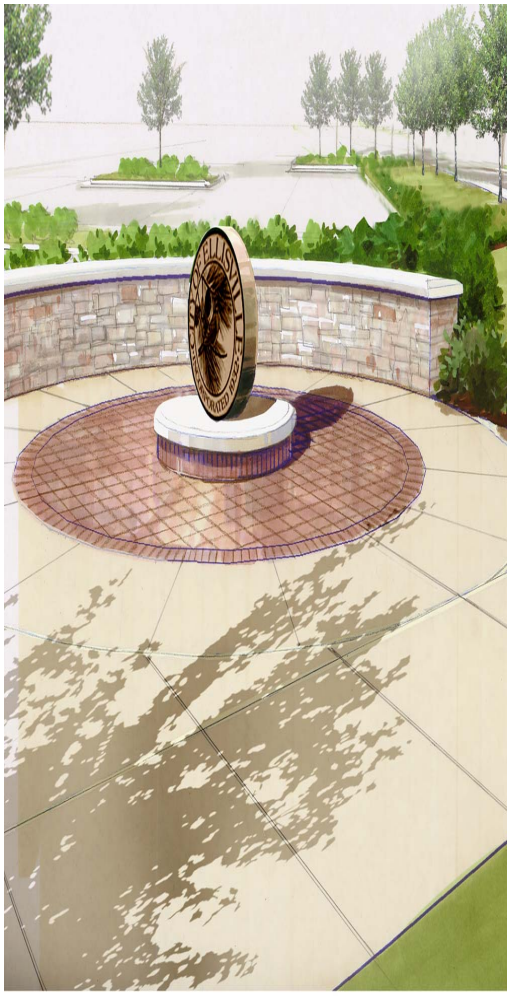

City of Ellisville Comprehensive Plan

Adopted June 8, 2011

City of Ellisville
Bikeable Walkable
Community Plan

Adopted May 11, 2011

MANCHESTER ROAD

GREAT STREETS MASTER PLAN

Adopted April 13, 2011

City of Ellisville

Mayor

Matt Pirrello

City Council Members

Clark Compton, Council Member District I
Dawn Anglin, Council Member District I
Troy Pieper, Council Member District II
Linda Reel, Council Member District II
Michelle Murray, Council Member District III
Roze Acup, Council Member-Elect District III

Planning and Zoning Commission

Carl Hoffman, Chairman
Chris Turner, Secretary
Mike Feulner
Skip Adams
James Poisso III
Nanci Sticksel
Charles Pavlack
Rich Lacaille
Greg Sanborn

City Administration

Kevin Bookout, City Manager
Catherine M. Demeter, City Clerk
Paul Martin, City Attorney
Ada Hood, Planning & Community Development Director
Tom Felgate, Police Chief
Bill Schwer, Public Works Director
Don Cary, Finance Director
Lisa Blumer, Parks & Recreation Director

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Introduction

Purpose of the Plan

This Comprehensive Plan Update has been prepared to review and amend specific content and land use recommendations presented by the 2002 City of Ellisville Comprehensive Plan. The update is not intended to replace the City's existing comprehensive plan, but rather to offer new land use and development recommendations for certain neighborhood areas within Ellisville. These areas were designated by City Staff as ones where conditions influencing land use and development may have changed since 2002, as well as areas where a stronger need for preservation of existing development has been recognized.

The City's Comprehensive Plan is primarily utilized by Staff and the Planning and Zoning Commission through the review and decision making process for land development applications. In many cases, the Planning And Zoning Commission's recommendations are forwarded to the City Council for action. The Comprehensive Plan is designed as a general plan guiding such decisions on development and redevelopment in Ellisville. The Plan's utilization results in the formation of policy and precedents regarding land use in the City.

The Land Use Element of the Comprehensive Plan establishes the general policies for the various land uses found throughout the City. The Zoning Ordinance implements these policies by establishing the legal parameters for the development of a parcel of land. While the Comprehensive Plan and its amendments are approved by the Planning Commission, the Zoning Ordinance and its revisions are acted upon by the City Council – typically following a recommendation by the Planning Commission. It is important to note that the Land Use Map offers a general development guide for Ellisville and does not represent specific project details or development proposals. The land use policies offer recommendations as to appropriate types of uses and the intensity or density of development on properties throughout the City. The Zoning Code provides much more specific rules regarding the development or preservation of each parcel of land in Ellisville related to items such as density, lot coverage, building height, property line setbacks, parking, landscape requirements, etc.

Since the adoption of the Comprehensive Plan in 2002, land use and development patterns have been monitored Citywide concerning their impact on surrounding neighborhoods and general conformance to the Plan. Five neighborhood areas of interest have been identified by Staff and are the main focus of this 2005 Comprehensive Plan update.

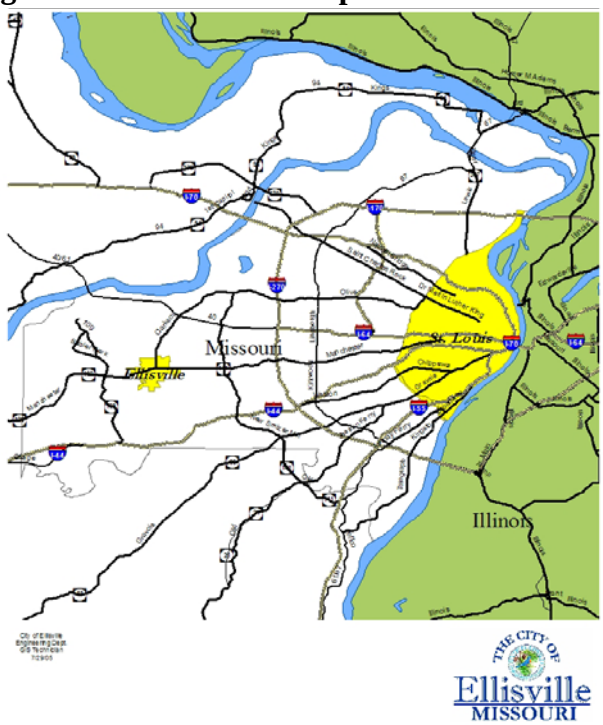
Location

Ellisville is located in the rolling hills of west St. Louis County approximately 20 miles west of downtown St. Louis. St. Louis County is located in the east central part of Missouri immediately across the Mississippi River from Illinois. Ellisville lies approximately 20 miles west of the Mississippi River, four miles south of the Missouri River and two miles north of the Meramec River. Ellisville is part of the St. Louis Metropolitan Statistical Area, the eighteenth largest metropolitan area in the United States. A location map is included in Figure 1.

Surrounding Cities

Most of the area around Ellisville is located within other municipalities. There are some small pockets of unincorporated St. Louis County that are surrounded by the City and a large unincorporated area located south of the City. Ellisville has a common boundary with the cities of Ballwin to the east, Clarkson Valley to the north and Wildwood to the west and southwest. The area south of Ellisville is within the unincorporated area of St. Louis County.

Figure 1: Location Map



Environment

Physiographic. Ellisville is located in the Salem Upland portion of the Ozark Plateau physiographic province of the United States. The Ozark Plateau is part of the Ozark-Oachita Highlands physiographic division that covers most of Arkansas and most of the southern and central portions of Missouri. This area is a deeply dissected plateau characterized by hills and steep intervening valleys cut by clear streams. The Salem Upland is characterized by hills and broad floodplains. Much of Ellisville, and the area around it, consists of rolling upland. Ellisville has an elevation of 730 feet above mean seal level. The topography in the Ellisville area is much different from that across the Missouri River in St. Charles County. St. Charles County is within the Interior Plains physiographic province that covers most of the mid-west and north-central portions of the United States. The Interior Plains province is characterized by flat to gently rolling topography.

Geology. The lithology and physical structure of the underlying surface of Ellisville consists of slightly too moderately titled, older sedimentary rocks. These sedimentary rocks include dolomite, shale, sandstone and limestone. Bedrock formations exposed in the area represent three separate geologic systems, the Ordovician, Mississippian and Pennsylvanian, each of which are formed at different periods during earth's history. Devonian and Silurian era rocks (the eras between the Ordovician and Mississippian eras) are not visible at the surface in Ellisville.

Ordovician rocks include sandstone, dolomite and moderate solution limestone. Overlying these formations are Mississippian rocks (325 to 345 million years old) including cherty limestone, shale and extensive solution limestone. Pennsylvanian rocks (280 to 325 million years old) overlay these older Mississippian formations and consist of cyclic strata of

shales, sandstone and limestone with some seams of coal. These cyclic deposits are common in the Ellisville area except for the Meramec River floodplain that contains alluvial sediments and soil material left by floods. Also visible in the Ellisville areas are rocks from the St. Louis Limestone, Ste. Genevieve, Spergen, Warsaw, Fern Glen, Burlington and Keokuk series of the Mississippian period.

Climate. Ellisville has a humid continental climate characterized by warm summers. Most of the City's annual precipitation occurs in the warmer months. The City is, however, subject to wide variations in temperature and precipitation from season to season. The total average annual precipitation is approximately 34 inches, with an average annual snowfall of approximately 18 inches. The highest monthly precipitation (approximately 3.7 inches) is in June and the lowest amount of precipitation typically occurs in January. Precipitation in the winter months is primarily as snow that may occur from November through early April. The highest average snowfall (approximately 5.4 inches) is in January. While snow is generally the heaviest in January, ten inches of snow equals only one inch of precipitation.

Average temperatures vary considerably throughout the year. January has an average temperature of 31.3 F. and July has an average temperature of 78.2 F. Below zero temperatures occur at least one day during 80 percent of the winters, and temperatures of 100 F. occurs at least one day during 80 percent of the summers. It is unusual, however, for temperature extremes to last for more than two or three days.

The growing season (the period from the last killing frost in the Spring to the first killing frost in the Fall) is approximately 210 days per year. The area around the City experiences relatively high humidity and experiences heavy fog approximately 11.6 days per year. The average annual relative humidity varies from 83 percent at 6:00 a.m. to 59 percent at noon to 61 percent at 6:00 p.m. The prevailing wind direction is from the southwest although winds from the northwest and west-northwest prevail from December through April.

Vegetation. The Ellisville area is covered primarily by broad-left deciduous and needle leaf deciduous trees. Historically, the naturally occurring trees have been oak and hickory varieties. Trees native to the area include the following:

Blue Ash (*Fraxinus quadrangulata*)
Green Ash (*Fraxinus pennsylvanica*)
White Ash (*Fraxinus americana)*
American Basswood (Linden) (*Tilia Americana)*
River Birch (*Betula nigra)*
Ohio Buckeye (*Aesculus glabra*)
Black Cherry (*Prunus secotina*)
Kentucky Coffeetree (*Gymnocladus dioica)*
Eastern Cottonwood (*Populus deltoids)*
Flowering Dogwood (*Cornus florida)*
American Hornbeam *(Carpinus caroliniana*)
Black Maple (*Acer nigrum)*
Boxelder (*Acer negundo*)
Red Maple (*Acer rubrum*)
Silver Maple (*Acer saccharinum*)
Sugar Maple (*Acer saccharum*)
Red Mulberry (*Morus rubra*)
Black Oak (*Quercus velutina*)
Blackjack Oak (*Quercus marilandica*)
Burr Oak (*Quercus macrocarpa*)
Chinkapin Oak (*Quercus muehlenbergii*)

Roughleaf Dogwood *(cornus drummondi*)
American Elm (*Ulmus americana*)
Slippery Elm (*Ulmus rubra*)
Winged Elm (*Ulmus alata*)
Hackberry (*Celtis occidentalis*)
Sugarberry (*Celtis laevigata*)
Cockspur Hawthorn (*Crataegus crus-galli*)
Dotted Hawthorn (*Crataegus punctata*)
Downy Hawthorn (*Crataegus mollis*)
Bitternut Hickory (*Carya cordiiformis*)
Black Hickory (*Carya texana*)
Mockernut Hickory (*Carya tomentosa*)
Pecan (*Carya illinoensis*)
Pignut Hickory (*Carya glabra*)
Shagbark Hickory (*Carya ovata*)
Shellbark Hickory (*Carya laciniosa*)
Honeylocust (*Gleditsia triacanthos*)
Eastern Hophornbeam (*Ostrya virginiana*)
Northern Red Oak (*Quercus rubra*)
Pin Oak (*Quercus palustris*)
Post Oak (*Quercus stellata*)
Shingle Oak (*Quercus imbricaria*)
Shumard Oak (*Quercus shumardii*)
Swamp White Oak (*Quercus bicolor*)
White Oak (*Quercus alba)*
Common Persimmon (*Diospyros virginiana*)
Eastern Redbud (*Cercis Canadensis*)
Eastern Redcedar (*Juniperus virginiana*)
Downy Serviceberry (*Amelanchier arborea*)
American Sycamore (*Platanus occidentalis*)
Black Walnut (*Juglans nigra*)
Butternut (*Juglans cinerea*)
Black Willow (*Salix nigra*)

Animals. Mammals native to the Ellisville area are listed on the following page. Some of the typical open land species in the area are the eastern ground squirrel, eastern cottontail rabbit, opossum, and badger.

Included in these mammals are the White Tail Deer. While many people enjoy seeing deer, they are becoming a problem in the western part of St. Louis County. During 2001, six medium to large animals were struck by automobiles in Ellisville. Five of those animals were whitetail deer. Three of the deer were badly injured and had to be killed by police officers. Other than training, these were the only three instances where officers used their firearms during the year.

Wild Mammals Common to the Ellisville Area

Pouched Mammals

Opossums (*Didelphis marsupialis*)

Insect-Eating Mammals

Short-tailed Shrew (*Blarina brevicauda)*
Least Shrew (*Cryptoti parva)*
Eastern Mole (*Scalopus aquaticus*)

Flesh-Eating Mammals

Long tailed Weasel (*Mustela frenata*)
Mink (*Mustela vision*)
Badger (*Taxidea taxus*)
Spotted Skunk (*Spilogale putorius*)
Striped Skunk (*Mephitis mephitis*)

Gnawing Mammals

Woodchuck (*Marmota monax*)
Eastern Chipmunk (*Tamias striatus*)
Eastern Gray Squirrel (*Sciurus carolinensis)*

Flying Mammals

Little Brown Bat (*Myotis lucifugus*)
Gray Bat (*Myotis grisescens*)
Keen's Bat (*Myotis keenii*)
Indiana Bat (*Myotis sodalis)*
Least Bat (*Myotis subulatus*)
Silver-haired Bat (*Lasionycteris noctivagans)*
Eastern Pipistrelle (*Pipistrellus sublfavus*)
Big Brown Bat (*Eptesicus fuscus*)
Red Bat (*Lasiurus borealis*)
Hoary Bat (*Lasiurus cinereus*)
Evening Bat (*Nycticeius humeralis*)

Toothless Mammals

Nine-banded Armadillo (*Dasypus Novemcinctus*)

Hare-Shaped Mammals

Eastern Cottontail Rabbit (*Sylvilagus Floridanus*)

Flesh-Eating Mammals

Coyote (*canis latrans*)
Red Fox (*Vulpes fulva*)
Gray Fox (*Urocyon cinereoargenteus*)
Raccoon (*Procyon lotor*)
Eastern Fox Squirrel (*Sciurus niger*)
Southern Flying Squirrel (*Glaucomys volans*)
Plains Pocket Gopher (*Geomys bursarius*)
Beaver (*Coastor Canadensis*)
Western Harvest Mouse (*Reithrodontomys megalotis*)
Fulvous Harvest Mouse (*Reithrodontomys fulvescents)*
Prairie White-footed Mouse (*peromyscus maniculatus*)
Woodland White-footed Mouse (*Peromyscus leucopus*)
Eastern Wood Rat (*Neotoma floridana*)
Southern Lemming Mouse (*Synaptomys Cooperi)*
Prairie Meadow Mouse (*Microtus ochrogaster)*
Pine Mouse (*Microtus pinetorum*)
Muskrat (*Ondatra zibethicus*)
Norway Rat (*Rattus norvegicus*)
Black Rat (*Rattus rattus*)
House Mouse (*Mus musculus*)
Meadow Jumping Mouse (*Zapus hudsonius*)

Even-Toed Hoofed Mammals

White-tailed Deer (*Odocoileus virginianus*)

History

Prehistory. Native Americans roamed the Ellisville area before 5000 B.C.E. They were attracted by the rich hunting and fishing opportunities in the area. These individuals gathered chert and fabricated it into domestic items. Artifacts of this period have been found in the area and dating of these items has revealed an age of 7,000 to 9,000 years (suggesting that they were made between 5000 and 7000 B.C.E.)

Early History. In 1541, Spaniards were the first Europeans to explore the Ellisville area. This area was claimed for Spain by Hernando de Soto and later claimed for France by Rene-Robert Cavalier La Salle, King Louis XIV of France directed that a large area, including Ellisville, be explored in 1658, and French explorers from Quebec began searching for potential locations of trading posts in the Mississippi River Valley. In 1682, the French formally took

possession of a large portion of the United States that they named Louisiana. In 1720, lead mining began in the area. Sieur Renault received the first land grant in what is now Jefferson County where the Big River joins the Meramec River, approximately 10 miles from Ellisville.

By 1760, French traders, trappers, and missionaries had penetrated the Mississippi Valley and established settlements as far south as the Missouri River in St. Charles County. In 1763, the governor of French Louisiana granted to Gilbert Antoine Maxent the exclusive right to trade with the Native Americans on the Missouri River and west bank of the Mississippi River. Maxent sent Pierre Laclede to set up a trading post in Upper Louisiana. In November of 1763, Laclede found a terraced area on the west bank of the Mississippi River for his post. This spot was 12 miles south of the confluence of the Missouri River. Laclede named his post for King Louis IX of France.

The French had a profitable trade with the Native Americans. Auguste Chouteau traded with the Native Americans over a path that later become Manchester Road. St. Louis might have remained small in these early years except that King Louis XV ceded the land east of the Mississippi River to England. French individuals in Illinois moved to Missouri, with traders moving to St. Louis and farmers moving to Ste. Genevieve. Except for a brief period when the area was deeded to Spain, the territory remained under French control until acquired by the United States in 1803 as part of the Louisiana Purchase.

In 1818, Louis Kessler and his family came from Germany and settled on wild land along Kiefer Creek. The Kessler family was one of the earliest families from Germany to settle in St. Louis County.

The Ellis House. Many of Ellisville's early residents were from Kentucky and Virginia. Moreover, many of them had in common ownership of the Ellis House. The first significant construction in Ellisville began in 1835. Captain Harvey Ferris constructed a brick house (subsequently known as the Ellis House) on the south side of Manchester Road, west of Kiefer Creek. This house was sold in 1842 to Vespasian Ellis, a newspaper editor, who later served as a U.S. consul to Venezuela. Mr. Ellis sold the house to William Hereford of Virginia. It is commonly believed that Mr. Hereford named the City after his post office (Ellisville) in Virginia, although others believe that the City was named for Mr. Ellis. Since Mr. Hereford served as postmaster, it is likely that he named the City.

The Ellis House was then sold to Samuel Wilson who sold it to Major Clarkson of Kentucky. Clarkson sold the house to Captain Benjamin F. Hutchinson of Kentucky. Captain Hutchinson (a steamboat captain) added a Victorian-style rear wing to the house. Captain Hutchinson later sold the house to Adam Doering. John Henry William Rasch bought the house and in 1896 and the house was owned by the Rasch family until about 1957. The Ellis House enjoyed a long history but was razed in 1969. Several major streets in the City were named after some of these Ellis House owners.

Early City Growth. A post office and general store were constructed in the City in 1842. Phillip Kiefer purchased 60 acres from Louis Kessler during this time. Mr. Kiefer farmed this land and later added another 40 acres to his holdings. Kiefer Creek is named for him. In 1851,

Concordia Evangelical Lutheran Congregation was formed by twenty families and held their first service in a house east of the City. In 1854, the congregation built a log cabin at the jog in Reinke Road southeast of the City to serve as their church. In 1871, the congregation built a new brick church on their present site at 15808 Manchester Road. In 1878, the church changed its name to St. Johns and a parochial school that offered instruction in both English and German was added. In 1873, Dietrich and Louise Reinke purchased 140 acres on Reinke Road. The Reinkes were prosperous farmers and leaders in the community and in St. John's Church.

St. Louis City and St. Louis County. By 1875, the City of St. Louis was a thriving city. By contrast, St. Louis County was a large, sparsely populated rural area. County residents petitioned the City of St. Louis to annex the entire county. In 1876, City residents rejected this petition and set permanent boundaries for the City. This action allowed more than 100 villages and cities to incorporate within the county over the next 120 years. In 2002, there were 91 municipalities in the county, some the result of consolidation of two or more villages.

Incorporation as a Village. In 1902, Edward Froesel opened a blacksmith shop in Ellisville. By 1911, a hotel and tavern had been added and the Ellisville area had approximately 50 people. By 1919, there were many automobiles in the area and Froesel converted his shop into an auto repair garage. In 1932, there were three schools in the area, but residents wanted to start a public school. To start a school, the area had to be incorporated as a Village. A vote was taken and on May 23, 1932, the Village was incorporated and the Ellisville Village School District was established. This district was included in the statewide reorganization of school districts in 1949, was designated Reorganized District R-6 of St. Louis County, and later became known as the Rockwood School District.

Evolution as a Growing City. In 1940, the Village had approximately 300 people. Population growth was slow until 1950. In 1957, residents voted to become a 4th Class City in order to establish a municipally-owned sanitary sewer system. The city had rapid growth from 1950 until 1980, and has maintained a healthy growth rate since then. On August 3, 1993, the City's Home Rule Charter took effect.

Plan Contents

This comprehensive plan contains several elements, which were prepared after a thorough examination of existing conditions, the development of goals and objectives, and the preparation of a draft plan which was reviewed by the Planning and Zoning Commission. These elements include an introduction, socioeconomics, land use, economic development, transportation, community facilities, infrastructure, and parks and recreation. With the exception of the introduction and the socioeconomics section, each plan element begins with a review of existing conditions relative to the element, and includes a goal and objectives followed by a plan.

Socioeconomics Element

Population

Population Growth. Ellisville's population grew from approximately 300 people in 1940 to more than 9,000 today. Significant growth in total population occurred between 1950 and 1970, which is consistent with many other cities in the U.S. and with most other cities in St. Louis County. However, while the growth rate in Ellisville slowed after 1970, total population growth continued at a very healthy rate, which is rare in St. Louis County municipalities. In fact, most cities in north and central St. Louis County have experienced significant declines in total population since 1970. Ellisville's population increased by 21% between 1980 and 1990, and again increased by 21% between 1990 and 2000. Historical population date is summarized in Table 1.

Table 1: Historical Population Growth

Year	Population	Percent Increase
1950	625	--
1960	2,732	337%
1970	4,681	71%
1980	6,233	33%
1990	7,545	21%
2000	9,104	21%

Source: U.S. Census

Population Characteristics. A critical component of city planning is not just a city's total population, but also the characteristics of that population. A key element of park and recreation planning, for example, is the distribution of the population by age group. Population information by age group (commonly referred to as cohort group) for Ellisville for 1990 and 2000 is included in Table 2.

Cohort Group Analysis. At first glance, Ellisville's population distribution among the cohort groups appears to be similar to many other growing suburbs. New suburbs are characterized by large numbers of people between 30 and 45 years of age with similarly large numbers of people under 15. Suburbs also tend to have a rapid decline in the number of people in age cohort groups over 45. The reasons for these tendencies are that many young families are attracted to suburban areas. By contrast, suburbs tend to lose population in cohort groups between 20 and 29 years because individuals leave to attend college, join the military or for employment reasons. In addition, people over 55, and particularly over 65 have a greater propensity to live in central cities or older suburbs. In Ellisville, part of the reason for the relatively high numbers of individuals over the age of 65 is because of the large number of

people in elderly congregate living facilities in the city. Census figures reported 341 individuals living in nursing homes in the city in 1990.

