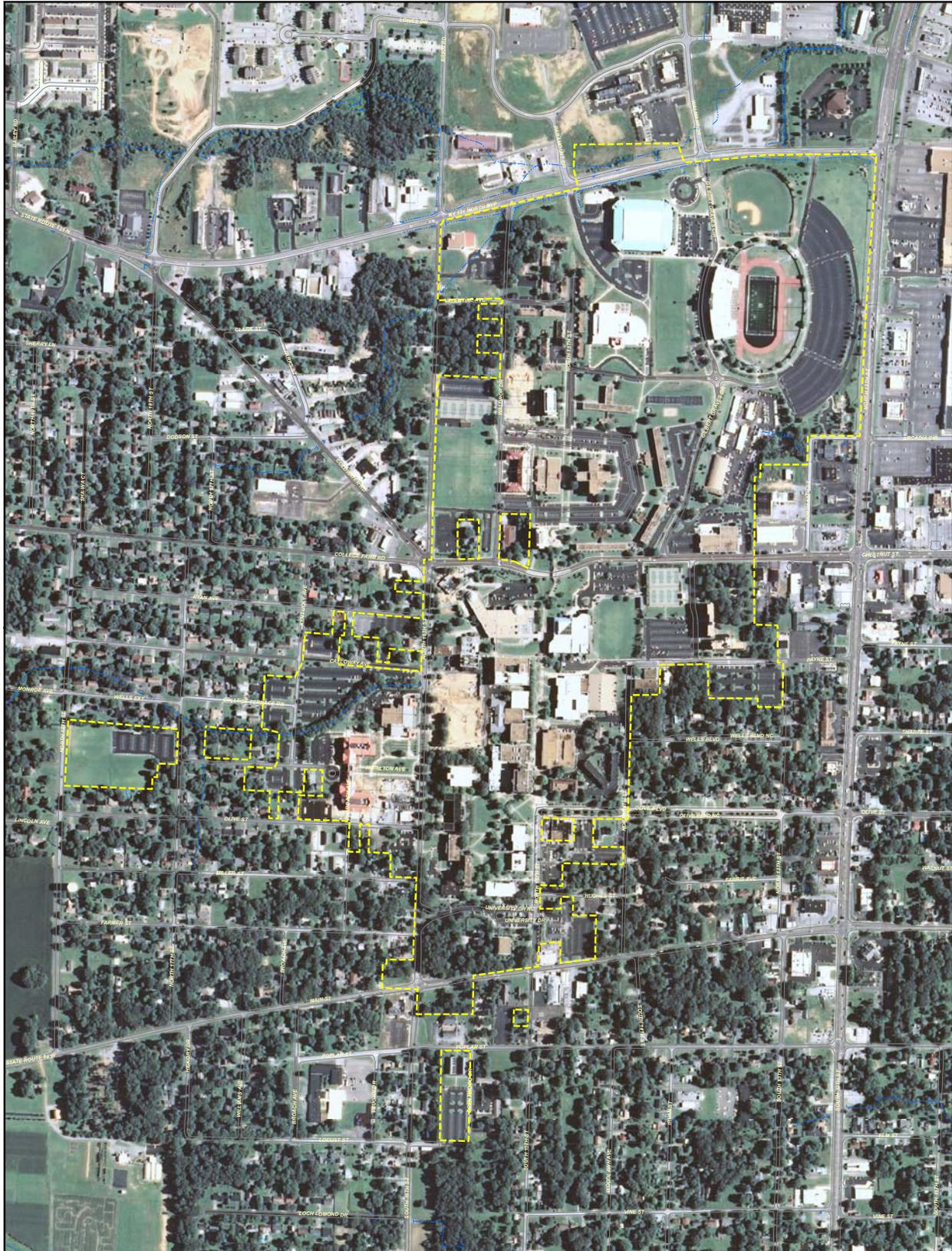


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**CF-10: Murray State University Campus**  
 - Murray State University Boundary



**Florence & Hutcheson, Inc.**  
 CONSULTING ENGINEERS



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**CF-11: Murray State University**

— Murray State University Property



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## IMPLEMENTATION

This implementation section of the Murray Comprehensive Plan is a summary of the future land use, transportation, and community facilities principles, goals, and strategies. It is presented so the user of the plan can view a composite and total picture of the implementation strategies for all the plan elements. The detail related to the principles and strategies is found in each of the plan elements.