Another factor that must be considered in reviewing Ellisville's population breakdown is the fact that the largest population concentration in the city (the 35-54 age cohorts) also corresponds to the period when the United States experienced the largest number of births (the period between 1946 and 1964 referred to as the baby boom). However, the significant increase in the number of people in the 35 to 44 age groups from 1990 to 2000 reflects a large net migration into Ellisville, probably caused by the increase in housing stock and desirability of living in the community. Ellisville's age cohort group information reflects the city's position as a suburb that is not old and on the decline nor brand new and growing rapidly.

Table 2: Population by 1990 and 2000

Age Group	1990	2000	Increase
Under 5 years	493	616	123
5 to 9 years	535	698	163
10 to 14 years	539	751	212
15 to 19 years	515	623	108
20 to 24 years	406	310	96
25 to 34 years	1,003	932	71
35 to 44 years	1,272	1,677	405
45 to 54 years	952	1,382	430
55 to 59 years	395	457	62
60 to 64 years	344	327	-17
65 to 74 years	516	628	112
75 to 84 years	374	461	87
85 years and over	221	242	21
Total	756	9104	1539

Source: Census Data Form 1990 STFIA and 2000 SF 1

Social Characteristics. The level of educational achievement in Ellisville is exceptional. In 2000, 25.7 percent of Ellisville residents were enrolled in school, including 469 (20%) enrolled in a college or university. Statistics for adults over 25 indicate that 90.5 percent of these individuals have at least a high school diploma while 37.9 percent have a college degree and 13.4 percent have a graduate or professional degree (master's degree, Ph.D., medical degree, law degree, etc). All of these percentages are higher than the St. Louis County, Missouri and U.S. averages and indicate that Ellisville residents are well educated. For comparison purposes, selected percentages of individuals with various educational levels are included in Table 3. Particularly impressive is the high percentage of adults with graduate or professional degrees.

Table 3: Education Attainment/Income Comparisons

Area	% High School Graduate	% College Degree	% Graduate or Professional Degree	Median Family Income 1999	Per Capita Income 1999
Ellisville	90.5%	37.9%	15.2%	$74,375	$27,379
St. Louis County	88%	35.4%	13.4%	$61,680	$27,595
Missouri	813%	21.6%	7.6%	$46,044	$19,936
United States	81.6%	25.1%	8.9%	$49,600	$21,690

Source: 2000 U S Census

Ellisville's labor force in 2000 included 4,495 individuals, 2,373 males and 2,122 females. The labor force is defined as those individuals aged 16 and over who are employed or actively seeking employment (unemployed). Those individuals who are 16 and over but enrolled in school, retired or not interested in working are not included in the labor force. Ellisville's percentage of men in the labor force is consistent with national, state and county averages. The percentage of women in the labor force is lower than these averages. Reasons for this lower percentage can be attributed to the higher than average number of women in the city who are over 65 and the fact that there are a large number of two parent families in the city where both parents do not have to work. Ellisville's 2000 unemployment rate of 2.2 percent was much lower than the national average.

Income in Ellisville in 1999 was above national, state, and county averages except for per capita income, which was slightly higher in St. Louis County. Median household income was $65,016, median family income was $74,375 and per capita income was $27,379. Household income is defined as the average income of all households in the city, including families and non-family groups. Family income is only computed for individuals who are related by blood, marriage or adoption. A summary of Ellisville social characteristics is included in Table 4.

Table 4: 2000 Social Characteristics

Characteristic	Number	Percentage
Enrolled in School	2,338	25.7% (of total population)
High School Graduates	5,380	90.5% (of individuals over 25)
College Graduates	2,653	44.6% (of individuals over 25)
Graduate or Professional Degree	906	15.2% (of individuals over 25)
Male Labor Force	2,373	75.7% (of males 16 and over)
Female labor Force	2,122	58.4% (of females 16 and over)
Unemployed	147	3.3% (of persons in work force)

Median Household Income	$65,016 (1999)
Median Family Income	$75,375 (1999)
Per Capita Income	$27,379 (1999)

Source: 2000 U.S. Census

Housing Characteristics

Ellisville's housing stock included 2,780 dwelling units in 1990, broken down between 2,090 owner-occupied units and 517 renter-occupied. By 2000, the housing stock had increased considerably to 3,292 dwelling units including 2,761 owner-occupied units. In addition, in 2000 the number of renter-occupied units declined to 448 units. The city's housing vacancy rate was 6.2 percent in 1990 and dropped to only 2.6 percent in 2000. The average household size of 2.75 people in 1990 declined only slightly to 2.74 in 2000. This household size is higher than average and reflects the large number of families in the city. Housing data is summarized in Table 5.

Table 5: Ellisville Housing Data

Characteristic	**1990**	**2000**
Housing Units	2,780	3,292
Occupied Housing Units	2,607	3,209
Vacancy Rate	6.2%	2.6%
Average Household Size	2.75	2.74
Owner Occupied Housing Units	2,090	2,761
Renter Occupied Housing Units	517	448
Median Value of Housing Units	$99,500	$151,900
Median Rent	$407	$784

Source 1990 and 2000 census Data from STE1A

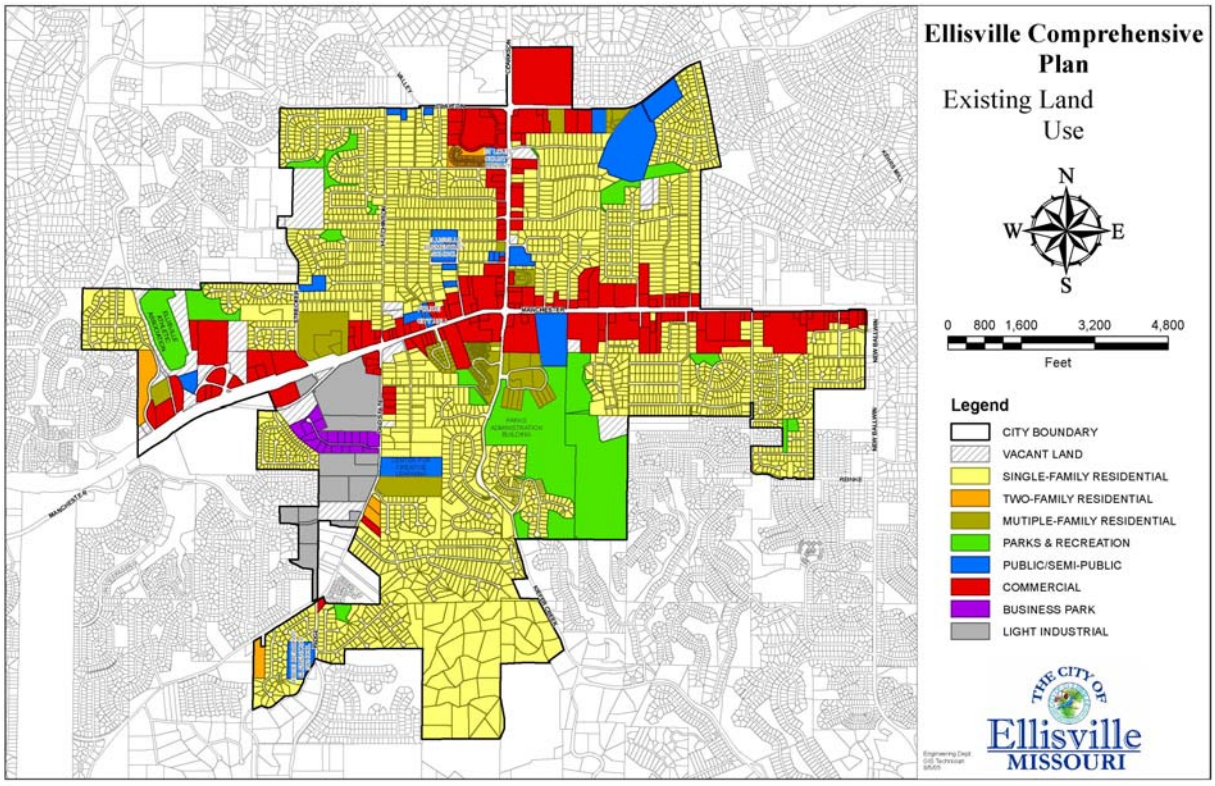
Land Use Element

Existing Land Use

The land use in and around Ellisville was influenced by a number of natural and human-made factors. While the rolling hills in the area provide natural beauty and interest, other natural factors such as floodplains, creeks and steep slopes hinder urban development. Human-made conditions such as Manchester Road and Clarkson Road have also influenced development.

Ellisville encompasses an area of approximately 4.4 square miles. Existing land uses consist of single-family and multi-family residences, commercial facilities, industrial development and public uses. The Existing Land Use Map displayed by Figure #2 indicates the actual range of land uses found in Ellisville today. It is important to note that the Existing Land Use Map differs from the Land Use Plan in that the Map accounts for how each parcel of land *is currently used*, while the Plan displays how land *should be used*. This is the current version of the Map and includes updates since the original Land Use Map was developed in conjunction with the 2002 Comprehensive Plan. It reflects minor changes and clarifications in the City's development pattern experienced over the past three years.

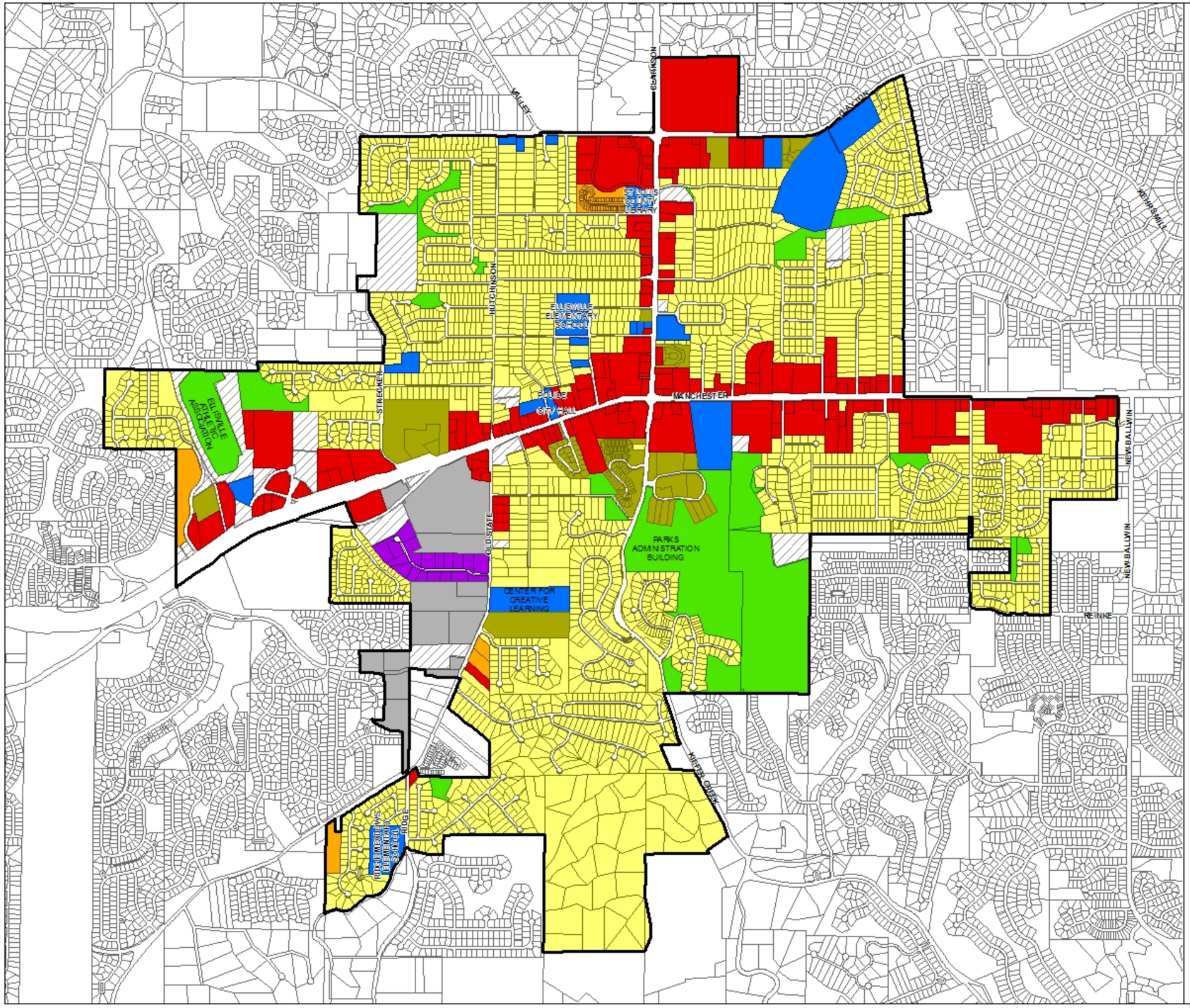
Figure 2: Existing Land Use Map



The existing land uses in Ellisville consist of single-family residential, multi-family residential, public facilities such as schools and parks, commercial developments, light industrial

Ellisville Comprehensive Plan

Figure 2: Existing Land Use



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0 800 1,600 3,200 4,800

Feet

Legend

- CITY BOUNDARY
- VACANT LAND
- SINGLE-FAMILY RESIDENTIAL
- TWO-FAMILY RESIDENTIAL
- MUTIPLE-FAMILY RESIDENTIAL
- PARKS & RECREATION
- PUBLIC/SEMI-PUBLIC
- COMMERCIAL
- BUSINESS PARK
- LIGHT INDUSTRIAL

Engineering Dept.
GIS Technician
8/5/05

THE CITY OF Ellisville MISSOURI

properties, and open space areas. As referenced in the 2002 Comprehensive Plan, approximately 60% of Ellisville's land area is developed with residential uses, of which a large majority of the residential development is comprised of detached homes on individual lots. This development pattern has not significantly changed as of 2005 and remains typical of the communities neighboring Ellisville.

Residential Areas. Approximately 60 percent of the developed land in Ellisville is devoted to residential uses. Housing opportunities in the City range from large two-story single-family homes to apartments to adult congregate care facilities. After single-family homes, the predominant housing type is apartments. Apartment complexes are primarily concentrated near collector and arterial streets throughout the City.

Commercial and Industrial Areas. Ellisville is home to more than 555 licensed businesses. In addition to these licensed businesses, there are a large number of professionals that maintain offices in the City that the City does not license because they are exempt by State Statutes. These professions include attorneys, certified public accountants, dentists, chiropractors, optometrists, and physicians. In the City, commercial uses are primarily located along Manchester and Clarkson Roads. Some additional businesses are found along Clayton and Old State Roads. There is a broad mix of retail commercial uses and a large number of individual offices for health care practitioners including a large number of dentist and chiropractors. A significant number of automobile dealers are located in the City along Manchester Road. The major industrial use in the City is Bussman Fuse Manufacturing. The company is one of the largest manufacturers of fuses in the world.

Public and Semi-Public Areas. Public and semi-public uses in Ellisville are scattered throughout the City. These uses include community facilities, schools, and churches. Existing community facilities include City Hall, the Park's Administration Building, the Police Building, the Public Works Garage, and the Daniel Boone branch of the St. Louis County library system. Ellisville and Ridge Meadows elementary schools of the Rockwood School District are also located in the City. Several religious denominations are represented in the City by ten (10) churches. A significant amount of land is devoted to the Passionist Nuns Convent and Chapel. St. Clare of Assisi Catholic Elementary School and St. John's Lutheran School of Ellisville are also located in the City.

Parks. Ellisville provides a large number of parks within the City. City parks include Bluebird Park, the City's largest park, Robin Park (a passive recreation park in a natural state), and neighborhood parks located throughout the City. In addition to City owned parks, Roger Klamberg Woods Nature Trail, owned by the Missouri Department of Conservation, is located adjacent to Bluebird Park and leased to the City. More information on the City's parks may be found in the Parks and Recreation Element of this plan.

Vacant/Undeveloped Lands. There is a limited amount of vacant land in the City available for development. There are a few vacant residential lots left in the City, a couple large unsubdivided parcels of residential land, a few business park lots, and some vacant commercial land on the west side of the City. Based on past development trends, it appears that most of this land will be developed within the next five years.

Factors Affecting Development

The consideration of factors affecting development is essential prior to the preparation of a land use plan. An inventory of such factors provides a framework to develop the most efficient and prudent assignment of future land uses to support future development. Two types of factors affect the use of land: natural features and human-made features. Terrain is an example of a natural feature that may influence development. The presence of roads, public water, and wastewater facilities are human-made factors that affect the use of land.

Physical aspects of the City's natural and human-made environment significantly affect small portions of Ellisville. This is partly due to the fact that most of the land in the City is already devoted to urban land uses. Physical factors including natural features and human-made features are discussed in this analysis. Each factor in its own way constrains urban development.

Natural Features. The natural resources of an area can have significant impacts on future development. For example, natural features often cause significant limitations in the construction of buildings, roadways, utility systems, and other structures. Most of the easily developable land in St. Louis County has already been developed. Remaining undeveloped land includes floodplains (which include floodways and flood fringe areas), wetlands, and areas with steep slopes. The primary natural features that constrain development in Ellisville are steep slopes and floodways.

Steep Slopes. Steep slopes in the City predominate along Kiefer Creek Road, particularly on the west side. Significant slopes are found east of the road in the east portion of Blue Bird Park and throughout Klamberg Woods. Land immediately west of the Ellisville Athletic Association Fields also contain steep slopes. The City should be concerned with areas where the slope exceeds ten percent. It is difficult for large trucks to traverse streets that exceed an eight percent slope and minor streets should not have a slope exceeding ten percent.

Floodplains. Historically, with the exception of areas within the Kiefer Creek floodplain, the major portion of the area within the City's corporate limits has been outside of any floodplain. The significance of floodplains includes the fact that of the remaining undeveloped land within St. Louis County, approximately one-third is within the floodplains of the Mississippi, Missouri, and Meramec Rivers. Finding effective measures to address floodplain management was underscored following the Midwest Flood of 1993 when the Mississippi River and many of its tributaries flooded. Within St. Louis County, more than 1,000 homes and 450 businesses were either temporarily or permanently displaced as the Mississippi, Missouri, and Meramec Rivers overflowed their banks. While the 1993 flood was not very noticeable in Ellisville, some creeks that feed the Meramec River were significantly higher than normal.

Floodways. Within floodplains, there are areas designated as floodways. These areas include the channel of a river or watercourse and the adjacent land areas that must be reserved in order to discharge the 100-year flood without cumulatively increasing the water surface elevation more than one foot at any point. Construction within floodways is prohibited. Therefore, they

represent a significant constraint to development. Fortunately, few areas in Ellisville are within in a floodway.

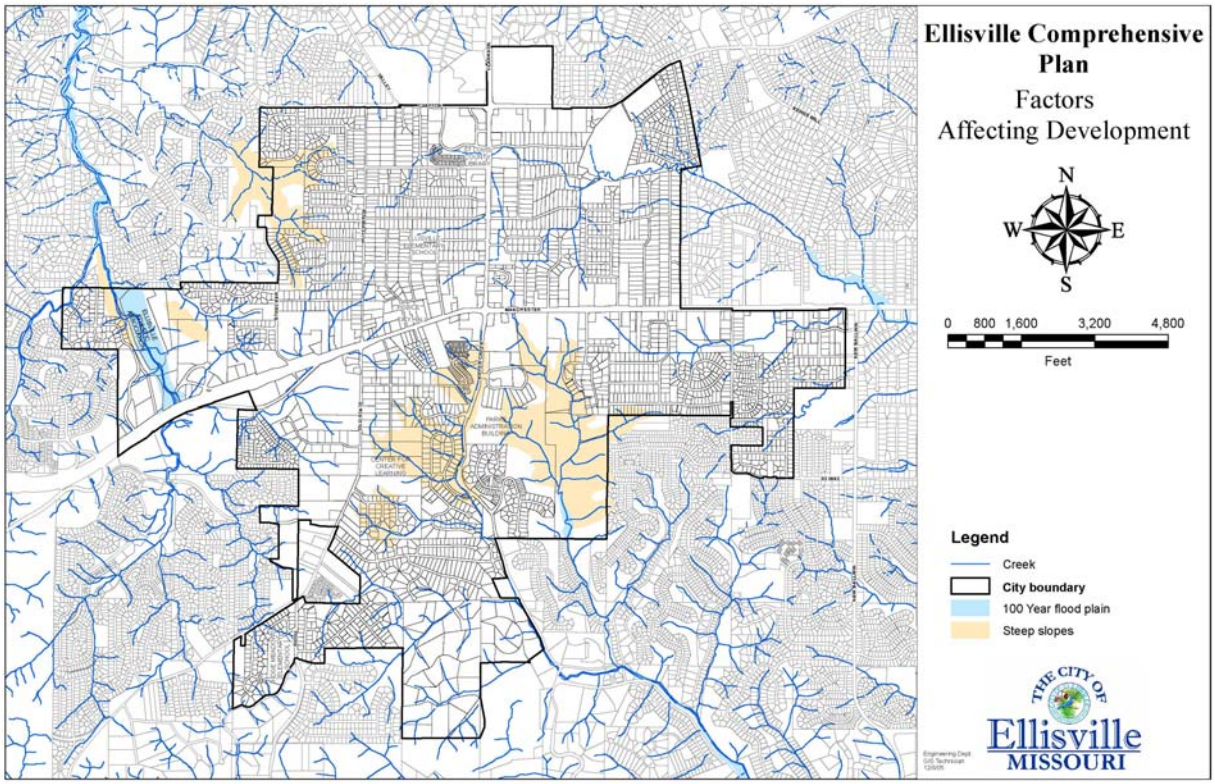
Human-Made Features. Human-made features also influence future development. In the Ellisville area, the primary human-made features that are applicable are infrastructure related. Major features that have affected the City's development have been Manchester Road and Clarkson Road, both state highways. These roadways have facilitated development because of ease of access to the transportation system. However, as identified by the City several years ago, when a major roadway becomes congested (such as Manchester Road in the City), it can become a constraint to further development and redevelopment (businesses become concerned that patrons cannot easily access their facilities). The City needs to make continued efforts to ensure that Manchester and Clarkson Roads continue to be assets to development and not detriments.

Other factors affecting development include cemeteries. Cemeteries need to be preserved. There are strict state laws to protect cemeteries and no redevelopment of cemeteries should be proposed by this plan.

Significant Factors Affecting Development

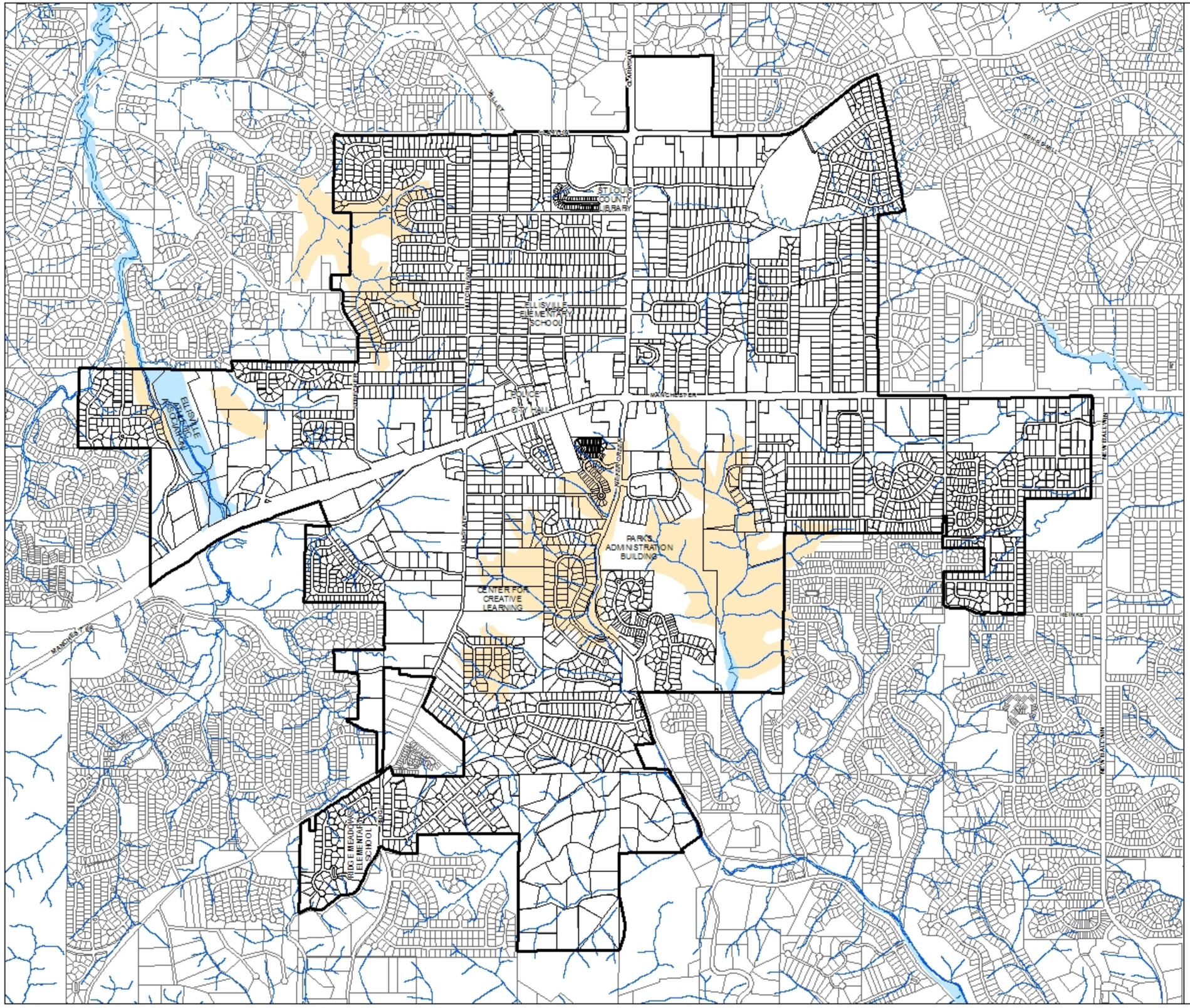
The significant factors affecting development in the Ellisville area are steep slopes, floodways, floodplains and cemeteries. The location of these factors is depicted in Figure 3.

Figure 3: Factors Affecting Development



Ellisville Comprehensive Plan

Figure 3: Factors Affecting Development



N

W E

S

0 800 1,600 3,200 4,800

Feet

Legend

- Creek
- **City boundary**
- 100 Year flood plain
- Steep slopes

Engineering Dept.
GIS Technician
12/8/05

THE CITY OF Ellisville MISSOURI

Goals and Objectives

Goal: Improve the City's high quality of life by providing for the proper distribution, location, and extent of land uses by type and density.

Objective: Based on the high percentage of commercial development in the City, proposed additional commercial development shall be carefully reviewed to ensure that its impact on traffic circulation and residential encroachment can be mitigated.

Objective: Conversion of residential dwellings and land to commercial uses will only occur in areas specifically designated as commercial on the land use plan map.

Objective: Intensive commercial development on the east side of Old State Road shall be prohibited and adequate provisions shall be made to buffer existing residential areas from any light commercial development on the east side of Old State Road.

Objective: Redevelopment of Clarkson Road shall be limited to low-scale, low-intensity commercial use such as professional offices and shall not include fast food restaurants or other commercial uses that generate large amounts of traffic.

Objective: The approval of large specialty or discount ("Big Box") retail stores in the City shall be carefully considered, including the potential for such large facilities to be reused for appropriate activities if vacated.

Objective: The existing density of residential development throughout the City shall be maintained.

Objective: The City should actively pursue annexation of areas surrounded by or adjacent to the City, which logically should be included within the City's boundaries.

Objective: The City shall revise its zoning ordinance and subdivision regulations to ensure that all objectives of this plan are adequately addressed as requirements for new development and for redevelopment.

Objective: The zoning ordinance should be updated to include specific regulations for single-family attached housing and to address other contemporary land use issues.

Goal: The existing natural landscape should be preserved and enhanced to the greatest extent possible.

Objective: The City should maintain its status as a Tree City USA including the annual budgeting of money for new trees and removal of dead trees.

Objective: Consider revisions to the Zoning Code, which increase the minimum lot size in the R-1 Zoning District.

Objective: Create a preservation overlay district to support and enhance the single-family character of Hilltop neighborhood.

Objective: Consider revisions to the light industrial and commercial zoning districts to allow low density, urban low-density and medium density residential developments as Conditional Use Permits.

Objective: Consider revisions to the light industrial and commercial zoning district to include specific mitigation measures in between residential and light industrial/commercial uses (not just between zoning districts), such as heavy landscape buffers, setback, sound walls, appropriate lighting standards, etc.

Objective: New development and redevelopment shall minimize the destruction of existing trees.

Objective: Trees planted near streets, and particularly intersections, should have a sufficient clear trunk height to not impair the vision of motorists.

Objective: Trees located near pedestrian paths shall be trimmed to maintain a seven-foot clear height over the pedestrian path.

Objective: New street trees should be planned so as not to interfere with existing utility lines.

Objective: Landscaping should be installed a sufficient distance from streets and parking lot aisles to not impair the vision of motorists.

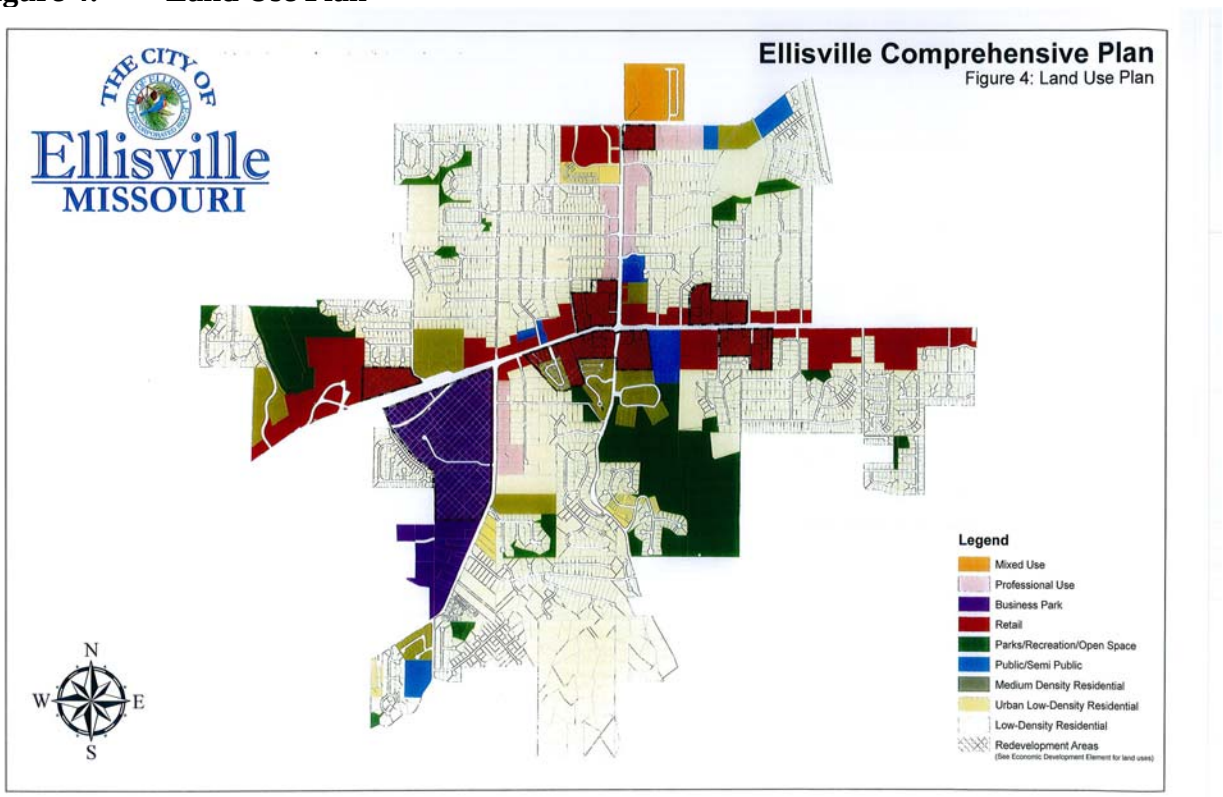
Objective: The City should adopt specific land development regulations to protect land with steep slopes.

Land Use Plan

The Land Use Element of the Comprehensive Plan was formulated and adopted with full consideration of the character and balance of land uses that are appropriate within all distinct areas of the City. Beyond this level of consideration, the Plan considers the relationships between and among Ellisville's various neighborhood areas. This leads to a balance and pattern of land uses that reflects the community's goals, values, and aspirations. It is recognized that a proposed change of land uses within any given portion of the City may have a substantial impact upon the balance of land uses within the City as a whole.

The Land Use Plan shown in Figure #4 displays the preferred use of all land parcels in the City. This Plan graphic indicates how land should be developed and preserved in Ellisville. The Land Use Plan is used to implement the development goals and objectives found throughout the Comprehensive Plan document. The land use designations described below also apply to unincorporated areas adjacent to the City and are included in anticipation of annexation.

Figure 4: Land Use Plan



Low-Density Residential

Low-Density Residential areas will primarily consist of single-family dwellings. The maximum residential density in these areas will not exceed two and one-half (2.5) dwelling units per acre. This land use classification covers lands with few development constraints. Besides residential developments, this land use classification will include schools, churches, government buildings, parks, and similar institutional and recreational uses that are commonly found in residential areas.

Hutchinson/Froesel Area

The area is identified as all properties zoned R-1 Single Family Residential Zoning District east of Strecker Road, north of Manchester Road, south of Clayton Road, and west of Clarkson Road. The Hutchinson Corridor and Froesel Area properties are designated for Low-Density Residential uses and almost entirely developed with single-family detached residential uses. The Low-Density Residential designation of these properties should remain unchanged in order to preserve the current development pattern and density of the area as a whole. This recommendation is strongly supported by area residents as indicated by public comments obtained at the Comprehensive Plan Update workshops. Future subdivisions in this area should provide consistent and compatible lot sizes as currently exist in the area.

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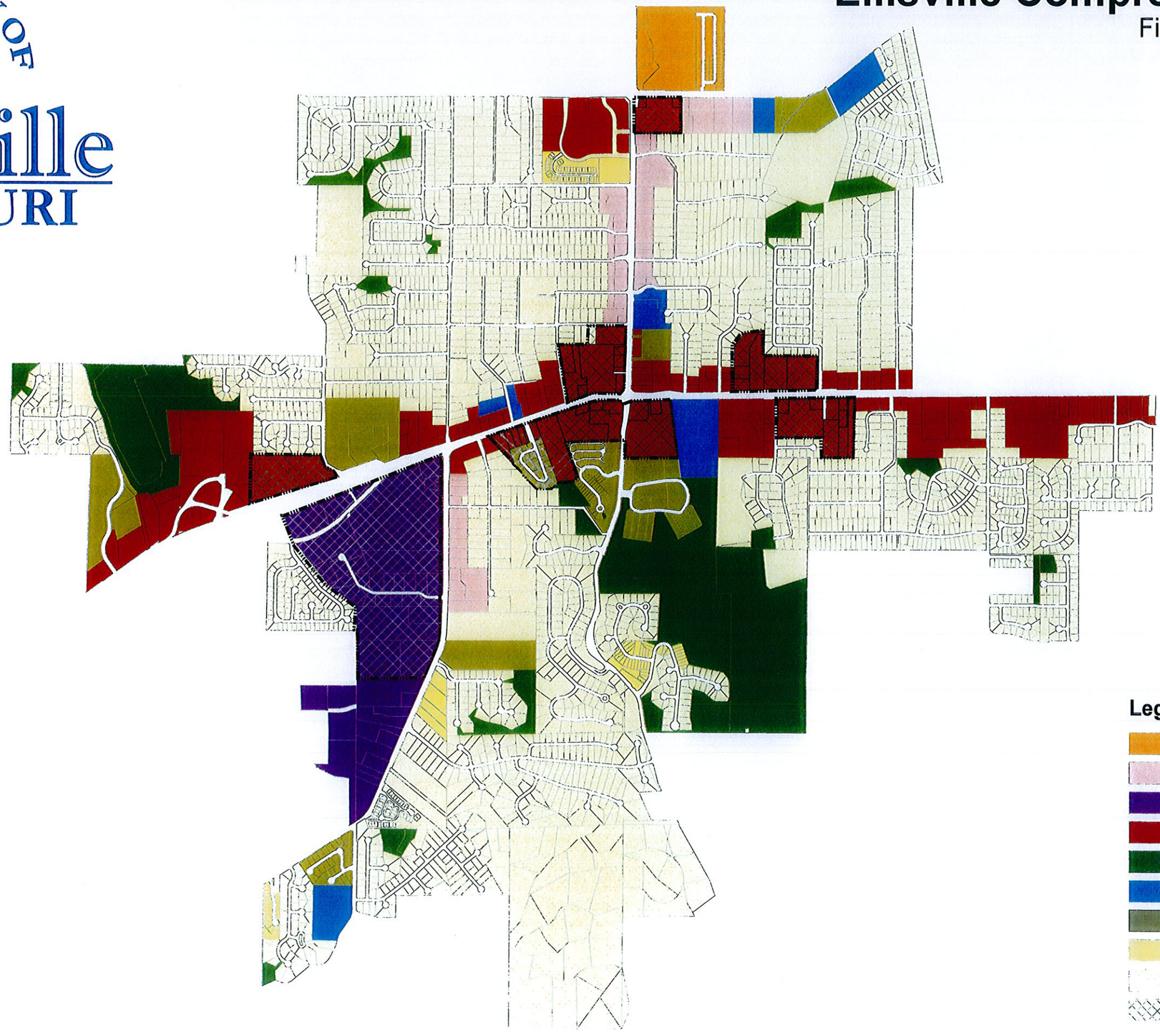
Ellisville Comprehensive Plan

Figure 4: Land Use Plan



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Legend

- Mixed Use
- Professional Use
- Business Park
- Retail
- Parks/Recreation/Open Space
- Public/Semi Public
- Medium Density Residential
- Urban Low-Density Residential
- Low-Density Residential
- Redevelopment Areas
  (See Economic Development Element for land uses)

Hilltop Area

The area is identified as all properties zoned R-1 Single Family Residential on both sides Marsh, Hilltop, Fairview, and Field. The Hilltop Area is located just east of the Clarkson Road corridor and is a larger, well-preserved single-family residential neighborhood designated for Low-Density Residential uses. Neighborhood residents and property owners have overwhelmingly expressed a desire to preserve the single-family detached residential character of this neighborhood and to limit the future development potential in the Hilltop Area.

The Hilltop Area backs up to commercial property that fronts onto Clarkson Road. The Land Use Plan limits the commercial uses to their existing locations and does not allow the commercial uses to expand to the east. All the properties that front onto Clarkson Road in this area are designated for Professional Office use and a majority of these parcels are developed as such. However, any future or additional commercial development on Clarkson Road near these properties should be given careful review to assess the impacts on the Hilltop Area.

The Low-Density Residential designation of Hilltop properties should remain unchanged. In fact, special scrutiny should be given to any development proposal in this area, which could impact and change the single-family character of this neighborhood. Based on public input, a high priority should be given to preserving the existing land use pattern in the Hilltop Area. It is recommended that consideration be given to create a preservation overlay district to support and enhance the single-family character of this neighborhood. Consideration should be given to encourage minimum one-acre lot sizes as part of the overlay district in this area.

Urban Low-Density Residential

Urban Low-Density Residential areas will primarily consist of single-family detached dwellings and single-family attached dwellings. Duplexes may also be allowed in this land use designation. This land use classification is designed for areas that have sufficient infrastructure to support urban residential densities. The maximum residential density in these areas will not exceed five (5) dwellings units per acre. These areas are free from significant development constraints such as floodways, floodplains, and steep slopes. In addition to residential dwellings, this land use classification will include schools, churches, government buildings, parks and similar institutional and recreational uses that are commonly found in residential areas.

Medium-Density Residential

Medium-density residential areas will include single-family detached dwellings, single-family attached dwellings, duplexes, and multiple-family housing as regulated by the City's zoning ordinance. This land use category is designed to accommodate densities of up to 14 dwelling units per acre and to also allow congregate living facilities such as nursing homes and total care facilities. In addition to residential dwellings, this land use classification will include schools, churches, government buildings, parks and similar institutional and recreational uses that are commonly found in residential areas.

Parks, Recreation and Open Space

Existing City parklands are indicated on the land use plan map. These lands shall be limited to park and recreation use and customary accessory activities. Beyond the existing parks owned by the City, the designation also includes trails connecting the parks, the Klamberg nature area, major recreation areas, and many areas adjacent to residential subdivisions which will be retained as open space as depicted on the Land Use Plan Map, Figure 4.

Public and Semi-Public Lands

Major concentrations of public and semi-public lands are identified on the existing land use map. These uses include City Hall, elementary schools, major churches and several other similar uses identified in the existing land use survey. Some existing public and semi-public lands are not depicted on the land use plan map because of their relatively small size. In the future, these lands will be limited to governmental, educational, religious, and nonprofit use, except as modified below. Because public and semi-public uses tend to move or close over time, alternative land uses were determined for several sites used for public and semi-public lands and are described below.

Passionist Nuns Property. This property is anticipated to be used as a convent through the life of this plan. If for any reason this site is not retained as a convent or other religious use, its reuse shall be limited as follows:

A) The portion of the property that lies within 600 feet of the south right-of-way of Clayton Road may be developed for any use in the medium-density residential classification described in this plan.

B) The portion of the property that lies more than 600 feet from the south right-of-way of Clayton Road may be developed for any use in the low-density residential classification described in this plan.

Center for Creative Learning. This property is anticipated to be used for educational purposes through the life of this plan. If for any reason this site is not retained for an educational use, its reuse shall be limited to the low-density residential classification described in this plan.

Metro-West Fire Station Number 4. This property is anticipated to be used as a fire station through the life of this plan. If for any reason this site is not retained as a fire station, its reuse shall be limited to those uses allowed in the low-density residential classification described in this plan.

Ellisville Elementary School Site. This property is anticipated to be used as an elementary school through the life of this plan. If for any reason this site is not retained for an elementary school or a closely-related educational use, it reuse shall be limited to those uses allowed in the low-density residential classification described in this plan.

Professional Office

This classification is intended to allow professional and medical offices and low-intensity commercial uses that will not be major traffic generators. Retail uses would not be allowed except as an accessory use. This classification is proposed for major portions of Clarkson Road that are currently developed for offices and single-family residences. In addition, areas along the east side of Old State Road and areas along Clayton Road adjacent to the intensive retail development at the intersection with Clarkson Road, are also designated for professional office use. In addition to professional office buildings, this land use classification will include schools, churches, government buildings, parks and similar institutional and recreational uses that are commonly found in professional office areas.

Northeast Corner of Clarkson and Clayton Roads.

The site is located at the northeast corner of Clayton and Clarkson Roads and contains approximately 40 acres of land. The 2002 Comprehensive Plan Land Use Map designates three (3) separate land use categories on this site; Low-Density Residential on the far north and east, Professional Office in the center, and Retail Commercial directly at the intersection. This land formerly housed a large office building that has recently been demolished and now that the site is vacant, it is unlikely to develop under such a structured land use pattern.

It is recommended that this area be designated with a single new land use category – Mixed Use. This category represents property suitable for development with a planned mix of uses and development intensity. Preferably, this mix will include office, retail commercial, neighborhood service commercial, and multi-family residential dwellings. By allowing for a mix of uses a variety of quality, development options could be realized on this site while supporting land use patterns able to minimize impacts on the surrounding neighborhoods, infrastructure, and street networks. Such districts can provide a range of uses, developed according to specific standards for parking, +scale, and pedestrian access.

Since the Mixed Use category envisions multiple land uses in close proximity to each other, the following standards shall be used in evaluating the appropriateness of such proposals:

Development Standards:

- Provide a variety of residential uses with densities ranging from 5 – 14 Dwellings/Acre.
- Locate residential uses to act as buffer to adjacent lower density residential uses.
- Non-residential commercial and retail uses shall not exceed an intensity factor of 5,000 Square Feet/Acre.
- Maintain a quality public environment with attractive sidewalks, landscaping throughout site, street graphics, and lighting standards.
- Encourage pedestrian traffic and retain neighborhood scale.

- Commercial and office development shall be designed to minimize impact on housing.
- Development should emphasize pedestrian scale and relationships among businesses.
- Buffering and landscaping appropriate for intensity of the proposed development shall be located adjacent to lower density and intensity uses.
- Utilize impact studies such as traffic and parking assessments to develop well-designed parking areas and circulation routes.
- Require necessary street system improvements to support anticipated traffic.

Retail Commercial

The retail commercial land use category is intended primarily for retail and offices uses. This category will allow a broad range of retail uses from florists to new car dealers and will include many uses allowed in the City's commercial zoning districts. Office uses will primarily consist of business and professional offices. Specific retail commercial land uses will be regulated by the City's zoning regulations. In addition to commercial buildings, this land use classification will include schools, churches, government buildings, parks and similar institutional and recreational uses that are commonly found in retail commercial areas. Urban low-density and medium density residential developments may be also be allowed within this land use category.

Business Park

This classification is intended to allow a broad range of commercial and light industrial uses including research and development facilities, office-warehouse uses, major commercial recreation uses, light industrial and light manufacturing uses. The specific uses allowed in this category would be based on the underlying zoning classification. This land use classification is located on the south side of Manchester Road and West of Old State Road. It is intended to present a good image of the City to passing observers. In addition to business uses, this land use classification will include government buildings, parks and similar institutional and recreational uses that are commonly found in business areas. Low-density, urban low-density and medium density residential developments may be also be allowed within this land use category.

Old State Corridor- Area South of Westwood Business Park Drive

The primary area of focus is located on the west side of Old State Road, south of the Westwood Business Park. A variety of land uses currently exist along the portion of the Old State Corridor identified by this Update. This includes properties developed with light industrial uses, vacant land, and other land, which remains in unincorporated St. Louis County. The 2002 Land Use Element designates this area as "Business Park" where a broad range of commercial and light industrial uses could be allowed. This designation was also applied to properties on the west side of Old State Road, but just outside the City's boundary. It is recommended that the

City pursue annexation of these properties along with a small unincorporated area of residential property located on the east side of Old State Road.

The Business Park designation remains a viable land use option for several properties in this area, particularly for the properties fronting onto Old State Road. However, several parcels of land in this area remain undeveloped and are situated in between neighboring single-family residential and light industrial uses. These properties should also be considered for designation as low-density, urban low-density and medium-density residential allowing a range of appropriately scaled residential uses to be introduced to the area when and where appropriate. Low-density projects are envisioned on parcels abutting other low-density residential uses, while higher density is envisioned to act as transition zones. Higher density projects ranging from five (5) to fourteen (14) dwelling units per acre would be envisioned to develop on these parcels and could be utilized as buffers between the lower density residential and higher intensity light industrial uses. It should also be noted that significant property tax benefits may be gained by allowing for a mix of development options on property that has remained vacant for several years.