### **Principle 1. Preserve Compact Nature**

**Compact Nature Goal:** Create a land use development pattern that efficiently provides delivery of governmental, commercial and professional services; utilizes existing infrastructure resources; and maximizes return on infrastructure expenditures while maintaining the small town nature of Murray.

**Strategy 1:** Limit Expansions of the Urban Services Area

**Strategy 2:** Keep New Residential Development in the Urban Services Area

**Strategy 3:** Encourage Neighborhood Commercial Activity

### **Principle 2. Enhance Unique Small Town Community Character**

**Community Character Goal:** Enhance Murray's unique community character by protecting and enhancing core neighborhoods, the downtown, and historic areas, while providing for the efficient flow of people and goods throughout.

**Strategy 1:** Protect and Enhance Core Neighborhoods

**Strategy 2:** Protect and Enhance Downtown Gateways

**Strategy 3:** Expand Downtown and Improve Downtown Vitality

**Strategy 4:** Encourage Neighborhood Renovation and Revitalization

**Strategy 5:** Maintain Murray's Historic Character

**Strategy 6:** Strengthen Murray State University-City Planning Interaction

**Strategy 7:** Develop Progressive Zoning Ordinance and Land Development Standards

**Strategy 8:** Improve Community Development Coordination

**Strategy 9:** Encourage Citizen Participation

**Strategy 10:** Go "High Tech"

# COMPREHENSIVE PLAN

## **Principle 3. Enhance, Preserve and Protect The Environment**

**Environmental Goal:** Maintain a natural environment by protecting, preserving, and enhancing natural resources and promoting design, development and construction practices that create green space, neighborhood connectivity, and a visually pleasing environment.

**Strategy 1:** Protect Trees and Create Green Space during Development

**Strategy 2:** Protect Floodplains and Water Quality

**Strategy 3:** Promote Environmentally Sensitive Development

**Strategy 4:** Include Beautification in New Roadway Projects

**Strategy 5:** Promote Environmentally Sensitive Transportation Facility Development

**Strategy 6:** Enhance Community Outreach

**Strategy 7:** Increase Community Recycling

**Strategy 8:** Improve Building Designs

**Strategy 9:** Efficiently Integrate Cell Towers

## **Principle 4. Develop and Enhance Quality of Life Measures**

**Quality of Life Goal:** Develop new programs, events, and other quality of life measures while enhancing existing cultural and recreational opportunities and where possible integrate these quality of life measures into all aspects of life in Murray.

**Strategy 1:** Enhance and Expand the Park System

**Strategy 2:** Develop System of Recreational Walking and Bicycle Trails

**Strategy 3:** Enhance the Use of Sidewalks

**Strategy 4:** Maintain a Safe Environment

**Strategy 5:** Maintain a Caring Environment

**Strategy 6:** Maintain a Healthy Environment

**Strategy 7:** Improve the Public Library

**Strategy 8:** Increase Adult Education

# COMPREHENSIVE PLAN

## **Principle 5. Maintain Economic Opportunity**

**Economic Goal:** Build upon Murray's quality of life assets and location to encourage new capital investment and the creation of quality jobs to enhance Murray's strong economic base.

**Strategy 1:** Designate Lands for Quality Employment Opportunities

**Strategy 2:** Redevelop Appropriate Sites

**Strategy 3:** Develop New Opportunities

**Strategy 4:** Use Public Capital to Foster Private Investment

**Strategy 5:** Enhance and Expand the Airport

**Strategy 6:** Enhance and Expand Rail Service

**Strategy 7:** Support Regional Transportation Development Efforts

**Strategy 8:** Support and Enhance Economic Development

**Strategy 9:** Improve Educational Opportunities

## **Principle 6. Move People and Goods Efficiently**

**Move People and Goods Efficiently Goal:** Expand and enhance the transportation system to improve the flow of traffic and reduce automobile dependency by increasing access to other less congestive transportation modes like public transportation.