Development regulations in this area should encourage innovative design techniques and attractive landscape standards. Additionally, in order to mitigate potential negative impacts between light industrial/commercial and residential uses, it is recommended that consideration be given to the following:

- Consider revisions to the M-1 zoning district to reduce specific setback requirements for light industrial properties adjacent to residentially zoned properties if the more intense uses are mitigated with site features such as heavy landscape buffers, setback, sound walls, appropriate lighting standards, etc.
- Consider revisions to the M-1 zoning district to allow low density, urban low-density and medium density residential developments as Conditional Use Permits within the M-1 Light industrial Zoning District.
- Consider revisions to the M-1 zoning district to include specific mitigation measures in between residential and light industrial uses (not just between zoning districts), such as heavy landscape buffers, setback, sound walls, appropriate lighting standards, etc.

Fulfillment of Land Use Objectives

Provisions of the land use plan to fulfill objectives outlined in this element are discussed below. In some cases, specific provisions of the plan in relation to an objective are discussed, and in some cases, actions necessary to implement the plan are discussed.

Commercial Impact Mitigation

New commercial development in the City needs to be carefully considered to ensure that its impacts can be mitigated. The two biggest impacts are on traffic circulation and residential encroachment. Impacts on residential encroachment are addressed in the following paragraphs. Impacts on traffic are a major concern of the City. High traffic generating commercial uses shall be limited to lands designed as retail commercial on the land use plan map. The traffic impacts of

these developments will be mitigated by carefully locating these uses, the preparation of traffic studies, and the provision of transportation improvements. Such improvements shall include interconnection of parking lots where required by the City, prohibitions on left turn movements, limitations on the number of driveways, and construction of service roads parallel to major traffic arteries.

Conversion of Residences to Commercial Uses

As cities grow and develop, there is pressure to convert residential dwellings into professional offices and other commercial uses. This is particularly true in areas adjacent to commercial areas and along major arterial streets. In order to control this in the future, conversion shall only occur in areas specifically designated for professional office, limited commercial or retail commercial development on the land use plan map. There are ample opportunities for these conversions without disrupting other residential areas in the City.

Development along Clarkson Road and along the east side of Old State Road

Two objectives of the plan deal with development along major roads in the City. Much of the land along Clarkson Road is planned for redevelopment from residential uses to professional and medical offices. In addition, some of the land on the east side of Old State Road is planned for redevelopment from residential uses to professional and medical offices. In both cases, these new office uses will abut residential uses. These residential areas can be maintained by ensuring that the planned commercial uses provide landscaping and buffering between their property and that of the residential areas. These new commercial uses should also provide landscaping to enhance the appearance of their buildings.

Appropriate Office Uses along Clarkson Road and along the East Side of Old State Road

Uses appropriate for Clarkson Road and along the east side of Old State Road are listed in Appendix A based on their titles in the North American Industry Classification System (NAICS) manual published by the Office of Management and Budget, 1997 edition.

Large Retail Stores

One concern expressed by City residents was the potential for large specialty or retail stores to be constructed and later vacated. The larger such a facility is, the more difficult it is to find a suitable tenant once it is vacated. In approval of such facilities in the future, the City should ensure that the architectural features of the building are attractive and do not limit the potential reuse of the building. It would be appropriate to have guidelines for any retail building over 30,000 square feet in size.

Maintenance of Existing Residential Density

An objective of the plan is the maintenance of the existing density of residential development in the City. This traditional low-density development pattern in the City should be

continued. There are many advantages to low-density development. Some of these advantages are outlined below.

Utility Service. Low-density residential development requires smaller service lines than high-density residential development and many other types of more-intensive land uses. High-density residential development will not only require more water per acre for domestic water consumption, it also will require more water to maintain adequate fire flow requirements for fire protection. If land uses are distributed so that higher intensity land uses are concentrated in the center and low-density residential is on the periphery, it makes it much easier to size utility lines accordingly. On the contrary, if there is a mix of high intensity uses and low-density residential uses throughout the City, all utility lines must be sized to accommodate the intensive uses, increasing the cost of utility lines.

Emergency Services .One problem with scattering intensive developments throughout a City or metropolitan area is that it becomes a challenge to provide appropriate levels of emergency services. When intensive land uses are scattered around a City, it requires a broader distribution of fire equipment and fire and police stations. In addition, fire flow requirements are much higher for intensive developments than for low-density residential development. A major commercial or industrial area can have fire flow requirements as high as 12,000 gallons per minute, while a low-density residential area may require only 2,000 gallons per minute. Several large water mains are required to sustain a fire flow requirement of 12,000 gallons per minute. It is more logical to concentrate these uses with high fire flow requirements in the center of a City rather than allowing them to establish themselves on the periphery.

Transportation. Another advantage of low-density residential development is in the requirements for transportation. Low-density residential development can be served adequately by two-lane major streets and narrow local access streets. When intensive development is mixed with low-density development, the streets must be sized to accommodate the peak hour traffic. High-density residential development will generate much traffic in the morning and evening peak hours that can overwhelm narrow streets. Based on the increasing costs of road construction, the wider a street is, the more costly it will be to construct and to maintain.

Environment. There are many environmental advantages to low-density residential development. Ellisville has areas characterized by floodplains and steep slopes. These conditions are not conducive to intense development. There is no good reason to allow high-density housing on lands that are flood-prone or have steep slopes. Lands with steep slopes are better suited to very-low density residential development. Residential development should not be allowed in flood-prone areas.

Greenspace. Low-density residential development provides more green space. With larger lots, there are more areas covered by grass and landscaping which is visually pleasing and provides areas for children to play.

Stormwater. Low-density residential development provides less lot coverage. With lower percentages of impermeable surfaces (i.e., buildings, driveways, patios, etc.), stormwater is absorbed directly into the ground rather than creating significant surface runoff.

Land Use Demands. Low-density residential development on the periphery of the metropolitan area forces intensive land uses into the central part of the City where urban development patterns already exist. This also improves demand for higher-density existing residential developments in the center of the metropolitan area.

Tranquility. Low-density residential development provides tranquil neighborhoods with low levels of noise, pollution and stress.

Tax Burden. Low-density residential developments ease the tax burden on existing City residents. Since new housing may require up to two years to actually pay property tax to the City, the lower the number of new housing units in a new area, the lower the number of residents that have to be carried by existing City tax payers. A 50-acre parcel of land with 75 new houses will require fewer City services (and less municipal expenses) than a 50-acre parcel with 200 new houses. This is a significant when the delay in receipt of tax receipts from these new houses is considered.

Development Demand. Low-density residential development on the periphery of a metropolitan area maintains the existing demand for new houses in the City. This demand is the number of new homes that are actually demanded by existing and potential residents of the City not the number of new homes built for speculation. While the City needs to provide housing opportunities for existing residents and for a reasonable number of potential residents who desire to live in Ellisville, the City does not need to provide medium and high-density housing opportunities merely to satisfy the interest of developers wanting to build speculative housing.

Plan for Annexation

There are areas adjacent to the City that should logically be included within the City's boundaries. Two areas have been identified by the City staff for potential annexation. One area is southeast of the City between Ellisville and Ballwin. A second area lies south of the City. The southeast quadrant encompasses six subdivisions. Annexation of both of these areas is recommended.

An advantage of annexation is an increase in tax revenue. Areas annexed by the City are treated as "B" Pool sales tax areas, and sales tax dollars in the county are allocated to the City on a per-capita basis. As the City's population increases, the amount of sales tax dollars allocated to the City also increases. Other tax revenues that are allocated to cities on a per-capita basis include state taxes on cigarettes and motor fuels.

In order to plan for annexation of unincorporated lands adjacent to the City, the land use plan provides land use designations for these lands. These lands are planned for low-density residential development and parks, recreation and open space. It is anticipated that most of the land in this latter category will be used for passive recreation and open space.

Tree Preservation

Ellisville is designated a Tree City USA. The City Council annually budgets money for new trees and the removal of dead trees. Planting of new street trees throughout the City needs to be continued. A tree protection ordinance should be considered to prohibit the unnecessary removal of trees when development occurs. The City should maintain a list of appropriate street trees and require all new development to install trees from the approved list. Such trees should be a minimum two and one-half inch caliper size from the following species:

Ashes: Seedless Green Ash (*Fraxinus Pennsylvania "Marshall Seedless'*)
White Ash (*Fraxinus Americana)*

Eastern Hophornbeam: Eastern Hophornbeam (*Ostrya virginiana)*

Lindens: Littleleaf Linden (*Tilia cordata)*
Silver Linden (*Tilia tomentosum)*

Locust: Thornless Honey Locust (*Gleditsia triacanthos 'inermis')*

Maples: Columnar Norway Maple (*Acer platanoides erectum (columnare))*
Hedge Maple (*Acer campestre)*
Red Maple (*Acer rubrum)*

Oaks: Pin Oak (*Quercus palustris)*
Red Oak (*Quercus rubra)*
Willow Oak (*Quercus phellos)*

Pear: Callery Pear (*Pyrus calleryana) 'Cleveland Select'*

Land Development Ordinances Amendments

One objective of this plan is to amend the City's zoning ordinance and other land development regulations to be consistent with this plan and to assist in its implementation. It is recommended that after adoption of the final comprehensive plan, a list of land use related recommendations be prepared and then compared to exiting City regulations. This would serve as the basis for identifying needed amendments to the City's land development related regulations. It is anticipated that a complete overhaul of the Zoning Code and Subdivision Code will be required to ascertain consistency with the Comprehensive Plan.

Future Planning Considerations

Because it is difficult to predict what will happen twenty years hence, it is recommended that this plan be reviewed and updated on a regular cycle every three-to-five years. This cycle may vary in length based on development activity, the general state of the economy and other issues, but an update should be undertaken at least every five years.

One item that will need to be revisited is residential densities in existing single-family areas with relatively large lots. Some of these areas have average lot sizes well in excess of one-half acre and have houses that are 50 years old or older. Over the next several years, there will be increasing development pressures to resubdivide or redevelop these areas for higher density development. While this redevelopment is contrary to the objectives of this plan and should not be allowed to occur on a piecemeal, lot by lot basis, there may be significant merit to allowing redevelopment in selected areas in the future. It is anticipated that economic factors will occur that would encourage redevelopment of some of these older subdivisions for single-family attached dwellings or new homes on smaller lots. Such redevelopment should be limited to relatively large tracts of land (tract of at least five acres in size), and should not consist of one duplex on a block surrounded by 50-year old houses. However, this type of redevelopment should not be considered within the Hutchinson/Froesel Area nor the Hilltop Area, as discussed previously in this document.

Another recommendation of this Update is to consider allowing residential uses in the commercial and light industrial zoning districts as conditional use permits. Careful consideration should be given to ascertain that any negative impacts to abutting residential zoning districts and uses are mitigated.

Economic Development Element

Introduction

The primary land use in Ellisville is single-family residential development. However, the City has a broad mix of land uses including residential, commercial, institutional, and industrial land uses. It must be realized that residential land use generates small amounts of tax revenue. In order to generate revenues to support City government expenditures in the future, it is necessary to provide areas in the City for commercial and industrial activities that will generate sales tax. To this end, the City of Ellisville engaged in a commercial corridors study in an effort both to inform the City about current conditions along Manchester Road and Clarkson Road and also to develop a strategic plan to guide future economic development planning.

The corridors, Manchester Road and Clarkson Road run through the City of Ellisville, intersecting at the City's heart, pumping traffic through it and, with that traffic, the majority of the City's economic activity. For these reasons, these thoroughfares, and the level of activity within them, are of great concern to the City.

City Revenue

Ellisville derives a large percentage of its revenue from sales tax and utility gross receipts taxes. Another significant source of revenue is intergovernmental transfers of revenue including gasoline and cigarette tax revenue. Major sources of City revenue are summarized in Table 6. These revenues include the City's general one percent (one cent) sales tax, the one-half percent (half cent) storm water sales tax, the utility gross receipts tax (utility taxes), and the City's property tax. For 1998, the City Council reduced the real property tax rate from 25 cents to 15 cents per $100 of assessed valuation. This is a very low property tax rate for a city and reflects the City's use of sales tax to keep the property tax rate low.

Residential land uses generate small amount of property tax and no sales tax. In addition, utility gross receipts taxes are subject to major variations based on weather conditions. For example, the Winter of 2001-2002 was very mild and there was a subsequent decline in utility gross receipts. Another variable source of revenue is intergovernmental transfers. These funds include a portion of the state gasoline tax and part of the county cigarette tax, which are distributed, based on the City's population. However, recent trends have seen a decline in total intergovernmental transfers and it is not wise to count on these funds for a significant part of a City's budget. One area where cities can depend on revenue is from local sales taxes.

Economic Development

Economic development has different meanings to different people. To be true economic development, a proposed land use must provide jobs, generate tax revenue and

promote the creation of other jobs through spin-off economic activity. A proposed warehouse employing three persons is not a solid economic development opportunity because it provides few jobs, does not generate much tax revenue, and does not promote creation of other jobs in the economy. However, a manufacturing plant that employs 200 persons provide jobs, generates tax revenue (including property taxes and utility gross receipts taxes) and promotes the creation of other jobs to provide the goods and services demanded by the 200 employees of the manufacturing plant.

Table 6: Projected Sources of Revenue 2010

Sources of Revenue	**Projected Amount**
Taxes	
Real Estates (property) Tax	$370,000
One Percent Sales Tax	$2,279,000
½ Cent Sales Tax	$1,374,000
¼ Cent Sales Tax	$590,000
Financial Institution Tax	$300
Franchise Fees (Utilities)	$1, 795,000
Intergovernmental Revenue (gasoline, motor vehicle and cigarette taxes)	$896,187
Licenses, Permits, Fees	
Business Licenses	$505,000
Other Licenses, Permits and Fees	$101,600
Fines and Court Costs	$608,500
Park Revenue	$279,900
Miscellaneous Revenue	$170,200
Total Projected Revenue	$8,969,687

Source: Director of Finance

Existing Conditions Assessment

The City conducted a study of the corridors' current conditions, including land use, zoning, physical conditions, visual character and traffic. A report (The Ellisville Commercial Corridors Study: Existing Conditions Assessment Phase I Technical Memorandum) was prepared with pictures, maps and graphics detailing the physical and economic conditions observed and considered in the course of developing an economic development strategic plan. The report's findings are summarized below to generally provide some context for the detailed recommendations which will follow.

LAND USE

The land uses along the corridors are primarily of the commercial type, including retail and commercial service. Over time, the commercial uses in the corridors have transitioned from retail sales tax generating uses to a predominance of commercial service uses which generate comparatively less sales tax revenue. As a point-of-sale City, this transition is of great concern and is one of the drivers of this Study. Other factors include vacancy, obsolescence and deteriorating conditions. Other uses in the corridors include:

- Institutional
  - Non-profit, semi-public uses such as churches, schools, government offices, etc.
- Residential
  - Single and multi-family
- Office
  - Medical office or other small office user
- Industrial
- Vacant

The land uses in the corridors appear to be, for the most part, compatible to one another as the most common land uses represent varying intensities of commercial use. The few land use incompatibility issues in the corridors occur in those instances where residential uses interrupt the continuum of commercial use along each Commercial Corridor. Such residential uses are typically older than neighboring uses, indicating they predate the commercialization of Manchester and/or Clarkson Roads.

ZONING

The zoning districts within the corridors are:

1. R-1: Single-family Residential
2. C-1: Open Space Commercial
3. C-3: Commercial
4. C-4: Ellisville Business Park
5. C-5: Planned Commercial
6. M-1: Light Industrial Zoning District

Each of the aforesaid zoning districts permit uses of increasing intensity. Each zoning district requires the same lot size and setback from the right-of-way; excepting R-1 Single-family Residential which requires a minimum setback of 35 feet from the front property line – each other zoning designation requires a minimum 50-foot setback. The minimum lot size in each zoning district is one-half acre – a requirement which most lots in the corridors meet with only a few small deviations. The minimum setback for uses along Manchester and Clarkson is 110 feet from the centerline of the right-of-way. Commercial zoning districts do not allow residential uses. In order to promote mixed-uses with integrated residential, the City may consider revising its zoning ordinance to allow such use configurations.

PHYSICAL CONDITIONS

Buildings

Most of the buildings in the corridors were observed to be in "good" to "fair" condition, with few straying into "poor" or "excellent" status. Buildings rated in "good" or "excellent" condition had either little or no observable deferred maintenance issues. Buildings that were rated in "fair" condition exhibited some instances of deferred maintenance or deterioration. Buildings rated "poor" exhibited deterioration of various building components and materials.

Right-of-Way Conditions

The sidewalks, curbs, gutters, and roadways within the corridors are mostly in good condition. PGAV observed several areas where deterioration of curbs, gutters, sidewalks or roads was noticeable within the right-of-ways. These areas are primarily along Manchester Road; along stretches predominated by older structures.

Pedestrian connectivity in general and particularly from residential uses to neighboring commercial uses throughout the corridors is poor and can be improved.

VISUAL CHARACTER

Ellisville's population grew from approximately 300 people in 1940 to more than 9,000 today. The most significant period of growth in the City occurred between 1950 and 1970. During this period of time, the City's population grew from 625 to 4,681. In the decade between 1950 and 1960, the City's population grew more than three hundred percent (300%).

Such rapid population growth and related development paced the growth of post-war suburban St. Louis and followed the typical development pattern observable in most post-war suburban municipalities: that of the subdivision of cul-de-sacs, feeder roads and related arterials where primacy in land-form decision-making was given to the needs of the automobile and efficiency in vehicular transportation rather than the needs of the pedestrian.

The land uses in the corridors evolved over time with little cohesive vision or plan guiding development. The dominant consideration in the planning and development of land within the corridors seems to have always been vehicular access and convenience. This has been much to the detriment of both pedestrian circulation and access as well as the physical appeal of the built environment along Manchester Road and Clarkson Road.

This "auto-centric" development, the width of the Commercial Corridors and the setback and signage regulations in the City's zoning ordinance have created what feel, to the driver and observer, like broad rivers of swift-moving traffic on whose sides rest destinations that are hard to find because both signs and buildings are often hard to see

from the road. While street trees impose order in some places along the Commercial Corridors, overgrown and untrimmed trees may also obscure a motorists' desired destination from view.

As redevelopment occurs within the corridors, the City should have at the ready building design guidelines so that, over time, the built environment within the corridors develops a sense of place. In its current condition, the preponderance of varied, commercial architecture within the corridors presents a built environment whose design rolls along with every other municipality along Manchester Road and provides a continued sense of rapid, haphazard commercial development ruled by auto-centric considerations rather than an aesthetic sensibility. Future redevelopment should be encouraged to be both aesthetically pleasing, pedestrian friendly and sustainable.

TRAFFIC

There are several "high hazard" traffic areas along the corridors where average daily traffic volume ("ADT") measurements released by the Missouri Department of Transportation ("MoDOT") indicate particularly high levels of traffic combined with poor vehicular access management and a relatively higher incidence of auto accidents.

- At the western edge of the corridor, near Old State Road, ADT in that portion of Manchester is 32,572.

- Near the intersection of Clayton Road and Clarkson Road, in 2008, MoDOT observed 28,094 ADT. At this location is also the new Fountain Plaza development, whose presence may push ADT higher.

- At the eastern edge of the Manchester corridor, near New Ballwin Road, MoDOT measured ADT at 44,992 in 2008.

- ADT at the intersection of Manchester Road and Clarkson Road is 41,780.

Traffic has always been, and continues to be high along Manchester, Clayton and Clarkson Roads. Site access, pedestrian and cycling routes require better management to mitigate safety issues in "high hazard" traffic areas and elsewhere throughout the corridors.

Goal and Objectives

Goal: An adequate commercial and industrial base shall be maintained to keep residential property tax rates at a reasonable level and to provide employment opportunities, as well as goods and services needed by City residents.

Objective: Encourage new business and industrial uses, which are compatible with the City to locate or expand within the City.

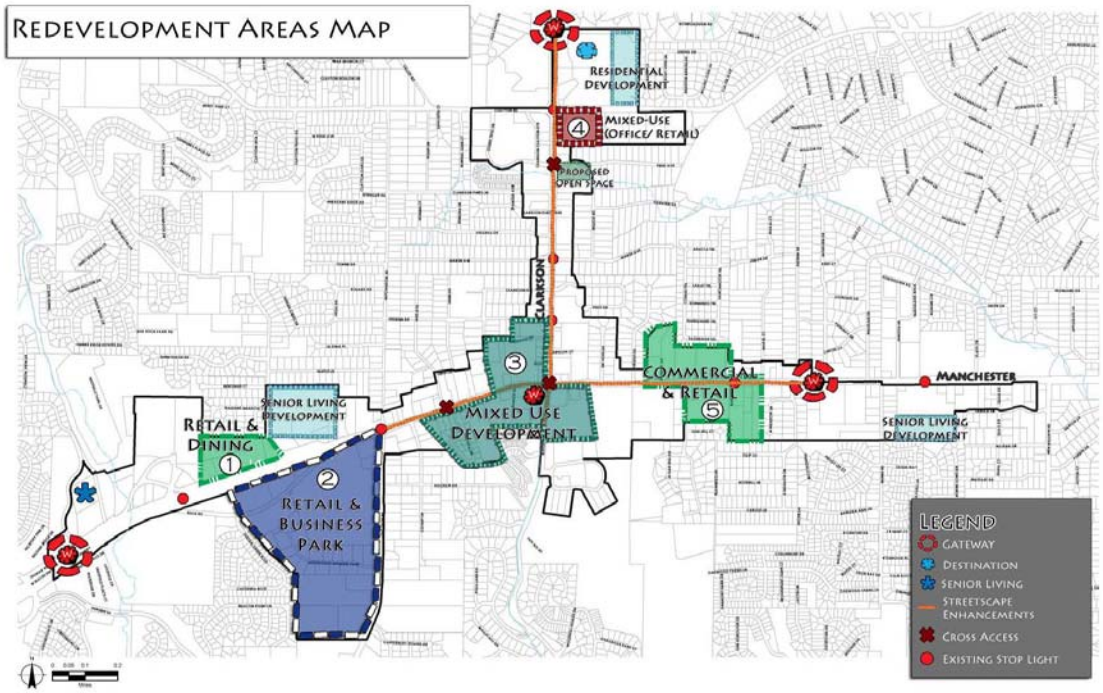
Objective: Incentives should be considered by the City for new businesses that are consistent with the City's goals and objectives, will make a substantial investment in the community, and will provide employment opportunities that would be beneficial to the City's residents.

REDEVELOPMENT AREAS: IDENTIFICATION AND DESIRED LAND USES

The City wishes to encourage economic revitalization along its Commercial Corridors and, in 2008, the City contracted PGAV to study the corridors and to make recommendations for economic development strategies. PGAV identified five subareas within the Commercial Corridors where economic redevelopment activities may not only yield positive results but may also catalyze redevelopment throughout the rest of the City. These subareas, or Redevelopment Areas, described below present opportunity primarily because they represent either long-term impact for the City, or because they represent the possibility of replacing an underperforming use with a use (or uses) that may generate a greater amount of activity and value. Each Redevelopment Area is described briefly below in terms of its location, size, zoning, development characteristics/considerations and desired land uses.