**Strategy 1:** Enhance and Expand Public Transportation

**Strategy 2:** Enhance Traffic Movement for Community Events

**Strategy 3:** Enhance Traffic Management Measures

**Strategy 4:** Enhance and Expand the Roadway System

**Strategy 5:** Continue to Support Funding of Local Transportation Projects

# COMPREHENSIVE PLAN

## **Principle 7. Preserve Strong Public Utilities**

**Strong Utilities Goal:** Preserve strong public utilities by conducting timely planning that leads to strong systems that serve without interruption with rate structures that adequately support system expansion, operation, and maintenance.

**Strategy 1:** Maintain Up To Date Planning

**Strategy 2:** Provide Systems with Redundancy

**Strategy 3:** Maintain Sound Rate Structure

**Strategy 4:** Efficiently Manage the Assets

## Appendix A

### Goals and Objectives Statement Adopted for the Comprehensive Plan

#### GOALS AND OBJECTIVES

The Kentucky Planning and Zoning Legislation, contained in Chapter 100.187 of the *Kentucky Revised Statutes*, include a requirement that the Planning Commission and City Council shall adopt statements of goals and objectives. The statements shall serve as a guide for the physical development as well as the economic and social well being of the city.

#### FRAMEWORK

The establishment of community goals and objectives is an essential step in the comprehensive planning process for Murray and will provide the legal framework and documentation for supporting planning and development decisions by the Murray Planning Commission. The goals and objectives should address the major issues and concerns that are and will be affecting the City of Murray now and in the future.

**Goal** – A goal is defined as a general statement of a desired result. Goals establish the long-term end toward which land use programs and activities are directed.

**Objective** – An objective is a statement of a specific, measurable, intermediate end that is achievable and marks progress toward a goal. Statements on community objectives provide the official governmental guidance for achieving goals.

#### FUTURE LAND USE GOAL

To achieve a balanced pattern of land use that meets the needs of the population, stimulates physical, social and economic development, and protects the environmental well being of the community.

The City of Murray is seen as a place where people can:

- Provide shelter and meet the basic needs for themselves and their families.
- Provide equal opportunity to all people.
- Enjoy the beauty, safety, and security of our community.
- Become responsible citizens.
- Promote a community which is aesthetically attractive for residents, visitors, and potential investors.
- Create happier, healthier, and smarter children by promoting community wide efforts that improve the well being of our youth.

# COMPREHENSIVE PLAN

**Goal – Community Relations:** *To improve, both locally and regionally, the interrelationships among citizens, government, community, education, and business.*

## Objectives

- Encourage participation to enhance the community through citizen support, neighborhood groups, service by citizens on Boards and Commissions, government outreach programs including Fire and Police Academies, West Kentucky Night, and other civic organizations such as Character Counts, Community of Promise, Leadership Murray, Leadership Tomorrow, Town & Gown, and CASA.
- Work toward better coordination of community development activities with County officials and representatives.
- Improve intergovernmental relations with county, state, and federal governments, the university, the Purchase Area Development District, and other agencies that promote Murray.
- Continue assisting Murray and Calloway County's elderly and people with disabilities to be more independent and to live a fuller life.
- Establish a monitoring system for the comprehensive plan to ensure that the goals and objectives are being pursued.

**Goal - Economy:** *To improve the local economy through a planning process that stresses retention, expansion, attraction, local initiatives, diversification, and quality of businesses and manufacturers.*

## Objectives

- Support economic growth sponsoring entities such as the Economic Development Corporation, Chamber of Commerce, Murray Convention and Visitor's Bureau, Murray Main Street, and MSU Regional Business and Innovation Center that would:
  - a. Encourage growth in the downtown business sector.
  - b. Utilize land for industrial development and continue recruiting new manufacturers.
  - c. Promote the use of the new Murray EDC Industrial Park on 641 North.
- Work with the educational systems in their effort to provide an educated, skilled work force.
- Prepare for the economic impact of HWY 80 and the widening of HWY 121 Bypass North by addressing annexation policies and zoning regulations.