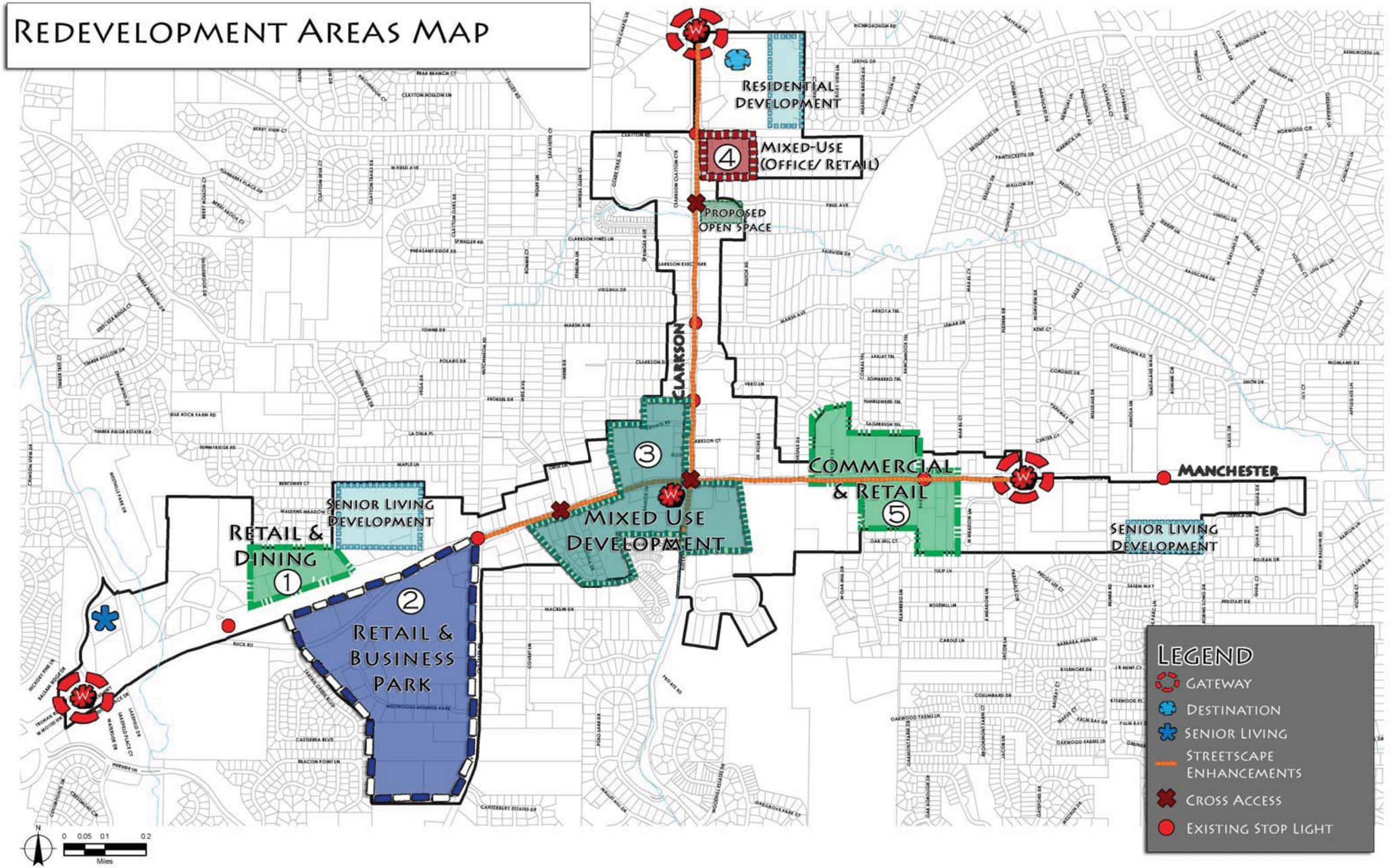
The locations of the Redevelopment Areas are shown on the **Redevelopment Areas Map**, provided below.

Figure 5: Redevelopment Areas Map



Though the Redevelopment Areas are numbered below, their numbering does not indicate a rank order in terms of either importance or timing.

Redevelopment Areas Map



1. Redevelopment Area #1: Truman/Strecker at Manchester Road

Location: Between Strecker Road and Home Depot on the north side of Manchester Road.

Size: This Redevelopment Area totals approximately 14 acres in size.

Zoning: C-4 Ellisville Business Park

Development Characteristics/Considerations: There are five parcels in the Opportunity Area – three are vacant and unimproved, one is occupied by a relatively new Public Storage facility, and the other is a warehouse building that currently houses a privately owned business incubator in which tenants may borrow or lease office space and facilities. The warehouse use fronts Strecker Road to the east and the Public Storage facility fronts on Truman Road, which terminates before the warehouse use.

Two of the vacant, unimproved parcels have immediate development potential as they front Truman Road just west of the Public Storage facility. The key to encouraging development of the undeveloped parcels and the reuse or redevelopment of the warehouse space lies in improving visibility and access. This can be accomplished by extending the access road to Strecker Road. It should be noted that this site is challenged in part due to sloping topography which limits visibility from Manchester Road and increases the costs associated with extending the road. The City's transportation engineer should evaluate the potential for extending the road and the costs associated with it.

Assuming a floor-area ratio of 25%, this Redevelopment Area may support one or more buildings totaling approximately 157,000 square feet in size. If the existing buildings (Public Storage and warehouse) remain, this Redevelopment Area could support additional buildings totaling approximately 10,000 square feet.

Desired Land Uses: Commercial land uses, generally; specifically, commercial land uses desired for this area include, without limitation: Full-service restaurants and retail.

2. Redevelopment Area #2: Manchester and Old State

Location: The southwestern quadrant of the intersection of Manchester Road and Old State Road.

Size: This Redevelopment Area totals approximately 115 acres in size.

Zoning: M-1 Light Industrial

Development Characteristics/Considerations: The largest of the 30 parcels comprising this area is the Cooper/Bussman Fuse facility that fronts Old State Road. A restaurant/bar with a vacant house in the rear of the property fronts Old State Road and a Storage Inn

and a vacant industrial building front Ruck Road. A small business park borders Cooper/Bussman to the south; beyond that there is vacant land.

This is a large area that presents diverse development opportunities. Light industrial, office and/or retail development in a Business Park setting may be an appropriate response to redevelopment needs for this area. Although it is possible a big or junior box retail tenant may choose to locate here based on the high household income in the vicinity.

It should be noted that redevelopment on the western half of the Opportunity Area will encounter challenges associated with topography as Ruck Road runs alongside an existing natural creek bed although it is not within the 100-year floodplain.

Desired Land Uses: Commercial land uses in general, specifically, including: retail and office; targeted office users include, without limitation, companies which will bring jobs in the following industries to the City: communications, information technology, and healthcare.

3. Redevelopment Area #3: Manchester and Clarkson

Location: Three quarters of the intersection of Manchester Road and Clarkson Road.

Size: This Redevelopment Area totals approximately 73 acres in size.

Zoning: C-3 Commercial

Development Characteristics/Considerations: Currently, the Moore Nissan automotive dealership, the vacant Cadillac dealership, Butler Kia/Mitsubishi, McDonald's, the Clarkchester Apartments and two retail strip centers occupy each corner within this area. Retail strip centers include tenants such as Gordman's, K-Mart, Lucas Liquors, Chipotle, and several others.

This area should be a long-term planning consideration for the City. If the City desires a Manchester Road with steady but not extreme or hazardous traffic patterns, and if it wants to attract employers, residents, and retailers, it may wish to consider establishing a mixed-use development at this intersection. Such a center could tie in to the neighborhoods and parks around this intersection and may encourage a desirable, pedestrian-friendly atmosphere.

Desired Land Uses: High-density mixed-use, which may include commercial uses (e.g. retail and office) with integrated multi-family residential uses (e.g. apartments and condominiums).

4. Redevelopment Area #4: Clayton at Clarkson

Location: The southeast quadrant of the Clayton and Clarkson intersection.

Size: This Redevelopment Area totals approximately 8 acres in size.

Zoning: C-3 Commercial

Development Characteristics/Considerations: This is a high volume intersection which currently has three active corners. The northeast corner is the site of Fountain Plaza, a new retail and residential center. The northwest corner (which is in Clarkson Valley) is the site of the Fru-Con building and a new St. John's Mercy Hospital Medical Office building. The southwest corner is the sites of a Walgreen's and a retail strip center anchored by a Dierberg's. This area covers the last corner of the intersection, and this intersection is currently not performing at its highest and best use as the retail strip building that dominates the area is partially, or mostly, vacant and exhibits some level of deferred maintenance.

The City may encourage the property owner to reinvest in the property through the use of incentives or, if the property has substantial deterioration, the City may consider the property for a redevelopment designation under of one of the State redevelopment statutes. A desirable use for this opportunity area may be as a mixed-use center incorporating office and retail uses (though omitting residential uses) in a development pattern that could mimic that of Fountain Plaza across the street.

Desired Land Uses: Commercial land uses in general; specifically, office and retail.

5. Redevelopment Area #5: Manchester Road between Vesper Drive and Mar El Court

Location: Along Manchester Road between Vesper Drive and Mar El Court; both sides of Manchester.

Size: This Redevelopment Area totals approximately 36 acres in size.

Zoning: C-3 Commercial and R-1 Single-Family.

Development Characteristics/Considerations: Within this area, on the north side of Manchester is the Bo Beuckmann auto dealership, the former David Sinclair Lincoln Mercury West dealership, a bank, a vacant roller rink, a Burger King, and a bowling alley. The condition of the bowling alley, the vacant roller rink, and the vacant auto dealer can be considered poor and underutilized. On the south side of Manchester is a Best Buy, a Tile Store, a Long John Silver's, a gas station, a parking lot associated with Bo Beuckmann, Trends Motel, and two single family residences.

The single family uses are isolated, older and are served by a gravel driveway extending from Manchester Road. Trends Motel is an aging, low-rate motel in poor condition. City police are regularly called to the motel for various complaints, which indicates the site may be a menace to the public health, safety and welfare. Due to the

condition of the existing structures, the incompatibility of land uses, the number of current vacancies and the obsolete platting of parcels, this area is a prime candidate for redevelopment.

Desired Land Uses: Commercial land uses in general; specifically, retail.

IMPLEMENTATION STRATEGY SUMMARY

The City of Ellisville should encourage and facilitate the redevelopment of each of the aforedescribed redevelopment areas in order to encourage their highest and best uses, to promote and support Ellisville's existing and thriving businesses, and to encourage the economic development of the Commercial Corridors. The first step in the implementation process is for the City to amend the City of Ellisville Comprehensive Plan to designate each area for redevelopment, including an amendment to the Land Use Plan to reflect the "Desired Land Uses."

Once the Comprehensive Plan has been amended to recognize each redevelopment area, the City Council should, at its discretion, issue requests for proposals ("RFP") to area or national developers for redevelopment plans for each redevelopment area (either separately or in combination as the City Council sees fit), with each RFP stipulating the following, without limitation:

1. The desired land use(s),
2. The desired physical form and visual character,
3. Any incentives the City may permit or deem appropriate for consideration for the redevelopment area addressed in the RFP, including:
    a. Tax Increment Financing ("TIF");
    b. Transportation Development District ("TDD");
    c. Chapter 353 Tax Abatement; and/or,
    d. Community Improvement District ("CID").

Furthermore, the City should stipulate in each RFP that any plan submitted in response should benefit the City of Ellisville by not only undertaking the revitalization of these redevelopment areas, but also, in doing so, support the City's existing businesses by generating new economic activity for the City.

FUNDING STRATEGIES

With respect to incentives offered to assist redevelopment, the City will identify in the RFP its openness to using TIF, Chapter 353, CID or TDD. Which incentive(s) may be used will depend on the plan proposed for each area and ultimately accepted by the City as well as the physical and economic condition of each area at such time as each area is considered for redevelopment via the City's issuance of an RFP.

The five Redevelopment Areas described total approximately 246 acres. This total area represents approximately nine percent (9%) of the City's total land area of about 2,800 acres. These redevelopment efforts represent a substantial economic development

planning initiative that could set the course for the future economic conditions and physical character of the City.

As the City initiates redevelopment activities in each of the five Redevelopment Areas, the City may also be implementing the Master Plan for Manchester Road developed during the course of the Great Streets Initiative, to which the City is a party. This Master Plan will include design elements for Manchester Road, but not for Clarkson Road. There is no reason why the City could not explore implementing the same Master Plan vision along Clarkson Road as well as Manchester Road in an effort to create a unified, cohesive streetscape environment within the City.

The use of any public incentives should be considered by the City with care and always with an eye toward ensuring that the commitment of any public incentive results in a positive "return on investment" to the City in terms of new infrastructure, tax revenues, and the fulfillment of the City's goals and desires for the economic revitalization of its Commercial Corridors.

Traffic Circulation Element

Transportation Facilities

An inventory of existing transportation facilities in the Ellisville area was prepared as a basis for identifying existing roadway deficiencies, projecting needed roadway improvements, and identifying transportation alternatives. The inventory includes a list of major roads in the City, inter-City bus service, mass transit, airports and railroads. Available traffic counts are also provided.

Roadway System

The St. Louis region has a well-defined roadway system including a number of interstate highways which are supplemented by other federal, state and county arterial roads. Interstate highways include I-44, I-55, I-64, I-70, I-170, I-255 and I-270. State highways in and near Ellisville include highways 100 (Manchester Road), 109, 141 and 340 (Clarkson Road).

Major traffic facilities within Ellisville consist of Manchester, Clarkson, Clayton, Kiefer Creek and Old State Roads. Manchester Road is one of the oldest roads in Missouri. Originally a path, it was used by French residents of St. Louis who traded with the Native Americans. Some historians believe that it was called Rue Bonhomme (Bonhomme Road) during this period. As more and more farms were established in West St. Louis County, the road was used to carry farm produce to market. The street was then referred to as Market Street Road, a continuation of Market Street in St. Louis.

After the state capitol was moved to Jefferson City in 1826, the Missouri Legislature saw a need for a road between St. Louis and Jefferson City. In 1835, they ordered that a state road be established by way of Manchester and Union. Manchester Road then became the first official state road in St. Louis County. For many years, the road was just dirt and mud was a constant problem. Between 1852 and 1858, the road was graded and graveled. In 1922, it was converted to concrete and in 1963 was widened to four lanes.

One problem with street and highway planning in the St. Louis area is the large number of entities that own and/or are responsible for road maintenance. A list of governmental units responsible for some of the major roads in Ellisville is included in Table 10.

Motor Freight Resources

The St. Louis metropolitan area is the second largest trucking center in the U.S. with more than 300 common carriers and 50 contract carriers. The region has the lowest aggregate miles between major point of destination on the continental U.S. Over-the-road trucks can reach the following major cities in less than 8 hours; Chicago, Cincinnati, Dayton, Des Moines, Indianapolis, Kansas City, Louisville, Memphis, Milwaukee, Nashville, Oklahoma City, Omaha, Tulsa and Wichita.

Table 7: Road Maintenance Responsibilities

Road/Highway	Segment	Responsibility
Clarkson Road	All	Missouri Department of Transportation
Manchester Road	All	Missouri Department of Transportation
Clayton Road	East of Clarkson	Missouri Department of Transportation
Clayton Road	West of Clarkson	St. Louis County
Kiefer Creek Road	All	St. Louis County
Old State Road	All	St. Louis County
Strecker Road	Portion in Ellisville	St. Louis County
Valley Road	All	St. Louis County
Hutchinson Road	All	City of Ellisville

Inter-City Bus Service

Inter-City bus service in the St. Louis area is provided by Greyhound Bus Lines, Mid-American Coaches, Inc. and Vandalia Bus Lines, Inc.

Mass Transit

Buses. Bi-State Development Agency operates 580 buses over 112 fixed bus routes covering the St. Louis Metropolitan Area. Ellisville is served by Route 57X Ellisville Express, and Route 152X Highway 40-Clayton Road Express. Express routes operate during morning and evening rush hours. The Ellisville Express begins service at 5:39 a.m. with eastbound service from Manchester and Clarkson Roads along Manchester to West County Shopping Center. From there, the bus travels east then north on Lindbergh to Plaza Frontenac before traveling east on U.S. 40 to downtown St. Louis. In the evening, the route is reversed with buses traveling west to Ellisville. Route 152X is similar in that it serves St. Luke's Hospital, Chesterfield Mall and Clarkson Plaza before traveling east on Clayton Road, then north on 141 to U.S. 40, and then to downtown St. Louis.

Light Rail Transit. Bi-State Development Agency introduced service on MetroLink, a light rail system in July 1993, over a 17-mile long line. MetroLink completed a major expansion in 2001 and currently operates a 34.4 mile long line that connects Lambert-St. Louis International Airport through downtown St. Louis to East St. Louis and eastward to Southwestern Illinois College in Belleville. MetroLink was projected to carry an estimated 12,000 passengers per day during its first year of operations and 30,000 riders by the year 2000. The system greatly exceeds those projections and in 2000 averaged more than 50,300 riders per day.

Airports

Lambert-St. Louis International Airport. Lambert-St. Louis International Airport is located approximately 16 miles northeast of Ellisville. The airport is operated by the St. Louis Airport Authority, and covers approximately 2,162 acres of land. The airport authority owns more than 2,700 acres including land that has been purchased through the noise abatement buyout program.

Lambert has five runways and 81 gates. Three parallel runways are oriented northwest/southwest and have lengths as follows: runway 12R/30L is 11,019 feet long, runway12L/30R is 9,003 feet long and runway 13/31 is 6,286 feet long. There are two cross-wind runways. Runway 6/24 is oriented northeast/southwest and is 7,602 feet long. Runway 17/35 is oriented north/south and is 3,008 feet long.

The shorter runways (13/31 and 17/35) are primarily used for general aviation traffic (small planes). Aircraft are designed to operate into the wind and at Lambert the predominant wind direction is from the northwest. Approximately 60 percent of aircraft take-offs and landings are to the northwest using runways 30L, 30R and 24. Approximately 40 percent of aircraft take-offs and landings are to the southeast using runways 12R, 12L and 6. In peak weather conditions, the airport can handle 120 flights per hour.

Lambert averages approximately 1,400 scheduled daily arrivals and departures and serves approximately 30 million passengers annually. Lambert serves as a hub for American Airlines and other airline service is provided by Air Canada, American West Airlines, Continental Airlines, Delta Airlines, KLM, Northwest Airlines, Southwest Airlines, United Airlines and USAir. Lambert is also served by two commuter airlines: ComAir and Trans World Express. Major air cargo carriers at Lambert include Emery Air Freight, Federal Express, and United Parcel Service

Spirit of St. Louis. Spirit of St. Louis Airport is located in Chesterfield approximately six miles northwest of Ellisville. Spirit is operated by St. Louis County as a general aviation/reliever airport for Lambert Airport. Spirit is the second busiest airport in the Federal Aviation Administration (FAA) Central Region (Missouri , Arkansas, Iowa and Kansas). The airport has parallel asphalt runways (8R/26L and 8L/26R). The main runway is 7,500 feet long with full instrument landing systems, and the secondary runway is 5,000 feet long. Spirit is home to more than 500 aircraft including many of the corporate jets and other small aircraft in the St. Louis area. Its tower operates 24 hours a day.

MidAmerica St. Louis Airport. MidAmerica St. Louis Airport, a joint-use (military/civilian) airport is located in Mascoutah, Illinois, adjacent to Scott Air Force Base (AFB), approximately 38 miles east of Ellisville. The airport has an elevation of 459 feet above mean seal level and is open 24 hours a day. Its tower operates from 6:00 a.m. until midnight and the runway is lighted during those times. MidAmerica's main runway (designated 14L/32R) is 10,000 feet long. It is parallel to and offset from the main runway for Scott AFB by 7,000 feet. A crossover runway connects the civilian runway with the military side. A passenger terminal with

six gates is operational and has potential expansion for up to 85 gates. The airport also has a large cargo terminal. MidAmerica has dual Category II Instrument Landing Systems.

Creve Coeur Airfield. Creve Coeur Airfield is located in Maryland Heights just east of the Missouri River and is approximately 10 miles north of Ellisville. The airfield has two runways including a 2,850 foot long asphalt runway (runway16/34) and a 3,236 foot long turf runway (runway7/25). The airfield serves small private aircraft.

St. Charles County-Smartt Airport. St. Charles County-Smartt Airport is a general utility reliever airport under the St. Louis Regional Systems Plan. It contains 320 acres and is located in St. Charles County approximately 16 miles north of Ellisville. The airport has two illuminated asphalt runways, including a 2,000 foot long runway (runway9/27) and a 3,800 foot long runway (runway 18/36). Both runways are designated for visual flight rule operations. There are more than 100 small aircraft based at Smartt. There are long-range plans to extend both runways to 4,000 feet.

Railroads

The St. Louis area has traditionally been a major rail center. Currently, St. Louis is the second largest rail center in the United States. Class I freight-hauling railroads serving the metropolitan area include Burlington Northern Santa Fe, CSX Corporation, Norfolk Southern, Southern Pacific and Union Pacific. Class II railroads include Gateway Western and Class III railroads include Alton & Southern, Manufacturers Railroad, and Terminal Railroad Association. Passenger service in the metropolitan area is provided by Amtrak which operates stations in Kirkwood and St. Louis, and Alton, Illinois. Direct passenger service is available to and from Chicago, Dallas, Kansas City, Little Rock, New Orleans, and San Antonio.

Burlington Northern Santa Fe (BNSF) BNSF operates one of the largest rail networks in North America, with 33,500 route miles serving 28 states and two Canadian provinces.

Union Pacific. Union Pacific (UP) has 38,654 miles of track and is one of the largest railroads in North America serving 23 states and linking every major West Coast and Gulf Coast port. UP has one of the most diversified commodity mixes including chemicals, coal, food and food products, forest products, grain and grain products, intermodal metals and minerals, and automobiles and automobile parts. Most north-south traffic in the area moves through the Dupo, Illinois, terminal. Dupo is the site of the Union Pacific intermodal terminal which serves the St. Louis area. Union Pacific acquired Southern Pacific in 1992 and acquired Chicago and Northwestern in 1995.

Alton and Southern. Alton and Southern (A&S) operates Gateway Yard in East St. Louis. A&S performs freight car classification in southern Illinois for Union Pacific.

Terminal Railroad Association. The Terminal Railroad Association (TRRA) was formed in 1889 and quickly became the largest freight and passenger terminal in the world. TRRA operated St. Louis Union Station and owned the Merchants and Eads rail bridges. TRAA's

primary yard is the Madison Yard, however, they also have operations at Number 2 Yard in Brooklyn and Garden Yard in East St. Louis.

Ports

Port of Metropolitan St. Louis. St. Louis County is located at the center of the Mississippi River inland waterway system. The Port of Metropolitan St. Louis stretches for 72 miles along the Mississippi River from Grafton, Illinois on the north, to Chester, Illinois on the south. The port encompasses several port districts and authorities in Missouri and Illinois, including the St. Louis County Port Authority, and is the second busiest port on the inland waterway (second only to Pittsburgh).It is also the northernmost year-round ice-free port on the waterway and the northernmost port with lock-free navigation to New Orleans and the Gulf of Mexico.

The Port of Metropolitan St. Louis is situated at the headwaters of open navigation. North of St. Louis, the Upper Mississippi River has its elevation regulated by a series of locks and dams. South of St. Louis to the Gulf of Mexico, there is open navigation. Since St. Louis is situated at this change in navigation, it is an important boat turning point and fleeting area. To the north, tow size is limited to 15 barges. South of St. Louis, tow size is limited only by the vessel's ability to control the tow. The Port of Metropolitan St. Louis is the second largest fleeting area on the river system behind New Orleans. Approximately 30 million tons of commodities worth more than $5 billion move through the Port of Metropolitan St. Louis each year. Commodities include coal (10 million tons), food products (7.6 million tons), petroleum products (5.1 million tons), and other goods.

St. Louis County Port Authority. The St. Louis County Port Authority is responsible for the navigable waters of the Missouri and Mississippi Rivers for the length of those rivers in the county. The Port Authority has an 80-acre site on the Mississippi River at the River des Peres in South St. Louis County. Plans for this site include development of a port terminal and multi-modal industrial park. Site improvements will include a docking facility, a liquid dock, a rehabilitated 230,000 square foot building for public warehousing and light manufacturing, and related access roads and rail spurs.

Tri-City Regional Port. Tri-City Regional Port is the largest public port in the St. Louis area. Its harbor and terminal facilities are located on the Chain of Rocks Canal in Granite City, Illinois, approximately 23 miles northeast of the City, and upriver from Locks and Dam No. 27, the southernmost locks on the Mississippi River. The Port District owns four public river terminals and one privately operated terminal. It has a minimum operating depth of nine feet to facilitate commercial traffic and is open year-round. The Port District also owns an industrial park within the Melvin Price Support Center and is the license holder of Foreign Trade Zone (FTZ) #31.

Traffic Conditions

Traffic Counts. Traffic counts for major roads in and around Ellisville are listed in Table 11. Traffic counts for 1997, 1998, 2000 and 2004 (the most recent available) are included for

comparison purposes. These traffic counts are a critical component for determining the level-of-service of a roadway. These traffic counts indicate that traffic is continuing to increase in the City. Counts on the east portion of Manchester Road have increased substantially over the past year. In addition, there was a large increase in traffic on Kiefer Creek Road.

Table 8: Average Weekday Traffic Count

Road	Segment	1997	1998	2000	2004	% Increase
Manchester Road	east of Reinke/Manchester intersection	47382	51066	47898	47056	-1.76%
	east of Clarkson/Manchester intersection	46348	51063	49442	45811	-7.34%
	west of Clarkson/Manchester intersection	50476	51718	45106	48126	6.70%
	west of Old State/Manchester intersection	42134	43102	42510	40526	-4.67%
Clarkson Road	north of Clayton/Clarkson intersection	45133	47724	45219	43055	-4.79%
	north of Clarkson/Manchester intersection	45745	46206	47640	43189	-9.34%
Kiefer Creek Road	south of Clarkson/Manchester intersection	8794	11687	12092	13548	12.04%
Old State Road	south of Old State/Manchester intersection	14362	14343	15034	15589	3.69%

Source: Crawford, Bunte Brammeier

Traffic Accidents. In 2004, there were 379 motor vehicles accidents in the City. The 10 highest accident locations in 2004 are itemized in Table 12. It is significant to note that 9 out of the top ten locations, are all on Manchester Road.

Table 9: Ten Highest Accident Locations, 2004

Rank	Arterial	Location	# Accidents
1	Manchester Rd	Clarkson Intersection	97
2	Manchester Rd	Old State / Hutchinson Intersection	46
3	Manchester Rd	Ranchmoor - Vesper (15670-15825)	36
4	Manchester Rd	Clarkson - Weis (15901-16000)	35
5	Manchester Rd	New Ballwin - Shop N Save (15310-15484)	17
6	Manchester Rd	Reinke Intersection	16
7	Manchester Rd	Reinke - East Meadow (15484-15620)	16
8	Clarkson Rd	Manchester - Froesel	16
9	Clarkson Rd	Clayton Intersection	16
10	Manchester Rd	Vesper - Clarkson (15825-15899)	13

Source: Ellisville Police Department Annual Report of Police Services 2004

Level-of-Service Analysis

Level-of-service is a qualitative measure that describes the operational conditions of a road and the perception of the operational conditions by motorists. Level-of-service generally describes these conditions in terms of speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Six levels-of-service are defined with letter designations of A through F. Level-of-service A represents the best operating conditions and F represents the worst. The six levels-of-service are described as follows:

Level-of-Service A represents free flow conditions. Individual motorists are virtually unaffected by the presence of other vehicles in the traffic stream. Operators have a high degree of freedom to select desired speed and to change lanes. The level of comfort and convenience to the motorist or passenger is excellent. An example of level-of-service A is traffic conditions along Hutchinson Road.

Level-of-Service B is clearly in the range of stable flow although other vehicles in the traffic stream are noticeable. Ability to select desired speed is relatively unaffected although there is a slight decline in the ability to change lanes over the conditions present in level-of-service A. The level of comfort and convenience to the motorist or passenger is very good although it is less than that of level-of-service A because the presence of other vehicles in the traffic stream begins to affect individual behavior. An example of level-of-service B is traffic conditions along Old State Road.

Level-of-Service C is still in the range of stable flow, but the operation of individual users is significantly affected by interactions with other vehicles in the traffic stream. Ability to select and maintain a desired speed is affected by the presence of other vehicles and changing lanes become more difficult. The general level of comfort and convenience is good although it has declined considerably from level-of-service A. Examples of level-of-service C are traffic conditions on Kiefer Creek Road and Clayton Road west of Clarkson Road.

Level-of-service D consists of high-density yet stable flow. The ability to select a desired speed and to change lanes is severely restricted, and the driver or passenger experiences a fair level of comfort and convenience. Small increases in traffic flow can cause operational problems at this level-of-service.

Level-of-Service E represents unstable flow and indicates that the road is at or near capacity. Speeds are generally reduced to a low, but relatively uniform volume during peak periods. The ability to change lanes is extremely difficult and is generally accomplished by forcing another vehicle to slow down to accommodate such maneuvers. Comfort and convenience is poor and driver frustration is high. Small increases in traffic volume or other minor problems such as a stalled vehicle can cause traffic to come to a complete stop for relatively long periods.

Level-of-Service F describes forced or breakdown flow. This condition exists when the amount of traffic approaching a point exceeds the amount that can be accommodated on the roadway. Lines of vehicles form behind such locations. Operating conditions within the line include stop and go cycles that are extremely unstable. Vehicles may move at reasonable speeds for several hundred feet, then be required to stop for half a minute or more. The level of comfort and convenience to the driver or passenger is extremely poor. Examples of level-of-service F are traffic conditions on Manchester and Clarkson Roads.

A level-of-service analysis was conducted for major roads by segment based on the traffic counts listed in Table 11. The level-of-service of these major roads is listed in Table 13.

Table 10: 2000 Traffic Level-of-Service

Road	Segment	Level-of-Service
Manchester Road	East of Reinke Road	F
	East of Clarkson Road	F
	West of Clarkson Road	F
	West of Old State Road	F
Clarkson Road	North of Clayton Road	F
	North of Manchester Road	F
Kiefer Creek Road	South of Manchester Road	B
Old State Road	South of Manchester Road	C

Hutchinson Road	North of Manchester Road	A
Clayton Road	West of Clarkson Road	C
	East of Clarkson Road	B

Source: Richard Shearer & Associates

Programmed Transportation Improvement

A number of transportation improvements are currently programmed for the Ellisville area. Transportation improvements programmed by St. Louis County, Missouri Department of Transportation (MoDOT) Program for Highway Right-of-Way Acquisition and Construction, and the St. Louis Metropolitan Area Transportation Improvement Program are outlined below. Over the next five years, MoDOT will be concentrating on rehabilitation projects in lieu of major new construction.

Old State Road. Widening of Old State Road is planned by St. Louis County. Initial improvements will entail widening the road to a five-lane section with a center left-turn lane from Manchester Road south to Ridge. This improvement will facilitate movement of truck traffic servicing the business park and improve the traffic capacity of the road. Future improvements will widen Old State Road to three lanes from Ridge to Old State Spur in Wildwood to the south.

Manchester Road. MoDOT is improving Manchester Road from Barrett Station Road to Route 141. Resurfacing and pavement repair will be completed

Route 141. Route 141 was realigned and improved from North of Big Bend Road to Route 30. Improvements include widening the highway to six lanes and limiting access to the roadway.

MetroLink.

Cross County Extension. Segment 1 of the Cross County MetroLink has been under construction since 2004. It will connect the Forest Park MetroLink station to University City, Clayton, Richmond Heights, Brentwood and south to Maplewood and Shrewsbury.

Lambert-St. Louis International Airport. Expansion of Lambert-St. Louis International Airport is imminent. The FAA and the Airport Authority have updated the master plan for Lambert. This update included an evaluation of the feasible airfield alternatives including existing alternatives, new alternatives and "do-nothing" alternative. The effects of potential runway changes on the surrounding area and transportation system were considered in developing the most effective redevelopment of the airport. The plan updated the Airport Layout Plan, Terminal Area Plan, Airport Access Plan and the Airport Land Use Plan.

Goal and Objectives

Goal: To improve the safe, efficient and reasonably convenient traffic system providing a variety of transportation modes.

Objective: Traffic facility alternatives to using Manchester, Clarkson and Clayton Roads need to be facilitated including potential bypass routes and other access management techniques.

Objective: Improvements to State Route 109 should be encouraged to provide an alternative to Clarkson Road.

Objective: Widening of Clayton Road from State Route 109 to Hutchinson Road should be encouraged.

Objective: An east-west collector road should be established between Old State Road and State Route 109 in the area south of Manchester Road.

Objective: Existing collector streets in the Ellisville area should be reviewed for their ability to be improved to provide alternatives to Clarkson Road and Manchester Road.

Objective: Traffic impacts of future land uses on major streets need to be considered carefully in development review and approvals.

Objective: Additional signalized intersections will be provided including the intersection of Manchester and Reinke Roads.

Objective: Street connections in the northeast quadrant of the City need to be identified to provide alternatives to using Manchester Road and Clarkson Road for all trips.

Objective: Traffic calming strategies should be implemented on selected local streets in the City.

Objective: The use of interconnected parking areas between adjacent commercial developments shall be used to facilitate safe traffic movements.

Objective: Extension of MetroLink, the establishment of park and ride lots in or near Ellisville, and the provision of connecting bus routes to serve the Ellisville area shall be promoted.

Objective: The City shall encourage MoDOT to implement and monitor signal synchronization on MoDOT-controlled streets in the City to facilitate smooth traffic flows.

Objective: When stub streets are provided in new subdivisions, indications that these streets may be extended in the future will be provided on signs and in on-site display homes during construction.

Objective: Street systems in new subdivisions shall be responsive to topographic relief, minimizing steep grades.

Objective: Pedestrian circulation will be enhanced through installation of sidewalks in appropriate locations.

Traffic Circulation Plan

Motor Vehicle Oriented Businesses. A critical component of the City's transportation planning is the fact that a significant amount of traffic on the City's major thoroughfares passes through the City with origins and destinations outside of Ellisville. Another critical concern is the amount of turning movements into businesses that are oriented to automobiles such as restaurants and banks with drive-through windows, and other businesses that as a principal part of their operations provide goods or services to occupants of motor vehicles in a short time span. Based on traffic volumes, accident rates, sight distance factors, traffic generation rates, and high-hazard traffic areas, guidelines have been established in order to determine the appropriateness of a particular site for Motor Vehicle Oriented Businesses (MVOBs). High hazard locations are updated on a regular basis and based on the November 2005 study are as follows:

Manchester Road:

- East-most City limits to the Shop N Save Center
- Within 300' of the intersection with Reinke
- Reinke to Flescher
- Ranchmoor to Weis
- Within 300' of the intersection with Old State Road
- Strecker Road to the west-most City limits

Clarkson Road/Kiefer Creek Road:

- Within 300' of the intersection with Manchester Road
- Manchester Road to Froesel

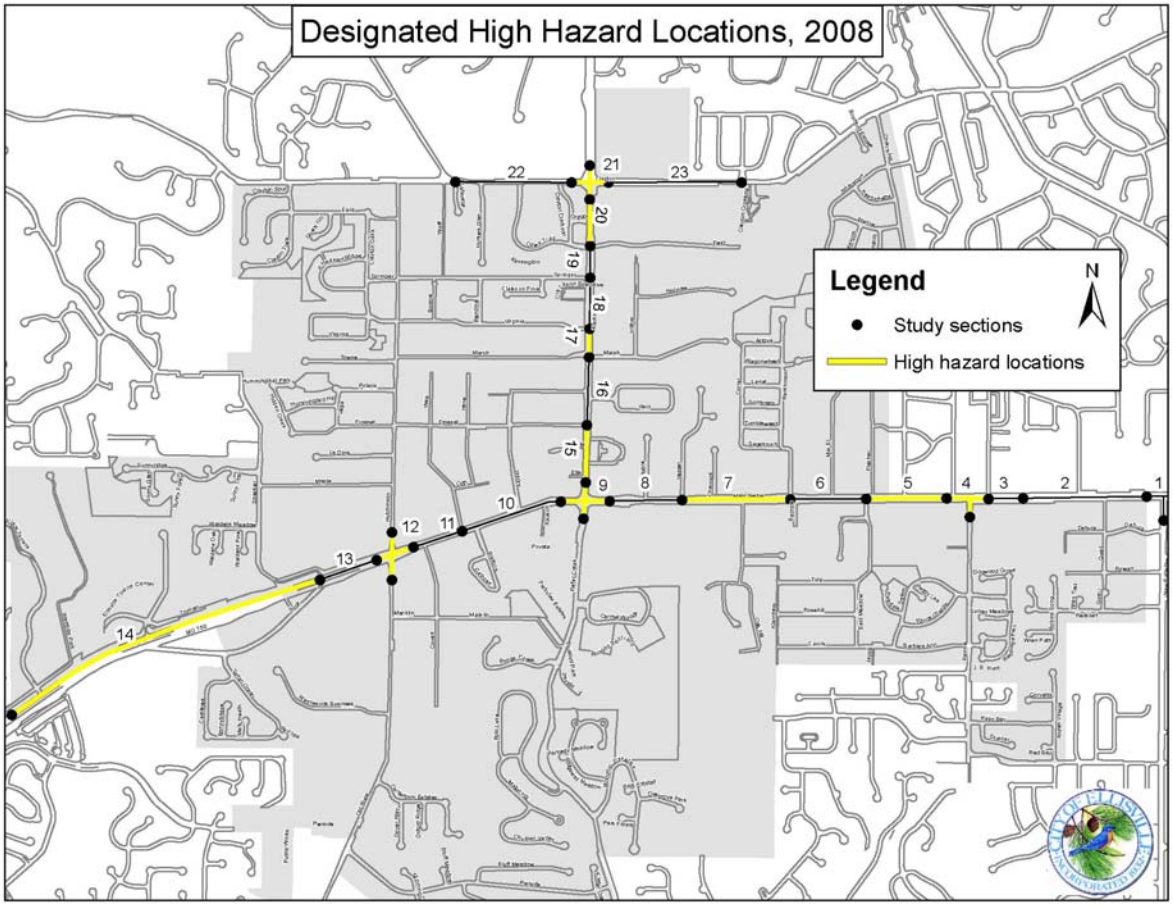
Old State Road/Hutchinson Road:

- Within 300' of the intersection with Manchester Road

Reinke Road:

- Within 300' of the intersection with Manchester Road

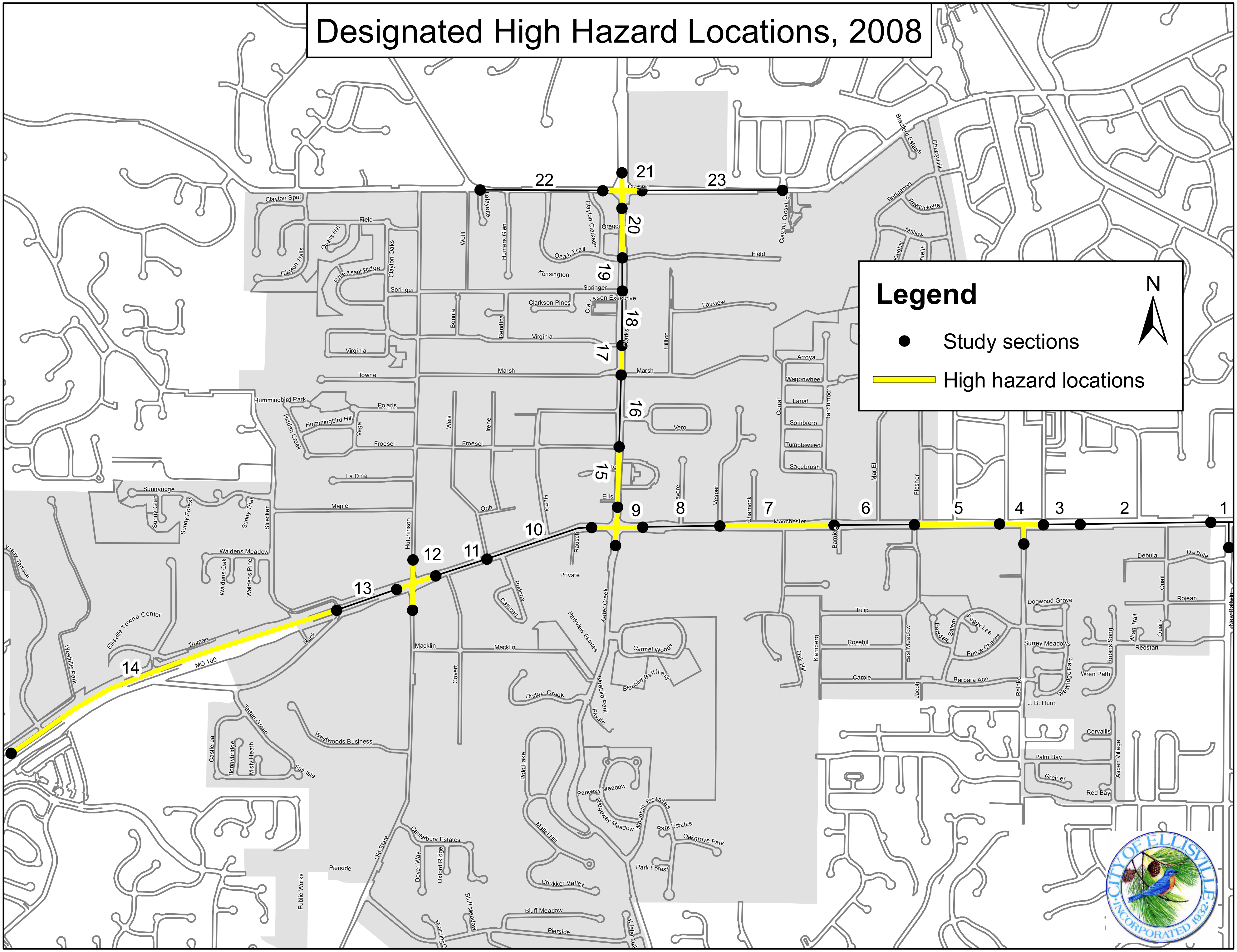
Figure 6: Designated High Hazard Locations



All MVOB developments must be a minimum of 100 feet from any other MVOB located on the same side of the street. In addition, the access requirements for a MVOB are as follows:

1. Proposed free-standing MVOB driveways must comply with the following minimum standards:
    - Full access driveways located on the same side of the street must be separated by a minimum of 160 feet, measured from centerline-to-centerline of the driveways.
    - Full access driveways located on opposite sides of the street must line up directly in front of each other.
    - If full access driveways located on opposite sides of the street cannot line up, then they must be separated by a minimum of 200 feet, measured from centerline-to-centerline of the driveways, if the left-turn movements into those driveways could potentially conflict with each other.
2. Proposed free-standing MVOB full access driveways must be a minimum of 160 feet from the nearest public street intersection, measured from centerline-to-centerline.

Designated High Hazard Locations, 2008



3. Proposed free-standing MVOB development should not be permitted to have full access drives to the adjoining arterial if access is available through a shopping center or via an adjoining service road.
4. Restricted access driveways and drives are subject to review and positive recommendation from the City's Third Party Traffic Consultant and City Council approval.
5. A minimum of 275 feet of sight distance must be provided in either direction along the adjacent arterial for motorists exiting the free-standing MVOB use's full access driveway.
6. Throat widths for commercial driveways must be a minimum of 30 feet for two-way operation and 15 feet for one-way operation. If centered channelizing islands are used in a two-way driveway, clearance widths of 1 ½ to 2 feet should be added on both sides of the center island. The minimum radii required for a commercial driveway is 15 feet.

Planned Transportation Improvements

In addition to the programmed transportation improvements that will be funded by St. Louis County and/or MoDOT, additional transportation improvements are planned to improve traffic circulation in the City. These improvements are summarized below and are included in the Thoroughfare Plan map in Figure 5. A major improvement that is outside of the City but which will improve the traffic in the City is the widening of State Route 109. Specific improvements will be determined through recommendations of the Route 109 Commission and from the results of MoDOT's West St. Louis County traffic study which is underway. Other planned transportation improvements are outlined below.

Traffic Connector-East Side of Clarkson Road. This proposed traffic connector would be a combination of parking lot drive aisles and connections between commercial properties that would run roughly parallel to Clarkson Road to connect the existing and proposed offices. Construction of this connector should be required by the City as these properties develop for office uses. This connector would minimize the need for cub cuts along Clarkson Road by connecting all of the properties. Existing driveways on Clarkson Road could then be limited to right-turn-in and right-turn-out only.

Traffic Connector-West Side of Clarkson Road. This connector would be a combination of parking lot drive aisles, connections between commercial properties and potentially a narrow road that would run parallel to Clarkson Road. This traffic connector would connect the various properties to streets with signalized intersections on Clarkson Road. Construction of this connector should be required by the City as these properties develop for offices uses. As the traffic connector is constructed, it would eliminate the need for some of the curb cuts on Clarkson Road. Existing driveways could be limited to right-turn-in and right-turn-out only.

Traffic Signal-Reinke Road and Manchester Road. A traffic signal is needed at this intersection. Installation and the costs involved should be borne by the Missouri Department of Transportation.

Traffic Calming – Marsh. Traffic calming measures should be implemented along Marsh to reduce vehicular speeds and discourage "cut-through" traffic between Clarkson and Hutchinson Roads. The following calming measures have been considered:

1. Chicanes – a form of curb extension which alternate from one side of the street to another; and
2. Chokers and/or narrowing – created by curb modifications, channelization and/or landscaped features that narrow the roadway to a minimum width.

Chicanes or chokers (as described above) should be considered. In addition, there are methods to erect flexible pylons at one end of a street which significantly deter all traffic. These objects are designed such that emergency vehicles can drive over them without causing damage to the vehicle. This strategy should be enforced by a City ordinance prohibiting other vehicles from driving over the pylons.

Interconnection of Commercial Parking Lots. As commercial areas in the City develop and redevelop, the City should require that parking lots be connected between adjacent commercial uses. This will reduce the number of turning movements on to and off of Manchester and Clarkson Roads. When planned in advance, these connections are relatively inexpensive to implement.

Sidewalks. New sidewalks should be installed along Strecker Road and Marsh Avenue to facilitate pedestrian circulation.

Functional Classification.

Existing and future roadways in the City are classified by functional characteristics to determine future right-of-way width requirements. Streets and highways are classified as follows:

Principal Arterials. Principal Arterials have considerable continuity and are the major streets and highways moving traffic through Ellisville. These arterials primarily connect the City to other cities in the region and the majority of the automobiles traversing these roads are merely traveling through the City. Minimum rights-of-way should be 100 feet and minimum pavement widths should be 60 feet. Principal arterials are designed to move traffic and should not provide driveway access to adjacent residential land uses. Residential lots should have their back yards or side yards adjacent to principal arterials rather than their front yards. Commercial land uses may have direct access to principal arterial streets, but only when access to local or collector streets cannot be obtained.

Minor Arterials. Minor arterials have good continuity within Ellisville and serve a high percentage of the automobile trips originating in the City. These roads also provide connections to most areas of the City to facilitate intra-city trips. Minimum rights-of-way should be 80 feet with minimum pavement widths ranging from 36 to 60 feet.