# COMPREHENSIVE PLAN

- In accordance with our zoning ordinance and boundaries, establish more neighborhood businesses along the periphery of residential zoning districts (within buffer zones) that are of lower impact and limited to neighborhood residential convenience needs such as groceries, pharmacies, barber and beauty shops, and similar uses that contribute limited traffic into the area, while minimizing resident trips out of the neighborhood for purchases.
- Continue investigating sources of revenue that will provide for growing service demands, finance capital improvements, and close the gap of unfunded mandates.
- Support regional economic planning efforts; in particular the Regional Industrial Park to be located in Graves County.
- Consider incentives and other programs that would promote infill, redevelopment and community improvement.

**Goal -Transportation:** *Plan for the development and management of a transportation system that accommodates the various means of moving people and goods from place to place in a safe and efficient manner.*

## Objectives

- Identify potential problem areas such as HWY 80 along 641 North and Brinn Road, N. 16<sup>th</sup> Street from Main Street to HWY 80, and the Five Points Intersection.
- Support efforts which encourage the construction of the HWY 68/80 bridges across Kentucky Lake and Barkley Lake.
- Coordinate efforts with state and local officials to work toward completion of projects identified in the Kentucky Transportation Cabinet Six Year Highway Plan.
- Identify intersections that need to be realigned.
- Continue to seek funding for state priority projects such as the Murray Business Loop, HWY 121 Bypass North improvement project, and the HWY 641 South widening and improvement project.
- Establish a Strategic Traffic Management Plan that would expand cooperative efforts with KYTC regarding the 2008 Small Urban Area Traffic Study:
  - a. Maximize connectivity between existing and proposed developments so as to facilitate traffic flow throughout the city.
  - b. Continue a sidewalk maintenance program and expand our current sidewalk system in accordance with the Five-Year sidewalk improvement plan.
  - c. Establish suitable bikeways that ensure safety and promote bicycle travel through a bikeway improvement plan.

## COMPREHENSIVE PLAN

- d. Re-inventory or reclassify streets as necessary.
- Update subdivision regulations to ensure that residential developments are constructed with sidewalks.
- Support government efforts to improve upon the facilities at the Kyle-Oakley airport.
- Recognize the need for private railroad companies that will provide goods-movement services in areas where noise, pollution, accident and conflict potential with vehicular street traffic will be kept to a minimum while meeting required federal and state standards.
- Encourage the use of public transportation and provide fixed routes through the Murray Calloway County Transit Authority.
- Coordinate efforts with local authorities to avoid traffic delays and hazards at community events.
- Increase public awareness programs and support government sponsored initiatives that encourage alternative sources of fuel (or alternative forms of energy) for transportation.

**Goal – Public Facilities and Services:** *To improve the quality of life for all citizens by providing a wide range of services and facilities to include education, recreation, health/social, protective (fire, police, and emergency), infrastructure (water, sewer, streets, drainage), waste disposal, planning/code enforcement, and administration.*

### Objectives

- Investigate expanding E-Government services and utilize internet capabilities that quickly process and deliver information. Consider the possibility of making Murray a “wireless city.”
- Enhance commercial and residential public safety services by:
  - a. Expand the S. 16<sup>th</sup> Street fire station to a centralized public safety facility (police, fire, and 911 dispatch) to better serve the southwest annexation area, Murray State University, and the downtown area.
  - b. Construct a new fire station on HWY 641 North that will provide adequate coverage for residential, commercial, and industrial development.
  - c. Promote the safety of the community and a feeling of security among the residents as well as encourage citizen participation through programs such as the Citizen and Youth Police Academies.
  - d. Continue to update fire and police equipment by seeking state and federal funding through grants.

## COMPREHENSIVE PLAN

- Maintain government facilities so that they promote accessibility, efficiency, and safety for citizens and government employees.
- Secure library facilities and services that satisfy resident needs, including timely, helpful, and readily available services that are attractive, accessible, convenient, and provide continuing education to all.
- Enhance the City of Murray Park System by:
  - a. Continuing to seek funding for maintaining existing neighborhood parks and encouraging developers to dedicate land for the purpose of adding additional neighborhood parks in newly developed areas.
  - b. Search for private land opportunities to expand the City Park System by citizens and private enterprise dedicating land, gifts, and through philanthropy.
  - c. Continuing to look for alternative sources of revenue such as the leasing of government property for a narrow and limited range of commercial uses.
  - d. Identify land in the Future Land Use Element of the Comprehensive Plan for expansion of the City Park System and designate land as either public or semi-public.
  - e. Investigate the possibility of creating a Regional Park that will attract recreational leagues to participate in sporting activities.
- Continuously review and monitor city infrastructure services and practices (water, electricity, sewer, natural gas, telecommunications, sanitation, stormwater) to identify new ways to deliver these services in an efficient, cost effective manner while taking into consideration the impact of any new infrastructure.
- Provide for the safest and most efficient integration of cellular antenna towers for cellular or personal communications services within the community, primarily through private enterprise, but in cooperation with government.
- Provide adequate health care services and facilities to accommodate all citizen needs and continue to seek funding for health care expansion and facility improvement.