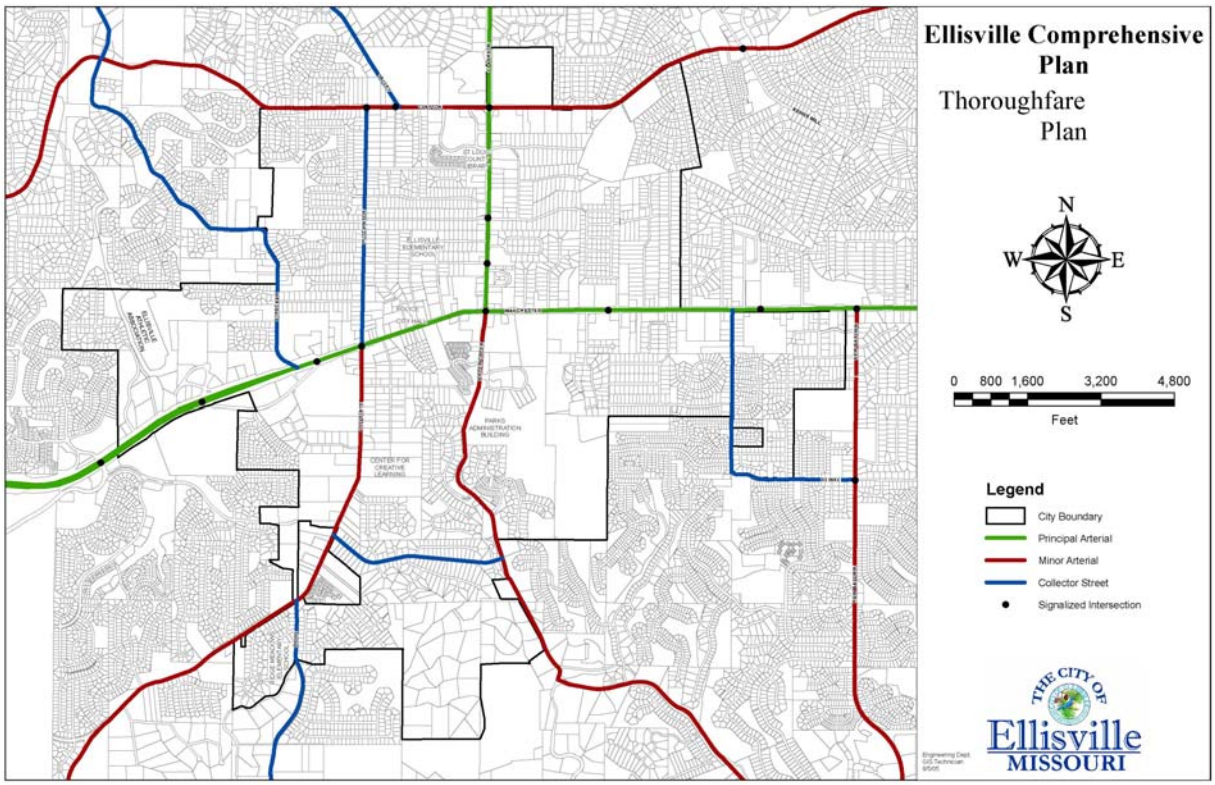
Collector Streets. Collector streets are facilities that collect traffic from local streets and channel it to the arterial street system. Collector streets have good continuity through one or more quadrants of the City. Collector streets serve a large portion of the trips beginning and ending in Ellisville. Minimum rights-of-way should be 60 feet with minimum pavement widths of 26 feet.

Local streets. Local streets are facilities providing direct access to single-family lots or to parking facilities for multiple-family dwelling units. Some local streets have moderate continuity, but most consist of cul-de-sacs, loop streets and other relatively short streets. Streets not included as major streets on the thoroughfare plan are classified as local streets.

Traffic Connectors. Traffic connectors on the thoroughfare plan are local or collector streets which provide alternatives to using Manchester Road and/or Clarkson Road.

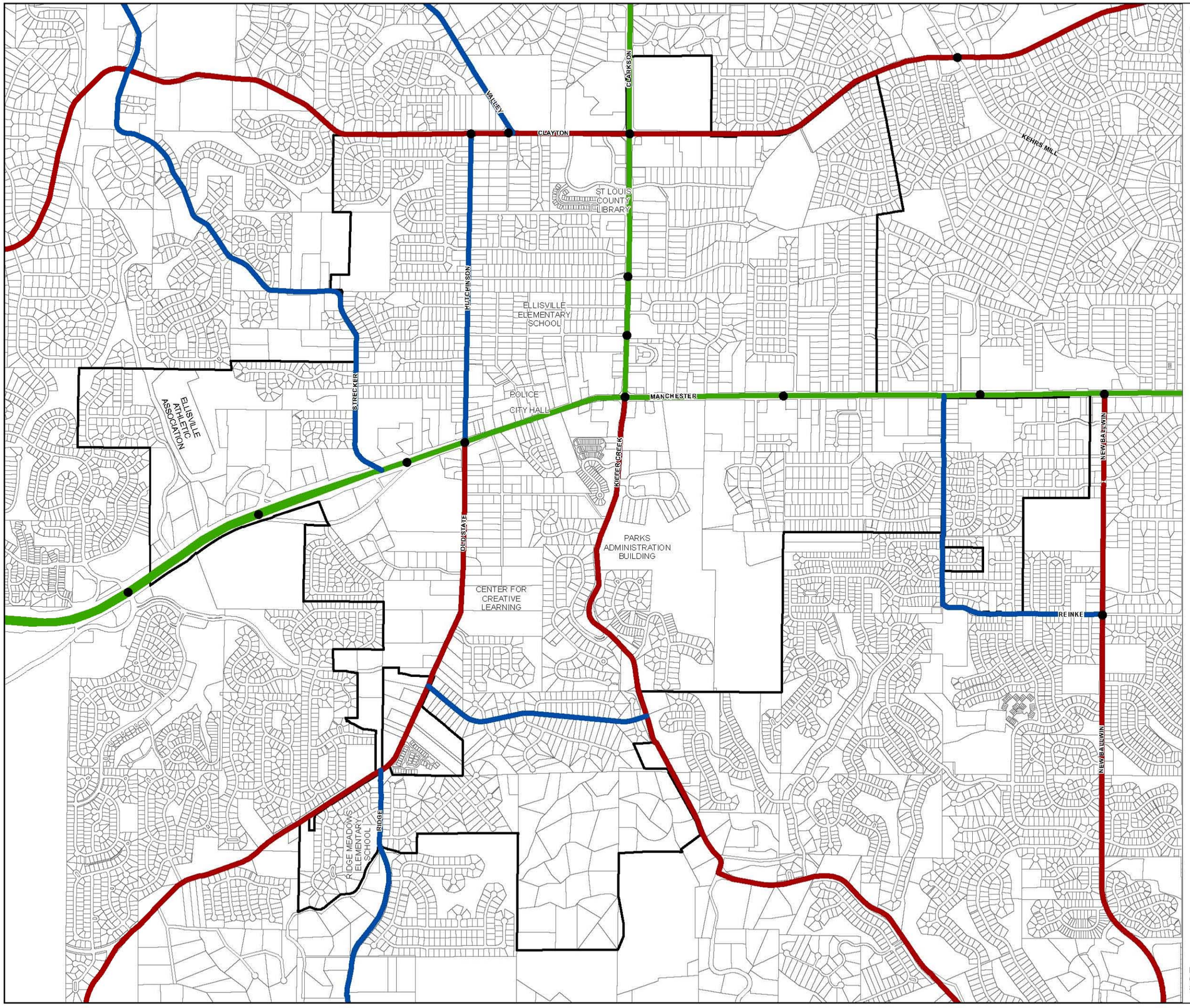
The thoroughfare plan for Ellisville is depicted in Figure 5.

Figure 7: Thoroughfare Plan



Ellisville Comprehensive Plan

Thoroughfare Plan



N
W E
S

0 800 1,600 3,200 4,800

Feet

Legend

- City Boundary
- Principal Arterial
- Minor Arterial
- Collector Street
- Signalized Intersection

Engineering Dept.
GIS Technician
8/5/05

THE CITY OF Ellisville MISSOURI

Community Facilities Element

The City of Ellisville controls several parcels of land and public buildings necessary to provide services to residents. Some of this land and all of the public buildings are used for police protection, public works, and parks and recreation. Community facilities to house municipal activities include the City hall, police department, parks department building and public works garage.

City Hall

City Hall provides spaces for the City administrative offices. This administrative space includes offices for the City Manager, City Clerk, Finance Department, Engineering, Public Works Department, and the Planning Department. The City Council Chambers are located in the building and serve as the meeting space for several Boards and Commissions and the Municipal Court.

Police Department

Ellisville's Police Department is located in a two-level building located just north of City Hall. The building was completed in 1994 and contains 10,000 square feet of space. Facilities in the building include four temporary holding cells; long-term holding of prisoners rarely occurs. The Department usually transfers long-term prisoners to the St. Louis County jail. However, if space at the county jail is not available, the City sometimes houses prisoners at the Franklin County Sheriff's department. For pistol firing practice, the department uses facilities at the East Central Missouri Correctional Facility located just west of Eureka on old U.S. Highway 66.

Personnel consists of 21 police officers, six part-time officers and one full-time and several part-time civilian employees. The City's budget provides for a number of part-time civilian employees to staff the police station longer hours. Based on this increases in staff in 1998, the station is now open from 8:00 a.m. to 3:00 a.m. during the week and from 7:00 a.m. to 3:00 a.m. over weekends. Police officers work 12-hour shifts, with a minimum of four patrol officers on duty at a time. Personnel include two certified Drug Abuse Resistance Education (D.A.R.E.) officers. The police department is responsible for patrolling 71 miles of streets (this includes streets maintained by the City as well as some streets that are not maintained by the City) and has an average response time of 3.7 minutes for emergencies and 5.0 for non-emergencies.

Ellisville contracts with the St. Louis County Police Department for dispatching. This agreement is among the cities of Chesterfield, Ellisville, Eureka, Valley Park and the County. A "West County Municipal Channel" is leased by the four cities from the County Police Department. The cost of this lease is shared among the cities based on a combination of factors: population of each city, number of police officers, and number of radio assignments. In 2001, Ellisville was responsible for 13.2 percent of the total cost of $340,759. This cost of $44,912 was much less than the cost that would be involved if the City provided its own dispatching. Another advantage of the County system is that it is Computer Aided Dispatching which is designed to

direct calls for service in a fraction of the time of a manual dispatching system. Still another advantage is the fact that the system contains a Computer-Assisted Report Entry (CARE) feature that allows patrol officers to call in police reports directly from a scene by telephone. This entered information then becomes a computerized report which can be filed, stored and available for statistical utilization.

In 2001, the cities of Ellisville, Eureka and Pacific formed a Special Tactical Operations Unit (known as the Suburban Emergency Response Team [S.E.R.T.]). This unit was specifically created to respond to emergency situations in any of the three cities that are beyond the capability of an individual department in terms of staffing and equipment resources on hand at any given time. Four police officers from each city were initially assigned to the unit. Officers in the unit are trained to respond quickly to an emergency and take necessary action to stabilize the situation.

Fire Protection

Ellisville enjoys exceptional fire protection. Fire protection is provided by Metro West Fire Protection District. The district encompasses 57 ½ square miles extending from the east Ballwin City limits to the Franklin County line on the west, and from the Meramec River on the south to one-half mile north of Clayton Road. Commercial Risk Services, Inc., a property insurance rating organization assigns fire insurance class ratings to fire departments based on a scale of 1 to 10 with 1 being the highest rating and 10 being the lowest rating. Metro West has an Insurance Service Organization (ISO) rating of 4. Very few fire departments have a rating better than 4. In fact, no fire department in St. Louis County has a rating of 1 or 2, and only five districts or departments in the county have a rating of 3. Approximately 75 percent of the fire protection providers in St. Louis County have an ISO rating of 4.

Fire Stations. Metro West maintains five fire stations, all of which are located in or near Ellisville. The district's number 1 station is located at 14835 Manchester Road in Ballwin, approximately one mile east of Ellisville. The district's number 2 station is located at 1000 New Ballwin Road, approximately three miles south of the City. The district's number 3 station is located at 17065 Manchester Road at the intersection of State Road 109. Station number 4 is a two-bay facility located at 16060 Clayton Road in the north part of the City. The district's number 5 station is located at 18601 Starck Lane.

Fire Equipment. Metro West operates a pumper or quint from each of its fire stations. A quint is a combination pumper and some rescue equipment in addition to the pump and ladder. A quint and ambulance are assigned to Fire Station Number 4 in the City. Two Metro West quints have 75-foot aerial ladders capable of reaching the tops of 5-story buildings. The other quint, at fire station 1, has a 100-foot aerial ladder. Metro West also operates two brush fire units, two heavy rescue trucks and a water tanker.

Mutual Aid. Metro West Fire Protection District has mutual aid agreements with every municipality and every fire protection district in St. Louis and St. Charles counties, the City of St. Louis, and Boeing Aircraft. In addition, the district also belongs to the state-wide mutual aid program. Through mutual aid agreements, and automatic alarm agreements, fire departments and

districts respond to alarms within other jurisdictions. This is advantageous for not only large fires, but also provides that the nearest fire equipment is dispatched to large fires and ensures that major events do not inhibit the ability to respond to unrelated events that occur simultaneously.

Emergency Medical Services. Metro West Fire Protection District provides emergency medical service to Ellisville and the surrounding area. A fully-equipped advanced life support ambulance and at least two paramedics per shift are assigned to four of the district's fire stations (stations 1, 2, 3 and 4). In addition to the ambulances, all pumper trucks and quints also carry advanced life support equipment.

Public Works

The public works department is responsible for the construction, maintenance, and repair of the City's infrastructure, including streets, stormwater, sidewalks, signage, parks and trail systems. This includes maintaining 67 miles of roads. In addition, the department is responsible for the fall residential leaf pickup program and three residential brush pickup programs (one in the fall, one around the winter holidays, and one in the spring). A tub grinder is used to grind debris into wood chips for use on City trails and is available free of charge to residents for use as mulch. Other duties of the department are snow removal during the winter months and clearing post storm debris from public rights-of-way year-around. The public works department is also responsible for park maintenance which includes mowing almost 200 acres of park land.

Public works department staff work out of a three-bay garage. The flat roof has leaked for many years. This building is inadequate because it does not provide shelter for all of the City's public works vehicles. Three vehicles can be housed inside the building, but the remaining fleet must be parked outside. Several major pieces of equipment, including backhoes, tractors, leaf machines, brush chippers and salt spreaders, worth several hundred thousand dollars, must park outside, exposed to the elements. Being exposed to the elements, this equipment rusts and needs to be replaced faster than if it were protected. Moreover, the site lacks adequate parking and coverage for the City's inventory of salt. Without coverage, salt is leaching into the surrounding area.

Schools

Ellisville is served by Rockwood School District. Rockwood maintains three schools in the City, Ellisville Elementary School, Ridge Meadows Elementary School, and the District's Center for Creative Learning which provides special supplementary education to talented and gifted students. Rockwood students in the City attend Crestview Middle School located immediately north of the City, across Clayton Road and Selvidge Middle School in Ballwin. High School students attend Lafayette and Marquette High Schools. Parochial schools include St. Clare of Assisi Catholic School and St. John's Lutheran School.

Library

St. Louis County operates an extensive library system. Daniel Boone Branch Library at 300 Clarkson Road opened in 1966. The branch library is situated on five acres of ground and

has more than 25,000 square feet of floor area. Included in the building is an auditorium with seating for 192.

Proposed Facilities

The major new facility needed by the City is a new public works building. This building should have indoor storage space for vehicles/rolling stock fleet of 30 units. Another major feature of this facility should include cover for the salt inventory. In addition, the site should be large enough to provide adequate parking for public works staff and to maintain maneuvering space for vehicles to load supplies prior to leaving the site.

Parks and Recreation Element

Ellisville residents enjoy an exceptional park system. This system was well planned more than 20 years ago and consists of 10 parks. Ellisville has 165.8 acres of park land and has access to an additional 68 acres in Klamberg Woods, adjacent to Bluebird Park. Bluebird Park is the largest City park and contains the most facilities. The remaining parks are primarily neighborhood parks and provide a variety of passive and active recreation areas.

In 2011 a Bikeable Walkable Community Plan was completed for the City. The plan has been adopted as Appendix B to the City's Comprehensive Plan, and the goals and recommendations have been included in this Element.

In the past, the City of Ellisville, like many other suburbs in the St. Louis region, has allowed the automobile to dominate its development and growth. Recently, the City has recognized the benefits of becoming a bikeable and walkable community and has taken steps toward improving pedestrian facilities for its residents. With the help of this plan, the citizens of Ellisville will reap the benefits of improved health, improved transportation options, reduced environmental impact due to automobiles, economic gains, a greater sense of community, and an overall enhanced quality of life.

The plan will help citizens of Ellisville see improvements in health. Adding bike and pedestrian facilities to the City's existing transportation infrastructure will provide opportunities for residents of all ages to reach the recommended amount of physical exercise. With improved pedestrian routes, increased levels of physical fitness can occur in safe and pedestrian friendly environments.

Improvements will be experienced by residents on the roads in Ellisville as people take advantage of new bike and pedestrian infrastructure. Infrastructure improvements will make biking and walking more convenient and appealing alternative transportation options. Additional facilities will allow more people to get "off the road" and get on their bikes or put on their walking shoes. This decrease in auto traffic will make roads safer, ease traffic congestion and decrease auto emissions.

Economic gains from investment in bicycle and pedestrian infrastructure are many. As citizens begin to bike and walk, they will be spending less money on fuel for their automobiles. Improved facilities are viewed as amenities that can raise nearby home values. Health care costs can be reduced because residents are getting more exercise and improving their health by walking and riding. Finally, improved facilities can connect individuals to retail and commercial destinations and increase local business traffic.

Enhanced facilities can also improve civic pride and instill a greater sense of community among Ellisville residents. Bikeways and sidewalks connect people of all ages, even those that cannot drive, to civic and cultural institutions, parks, and churches. They allow people to

experience their neighborhoods immersed in an on-street environment and free to interact with neighbors they see along the way to their final destinations.

All of the above elements, improved health, improved transportation options, reduced environmental impact, economic benefits, and an improved sense of community, lead to an enhanced quality of life for residents of Ellisville. Together these advantages will make Ellisville a desirable place to live, work and play**.**

Vision

The City of Ellisville's vision for the future is that it will be a community in which residents, employees and visitors of all ages and abilities can safely, comfortably and conveniently travel to destinations in and around the City by bike and foot. In the City of Ellisville, bicycling and walking will be:

- Integral components of an interconnected transportation network
- Safe and convenient for people of all ages and abilities
- Routinely accommodated in private and public transportation decisions and infrastructure improvements
- Contributing to personal and community health
- Supported by local government, schools, and the private sector
- Important to residents' quality of life
- Options to reduce vehicle miles traveled, automobile congestion, and greenhouse gas emissions

Goal and Objectives

Goal: A comprehensive recreational program will be provided for all residents of the City.

Objective: A variety of programs will be offered each season for a variety of ages.

Objective: Programs will be developed utilizing the current recreation facilities.

Objective: The City's excellent trail system shall be repaired, expanded and promoted.

Objective: A plan for providing additional facilities at the Neighborhood parks shall be prepared including updating playground equipment at selected parks.

Objective: A safe sledding area shall be added to one of the City's parks.

Objective: Maintenance of existing recreational facilities and trails shall be accomplished by the City through provision of adequate funds, personnel and equipment.

Goal: Establish a Citywide bicycle and pedestrian transportation network.

Objective: Develop a City-wide network of bicycle and pedestrian facilities that provides access to schools, parks, commercial areas, community amenities, public transit, neighboring communities, and other significant activity centers.

Objective: Work in close partnership with neighboring municipalities, St. Louis County agencies, the Missouri Department of Transportation, the Missouri Department of Conservation, and the Great Rivers Greenway District during plan implementation and system maintenance.

Objective: Consider the needs of all cyclist types (advanced, casual and basic) in the planning, development, and maintenance of the bicycle facilities network.

Objective: Require all new development to provide safe, continuous and convenient pedestrian and bicycle facilities.

Objective: Require commercial, industrial, and institutional development to incorporate bicycle parking facilities.

Goal: Close gaps in the existing bicycle and pedestrian network and enhance connectivity between neighborhoods and adjacent land uses.

Objective: Where feasible, connect residential neighborhoods with adjacent neighborhoods and land uses through shared use paths and sidewalks.

Objective: Develop bicycle boulevards on corridors parallel to principle arterials to provide safe bikeways for all user types.

Goal: Apply consistent geometry, road markings, and signage standards to bicycle and pedestrian facility design in order to create a safe and continuous network that is easy for residents and visitors to navigate.

Objective: Utilize design guidelines set forth by the American Association of State Highway Transportation Officials (AASHTO), the Federal Highway Administration (FHWA) and the Department of Justice's Americans With Disabilities Act (ADA) Standards for Accessible Design.

Objective: Adhere to design principles recommended for Manchester Road in the Manchester Road Great Streets Plan.

Goal: Improve regional connectivity for cyclists and pedestrians.

Objective: Provide linkages between Ellisville's bicycle and pedestrian network and existing and planned facilities in neighboring municipalities.

Objective: Partner with neighboring municipalities and other government agencies to enhance existing connections and develop new connections to regional destinations and activity centers.

Objective: Ensure that the bicycle and pedestrian network connects to transit stops.

Objective: Develop continuous bicycle and pedestrian connections to the Meramec Greenway, utilizing Kiefer Creek Road and the Rock Hollow Trail.

Goal: Develop education, encouragement and enforcement programs and activities to support walking and bicycling as a safe, convenient and practical means of transportation.

Objective: Work with public and private schools to encourage walking and cycling to and from school, to educate children and parents on bicycle and pedestrian safety, and to promote the benefits of walking, bicycling, and active living.

Objective: Create a community wide map to highlight walking and bicycling routes and connections to destinations in and around the City.

Objective: Work with the West County Chamber of Commerce, local businesses and neighboring municipalities to provide an incentive program to encourage walking and bicycling to local commercial destinations.

Objective: Provide educational opportunities for safe cycling and bicycle maintenance to local residents and employees.

Objective: Develop an education, awareness, and marketing program to promote the benefits of sidewalks and provide information regarding sidewalk funding, public rights-of-way, and similar issues of concern.

Existing Conditions

The study of Ellisville's existing conditions was critical to the development of sound goals and objectives based on relevant information

Topography and Natural Features

The City of Ellisville is approximately 4.3 square miles in size. It is located in west St. Louis County and is characterized by rolling hills and steeply wooded valleys that, in some cases, are cut by intermittent creeks. These characteristics are prevalent throughout the county.

The average elevation of the City is approximately 730 feet above mean sea level. The highest point, near the middle of the City, is near elevation 740 feet above mean sea level while the lowest point, near the south east corner of the City, is near elevation 560 feet above mean sea level. The highest and flattest parts of the City are near the intersection of Manchester Road and Clarkson Road. This crossroads is close to the geographical center of the City. Manchester Road, or Highway 100, bisects the City in an east-west direction, while Clarkson Road bisects the City in a north-south direction. These major arterial roads visually divide Ellisville into four quadrants. Generally, the northern quadrants of the City have less varied elevation changes than the southern quadrants of the City. The varied elevations, steep terrain, and creek corridors in some parts of the City create barriers to the development of bicycle and pedestrian infrastructure and recreational improvements.

Most of the City is in the watershed of the Meramec River, which is approximately two miles from the City's southern limits. A small portion of northwestern Ellisville is in the Missouri River watershed and drains to the north. Several small, intermittent creeks, including Fishpot Creek and Kiefer Creek feed into the Meramec River. These creeks are located in some of the more steeply wooded valleys that remain undeveloped and in some cases have been acquired by the City for public lands.

Ellisville characteristically has hot, humid summers and dry winters. Average temperatures range from 88 in July to 22 in January. The average annual precipitation is 36 inches.

The environmental conditions, land forms, geology and temperatures in Ellisville are typical for this region of the country. In pre-settlement days, these conditions were ideal for the oak hickory forest that historically covered the land. Remnant woodlands in the steeply sloping parts of the City contain some native trees like shag bark hickory, burr oak, pin oak, sugar maple, serviceberry and redbud. However, today, Ellisville displays more typical mid-western, suburban landscapes. Native and non-native shade trees dot rolling lawns. These lawns cover most of the residential and commercial areas of town and foundation plantings are utilized to dress homes and retail areas.