**Goal – Housing:** *To support a diversity of housing opportunities that provide adequate, safe, and affordable housing units for the citizens of Murray; and, to upgrade the quality and character of residential areas.*

### Objectives

- Protect natural resources that enhance the quality and character of development.
- Upgrade the city's landscaping requirements for buffer areas between residential and commercial uses.

# COMPREHENSIVE PLAN

- Inventory older homes and neighborhoods that need revitalization. Seek TIF funds, CDBG grants, or other funding mechanisms for neighborhood revitalization.
- Encourage renovation of older neighborhoods.
- Establish a historical district that encourages mixed uses with renovated buildings that will accommodate suitable living space.
- Support stricter enforcement of the Property Maintenance Code to help preserve neighborhood aesthetics.
- Update the City of Murray's subdivision regulations and zoning ordinance.
- Encourage a greater sense of community within the city's residential neighborhoods through the organization of neighborhood associations or similar groups, with emphasis on safety, beauty, and overall pride.
- Allow for a wide range of residential types and densities throughout the city while continuing to support programs that provide more affordable housing opportunities for single and multi-family homes.

**Goal –Commercial, Industrial, and Agricultural Areas:** *To recognize the need for a variety of commercial, industrial, and agricultural areas in our community that will provide the necessary goods and services while minimizing adverse effects on all other nearby uses.*

## Objectives

- Improve the landscaping standards for site development.
- Adopt minimum standards for building design that will sustain and enhance community character.
- In accordance with our zoning ordinance and boundaries, establish more neighborhood businesses along the periphery of residential zoning districts (i.e. within buffer zones) that are of lower impact and limited to neighborhood residential convenience needs such as groceries, pharmacies, barber and beauty shops, and similar uses that do not attract much traffic into the area, but will minimize resident trips out of the neighborhood for their most frequent purchases.
- Avoid conditions and patterns that would create hazards in vehicular circulation.
- As urban expansion continues, secure additional agricultural lands and increase production accordingly, to offset the growing demands of food, raw materials, and other necessities of life.

# COMPREHENSIVE PLAN

**Goal – Historic Preservation:** *To protect and preserve Murray’s historic sites and structures while promoting a better understanding of the significance of the city’s historic places, people, and events.*

## Objectives

- Update the current Architectural Review Board ordinance by establishing an overlay district in the zoning ordinance.
- Sites and structures shall adhere to Historic Preservation Design Guidelines as administered by the Architectural Review Board.
- Support the Murray Main Street Master Plan by encouraging revitalization through rehabilitation of substandard buildings, removal of unattractive poles, wires, and signs that will make buildings, sidewalks, and other facilities in the downtown area more attractive, efficient, and convenient.
- Continue to seek state and federal funding for historical preservation.

**Goal – Environment:** *To protect the natural environment from further deterioration and to improve existing environmental quality.*

## Objectives

- Continue to promote community outreach programs such as Make a Difference Day and Adopt-A-Highway that stress environmental protection.
- Encourage the use of green space for both residential and non-residential developments.
- Reduce forms of pollution and continue researching (and implementing) alternative sources of energy that decrease pollution.
- Review the need for adopting a policy to encourage the construction of public and commercial buildings according to “Green-Building” standards.
- Continuously review stormwater management practices so that site developments are designed to minimize the volume of stormwater runoff by requiring the use of porous pavement, detention facilities, or other dissipating mechanisms.
- Establish a cooperative recycling plan in conjunction with Murray State University’s Community Recycling Center.