Significant Destinations

There are a number of destinations in the City of Ellisville and neighboring municipalities that can be accessed by bike or foot. Parks, schools, places of worship, shopping centers, grocery stores, and other significant destinations should be considered in the identification and prioritization of recommended improvements for bicycle and pedestrian facilities. A list of significant destinations is provided below and on the following pages.

Table 11: Ellisville Park Land

Parks & Recreational Facilities	Location	Acreage	City
Bluebird Park	Southeast: East side of Kiefer Creek Road, one-half mile south of Clarkson	81.3	Ellisville
Klamberg Woods Conservation Area	Southeast: East of Bluebird Park	68	Ellisville
Bobwhite Park	Southeast: One-quarter mile west of Reinke Road on cul-de-sac of Parkdale Ct	3.1	Ellisville
Cardinal Park	Northeast: One-half mile east of Clarkson Road on Marsh Avenue cul-de-sac	6.41	Ellisville
Hummingbird Park	Northwest: One-quarter mile west of Hutchinson Road on Polaris Drive	2.39	Ellisville
Kiefer Creek Road Right-Of-Way	Southwest: West side of Kiefer Creek Road, one-half mile south of Manchester	0.51	Ellisville

	Road		
Meadowlark Park	Northwest: One-eighth mile west of Hutchinson Rd., just south of the intersection of Virginia Drive and Clayton Oaks Dr	0.89	Ellisville
Mockingbird Park	Northeast: 200 feet south of the intersection of Providence Dr. and Bridgeport Dr., one-half mile south of Clayton Rd	5.13	Ellisville
Owl Hollow Park	Southeast: North side of Palm Bay Drive, one-quarter mile east of Reinke Road	3.16	Ellisville
Quailwood Park	Northwest: South side of Field Ave., one-quarter mile west of Hutchinson Rd	8.07	Ellisville
Red Tail Hawk Park	Southwest: 300 feet east of Summer Oak Drive	2.63	Ellisville
Robin Park	Northwest: One-half mile west of Strecker Road, just southwest of the cul-de-sacs of Sunnyridge Dr. and Sunny Glen Ct., west of Bent Ridge Court	29	Ellisville
Whippoorwill Park	Southwest: One-eighth mile west of Kiefer Creek Road on Pretoria Dr	5.27	Ellisville
Woodpecker Trail	Northeast: South of Field Avenue, one-quarter mile east of Clarkson Rd	0.58	Ellisville
Wren Trail	Northwest: East side of Hutchinson Rd., one-quarter mile south of Clayton Rd	2.26	Ellisville

Villas at Fountain Plaza	Northeast: Northeast corner of Clarkson and Clayton Roads.	1.46	Villas at Fountain Plaza (public use Easement)

Table 12: Park Facilities

Park	Playgrounds	Multi-Use Trails	Picnic Areas	Natural Areas	Multi-Use Pads
Bluebird	1	Y	Y	Y	1
Bobwhite	1		Y		1
Cardinal		Y		Y	
Hummingbird		Y		Y	
Meadowlark	1				1
Mockingbird	1	Y	Y	Y	
Owl Hollow	1			Y	1
Quailwoods		Y		Y	
Robin				Y	
Whippoorwill		Y		Y	

Source: Parks and Recreation Department

Bluebird Park

Bluebird Park consists of 81.3 acres and is located one-half mile south of Manchester Road on the east side of Kiefer Creek Road. The park contains a swimming pool, amphitheater, playground, three tennis courts, three pavilions, two softball fields, disc golf course, multi-use trail, picnic area, natural area, soccer field, and multi-purpose pad. Bluebird Park is popular not only with City residents but many non-residents also use the park. In fact, more than one-half of the swimming pool patrons are nonresidents. Many special recreation events are held in the park. However, the park's topography is a constraint for large events in terms of parking, security and access. Much of the park remains natural with considerable wooded areas. Many of the facilities in the park were funded by federal park and recreation grants.

The Parks and Recreation Department staffs and operates the Park Administration Center. Built in 2004, this facility was designed to provide office space for staff as well as meeting space for the facilitation of outdoor recreation programs. Most supplies and equipment are kept at this site.

Roger Klamberg Woods

Roger Klamberg Woods is located immediately east of Bluebird Park. This land is owned by the Missouri Department of Conservation and leased to the City. The Department of Conservation initiated a program in 1977 called Urban Wild Acres. This program was designed to conserve green space for urban residents. The Klamberg Woods Urban Wild Acres was purchased in 1982 by the state. The Klamberg Woods Nature Trail was built in 1984 by volunteers. The seven-tenths of a mile long trail winds through woods to show the differences in vegetation between east-facing and west-facing slopes. East-facing slopes are typically more moist and cool and have more species of ferns and other moisture-loving plants. White oaks and flowering dogwood trees like these areas. West-facing slopes are warmer and drier because they receive the afternoon sun and because winds are usually from the west in Missouri (winds are generally from the southwest in the summer, and from the west-northwest or northwest during the winter). Trees on west-facing slopes grow more slowly than trees on east-facing slopes. The second twenty-five year lease will expire on February 18, 2033 with the option to renew for another twenty year period.

Table 13: Public Facilities Table

Public Facilities	**Address**	**City**
City Hall	1 Weis Avenue	Ellisville
St. Louis County Library – Daniel Boone Branch	300 Clarkson Road	Ellisville

Table 14: Schools Table

Public Schools	**Address**	**City**
Ellisville Elementary (K-5)	1425 Froesel	Ellisville
Green Pines Elementary (K-5)	16543 Green Pines Drive	Wildwood
Ridge Meadow Elementary (K-5)	777 Ridge Road	Ellisville
Woerther Elementary (K-5)	314 New Ballwin Road	Ballwin
Crestview Middle (6-8)	16025 Clayton Road	Ellisville

LaSalle Springs Middle (6-8)	3300 Hwy 109	Wildwood
Morgan Selvidge Middle (6-8)	235 New Ballwin Road	Ballwin
Eureka Senior High (9-12)	4525 Hwy 109	Eureka
Lafayette Senior High (9-12)	17050 Clayton Road	Wildwood
Marquette Senior High (9-12)	2351 Clarkson Road	Chesterfield
Center for Creative Learning (1-5)	265 Old State Road	Ellisville
Private Schools	**Address**	**City**
St. John Lutheran School (K-8)	15808 Manchester Road	Ellisville
Holy Infant Elementary School (K-8)	248 New Ballwin Road	Ballwin
St. Clare of Assisi (K-8)	15668 Clayton Road	Ellisville

Table 15: Religious Institutions

Religious Institutions	**Address**	**City**
St. John Lutheran Church	15800 Manchester Road	Ellisville
First Baptist Church-Ellisville	137 Clarkson Road	Ellisville
Ellisville Church of Chris	62 Henry Avenue	Ellisville
West County Bible Church	82 Henry Avenue	Ellisville
Emerson Unitarian Universalist Chapel	73 Strecker Road	Ellisville
Lifegate Baptist Church	16081 Clayton Road	Wildwood
Ellisville United Methodist Church	15977 Clayton Road	Clarkson Valley
St. Martin's Episcopal Church	15764 Clayton Road	Ellisville

Neighborhood Parks

The City has ten neighborhood parks that range in size from less then one acre to twenty-nine acres. While two of these parks remain in a natural state, the others are primarily designed for passive recreation with natural areas and multi-use trails. These parks are distributed throughout the City and connected by trails and sidewalks to provide convenient access to City residents. Information on the location, size and ownership of each of the City's parks is

summarized in Table 14. Information on the facilities provided at each of the neighborhood parks is summarized in Table 15.

Bicycle Transportation Network

The City of Ellisville and the Missouri Department of Transportation (MoDOT) have constructed a number of bicycle facilities in the form of bicycle lanes, "share the road" signage, wide shoulders and multi-purpose trails to facilitate bicycle travel. Along with neighborhood streets, these facilities create a basic network of bikeways in and around Ellisville.

Neighborhood Streets

Ellisville's residential streets and their related sidewalk system already provide for some level of non-motorized movement. Children and adults generally encounter bike-friendly streets that are easy to use for localized bicycle travel. However, through movement to further destinations, including commercial areas, institutions and other neighborhoods, is hampered by a significant number of cul-de-sacs, dead-end streets, and arterials. While cul-de-sacs and dead ends form physical barriers, principle arterials, namely Manchester Road and Clarkson Road, with high volumes of traffic, high traffic speeds and no designated bicycle facilities, represent significant psychological barriers that restrict bicycle movement.

Collectors and Arterials

Residential streets in Ellisville feed into collector and arterial roadways that carry vehicles to commercial destinations and to neighboring communities. Conditions for cycling vary on collector and arterial roadways in Ellisville, but are generally considered to be too dangerous for traveling on the roadway itself. Traffic volumes, traffic speeds, narrow lane widths, and a lack of designated bicycle facilities such as bike lanes all but prohibit bicycle transportation on principal arterials like Manchester and Clarkson Roads. Only advanced cyclists utilize these roadways, either for recreational or commuter purposes. Basic and child cyclists generally utilize adjacent sidewalks on arterials and collectors, but intermittent sidewalk facilities along Manchester Road create obstacles for residents wanting to access commercial destinations along this corridor.

The following improvements have been made on collector and arterial roadways in the City of Ellisville to benefit bicycle circulation:

Table 16: Segment Improvement Table

Segment	Segment Limits	Length	Facility Type	Description
Clarkson Road (State Route 340)	City Limits to Manchester Road	0.9 miles	"Share the Road" signage	Share the Road signage on Clarkson has done little to create a comfortable, safe corridor for cycling activity.
Clayton Road (State Route HH)	0.3 miles east of Clarkson Road to City Limits	0.5 miles	Designated bicycle lanes (Class II Bicycle Facility)	0.5 miles of the 2.2-mile Class II Facility that stretches from east of Clarkson Road to Baxter Road. Clayton Road is a major east-west bikeway in connecting West St. Louis County with the City of St. Louis.
Manchester Rd. (State Route 100)	City Limits to City Limits	3.1 miles	"Share the Road" signage	Only a small number of experienced cyclists use Manchester Road. High traffic volumes and speeds, coupled with a lack of wide outside lanes or dedicated bicycle facilities, render Manchester inaccessible to most cyclists.
Manchester Road (State Route 100)	City Limits to Hutchinson Road/Old State Road	1.1 miles	Wide outside shoulders	As Manchester Road widens to a limited access freeway west of Hutchinson Road, a wider variety of cyclists utilize the wide outside shoulders for recreational and transportation-oriented trips.
Pierside Lane	Old State Road to Kiefer Creek	0.7 miles	Combina-tion bicycle and vehicle	The bicycle/parking lanes on Pierside Lane provide a dedicated space to connect cyclists from

	Road		parking lanes	southwest Ellisville and Wildwood to Kiefer Creek Road, a heavily used bikeway (despite a lack of signage and markings).

Multi-Purpose Trails

A significant number of Ellisville's parks contain multi-purpose trails that increase recreational opportunities within the parks themselves and, in many cases, enhance the non-motorized transportation network by providing connections between neighborhoods not afforded to vehicular traffic. When coupled with low-volume residential streets, these multi-purpose trails increase the range of non-motorized transportation significantly.

The following parks contain multi-purpose trails that provide connections to more than one neighborhood or subdivision: Bluebird Park/Klamberg Woods Conservation Area, Cardinal and Mockingbird Parks, Owl Hollow Park, Quailwood Park, and Whippoorwill Park. In addition, the Wren Trail, which runs from Hutchinson to Clarkson Pine Lanes, provides connection to multiple neighborhoods and serves as a direct link to the Daniel Boone Branch of the St. Louis County Library. Hummingbird Park does contain a multi-purpose trail with multiple access points; however, the park only serves a single subdivision and does not significantly improve non-motorized circulation.

Pedestrian Transportation Network

Pedestrians in Ellisville utilize a network of sidewalks, crosswalks, multi-purpose trails, and residential roadways to travel throughout the City. While this network of pedestrian facilities is fairly extensive, a number of significant gaps and weaknesses discourage walking for even short trips.

Sidewalks

The sidewalk network that serves pedestrians in Ellisville is a reflection of the various development patterns of both private land and public infrastructure over the last sixty years. Sidewalk presence, design, and conditions vary in both residential neighborhoods and along minor and principle arterials.

The presence of sidewalks in residential neighborhoods in Ellisville generally correlates to the time of development. Older subdivisions and neighborhoods, like Marsh Field Acres, Cherry Hills West, Ranchmoor, and Ellisville Meadow, built in the 1950s, 1960s and 1970s, were constructed without sidewalks. The lack of sidewalks in these subdivisions conformed to the values of the City's residential population. With little traffic and fewer vehicles per household, pedestrians, bicyclists, and automobiles could share the roadway with little concern for potential conflict and accidents. As the number of cars per household grew, more daily trips increased traffic on residential streets, and the potential for conflict between automobiles and cyclists or pedestrians increased, worsening conditions for pedestrians.

Sidewalks were added to a number of these residential streets in the northwest quadrant of the City, including Froesel Drive, Marsh Avenue, and Maple Lane, greatly improving pedestrian safety and neighborhood connectivity to Ellisville Elementary.

Newer subdivisions developed in the 1980s and 1990s, like New Ballwin Estates, Woodhill Estates, the Oaks on Kiefer Creek, and Canterbury Estates, reflect the suburbanized character of development patterns of Ellisville and West County in general. The need for sidewalks for improved pedestrian safety and circulation was evident at the time of development, and sidewalks on both sides of the street were incorporated into the subdivision design. At that time, the City of Ellisville incorporated into the City's subdivision regulations the requirement for 4-foot minimum sidewalks on both sides of the roadway, ensuring new development will enhance the pedestrian environment and link with existing facilities.

Sidewalks along commercial corridors are generally present, but the consideration, design, and maintenance of these facilities discourage pedestrians from walking to local destinations. While sidewalks are present along both sides of Manchester Road for the majority of the arterial's 3.1-mile length in Ellisville, segments are fragmented by residential cross streets and an exorbitant number of curb cuts for access to commercial developments. Most of these curb cuts are not marked or signed to indicate a pedestrian crossing. These driveways disrupt the pedestrian realm and increase the risk for crashes between pedestrians and turning vehicles. In addition, the responsibility for the construction of sidewalks along Manchester Road has been left to each developer, creating a sidewalk network that varies from parcel to parcel. Sidewalk widths, distance from the roadway, the provision of shade trees, the number of curb cuts, the presence of crosswalk markings, and other design elements are inconsistent throughout.

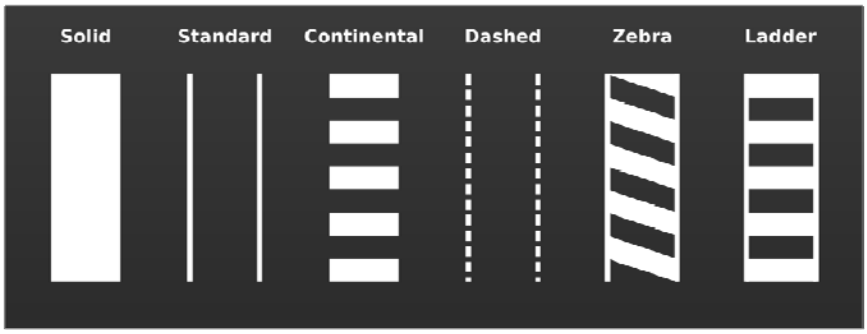
Pedestrian conditions on Clarkson Road are more consistent than on Manchester Road, but still suffer from a lack of separation between the sidewalk and the roadway, generally narrow sidewalk widths, and a considerable number of curb cuts and access points to adjacent commercial land uses. The design characteristics force pedestrians into unsafe and

uncomfortable travel spaces, especially when traveling in groups, when encountering other sidewalk users traveling in the opposite direction, or when crossing access points for commercial destinations.

Crosswalks

Crosswalks are installed to define the pedestrian travel space on the roadway and reduce potential conflict between automobiles and pedestrians. Crosswalks in Ellisville are located at major intersections, at minor intersections with greater pedestrian traffic, and at mid-block locations to connect pedestrian facilities. These crosswalks contain a variety of roadway markings, signage and signalization to facilitate safe pedestrian movement and reduce potential conflict between pedestrians and automobiles. Of the utilized crosswalks commonly employed throughout the United States, which are displayed in the image below, the standard, continental and ladder crosswalks can be found throughout the City.

Figure 8: Typical Pedestrian Crossing Markings



Despite the presence of designated crosswalks in Ellisville, crossing principle arterials remains a significant impediment to pedestrian and bicycle mobility. Improving visual markings, adding signage, providing pedestrian refuge islands, and incorporating other design features to further demarcate the pedestrian travel way can reduce the risk of conflict and offer the sense of separation, safety and comfort that encourages pedestrian activity.

Recreation Programs

The Parks and Recreation Department provides a variety of recreational programs for City residents. These programs include volleyball leagues, aerobics, fitness clinics, tennis lessons, and tennis leagues. Youth programs include a swimming and diving team, swimming lessons, street hockey, T-Ball, day camps, basketball lessons and leagues. Senior adult programs include the Lafayette Older Adults Program, an active program for seniors, aged 55 and over. Activities include bingo, cards, guest speakers, educational workshops, entertainment, special events, and

trips and tours. The Parks and Recreation Department also sponsors community events including Concerts in the Park, The Hershey Track and Field Clinic and Meet, the Annual July Fourth Celebration, Harvest Festival, Halloween Hayrides, Breakfast with Santa, group hayrides and the Easter Egg Hunt.

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RECOMMENDATIONS

Existing Trail Maintenance

A visual inventory and assessment of all existing multi-purpose pedestrian trails as well as the Bluebird Park fitness trail, was completed by the design team. The trails were inventoried in order to determine possible improvements and provide a basic understanding of issues that could affect trail replacement, phasing and costing.

The fitness trail in Bluebird Park is in poor condition. The asphalt surface is in a state of extreme deterioration and is completely missing in some areas. The fitness trail requires immediate attention which could involve a complete replacement or total removal. If the trail is eliminated, the fitness stations along the trail could be relocated alongside multi-purpose walking trails in the park.

Existing multi-purpose trail conditions are identified and categorized into three classes; Immediate Action, Short Term Action and Long Term Action. These classifications should act as a preliminary guide for the City as they complete a detailed review of trail conditions. Trail condition, trail prominence and trail usage should guide the City as they allocate improvement funds. Definitions of the classes are described below.

Immediate Action. The design team feels these types of trail conditions have deteriorated the existing trail beyond its intended function. These conditions are of major importance and should be addressed as soon as possible. (Examples: uneven pavement, trail washout, large cracks.)

Short Term Action. The design team feels these types of trail conditions are of moderate concern. Trail segments labeled with this designation are in fairly stable condition. There may be minor cracking, settling or erosion issues that could cause problems in the future, but immediate action is not required. A one to five year time frame for improvement/replacement is appropriate for this type of trail condition. (Examples: minor cracking, pavement heaving, minor erosion on trail edges.)

Long Term Action. The design team feels these types of trail conditions are not of immediate or short term concern. These trail segments are in good condition and need little to no

improvement. Newly installed trails fall into this category. (Examples: little to no cracking, level surfaces, 8’ wide asphalt or greater, stable base materials.)

The multi-purpose trail inventory is reflected in the maps on the following pages. A map was created for each existing multi-purpose trail within Ellisville’s current trail system. They include:

- Owl Hollow Trail
- Wren Trail
- Hummingbird Trail
- Quailwood Trail
- Cardinal and Mockingbird Trail
- Woodpecker Trail
- Bluebird Park Trail/Klamberg Woods Trail/Whippoorwill Trail

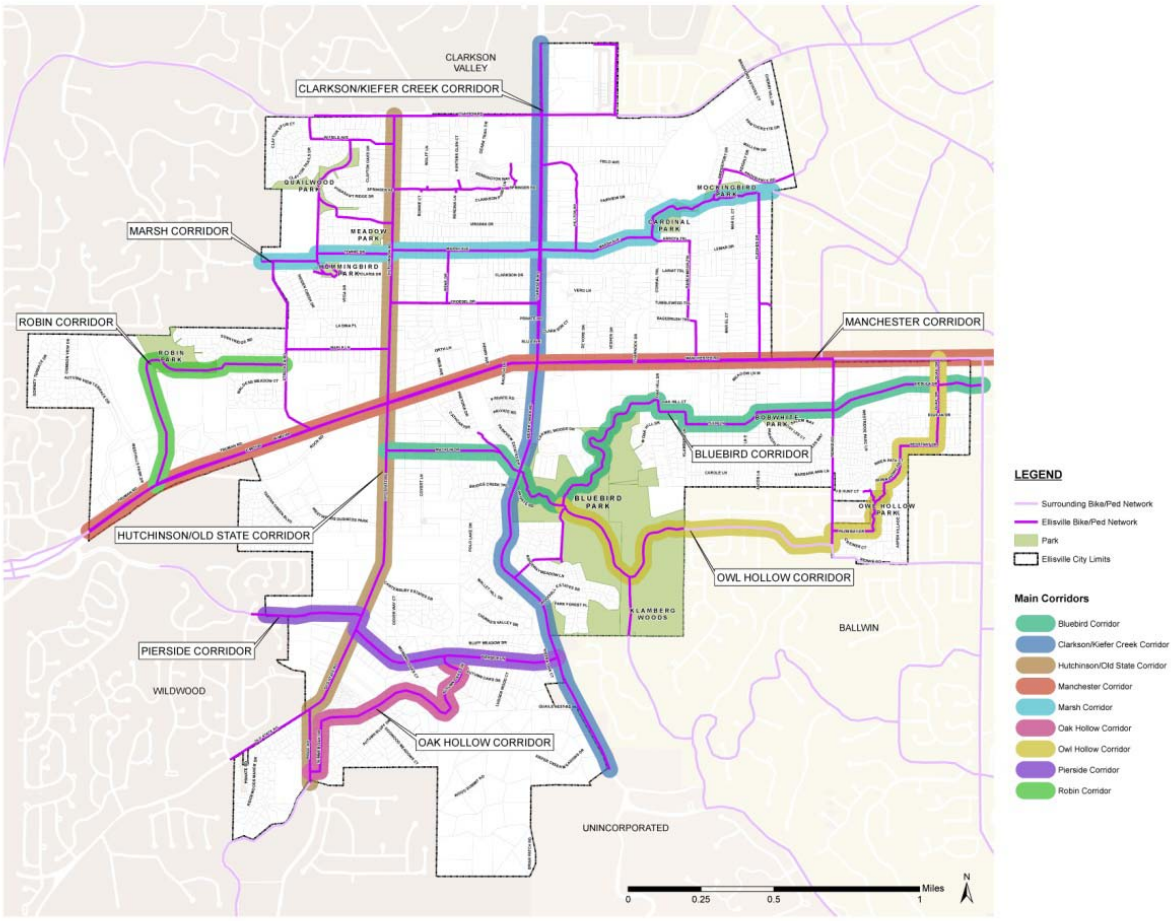
Recommended Bicycle and Pedestrian Facilities

The facility improvements in the Ellisville Bikeable Walkable Community Plan are designed to: 1) enhance the City’s transportation networks, 2) create a safe and pedestrian friendly infrastructure for community connectivity, 3) promote improved health and well being of City residents, 4) generate economic growth for residents and businesses, and 5) foster an enhanced sense of community.

The recommended infrastructure improvements and facility design guidelines for bicycle and pedestrian facilities are derived from the data collection, analysis, and public input process. They are based on the goals, vision, and policies established for the project, and they reflect the input garnered from the public, City staff and City leadership. The plan and guidelines delineate bicycle and pedestrian facility components that will facilitate the development of a sophisticated transportation network for it citizens.

The map below defines the major corridors of facility improvements within the City. The overall facilities recommendations and guidelines that follow address all aspects of improved facilities including: bicycle facilities, pedestrian facilities, recommended signage, and recommended programs.

Figure 9: Major Corridors of Facility Improvements Map

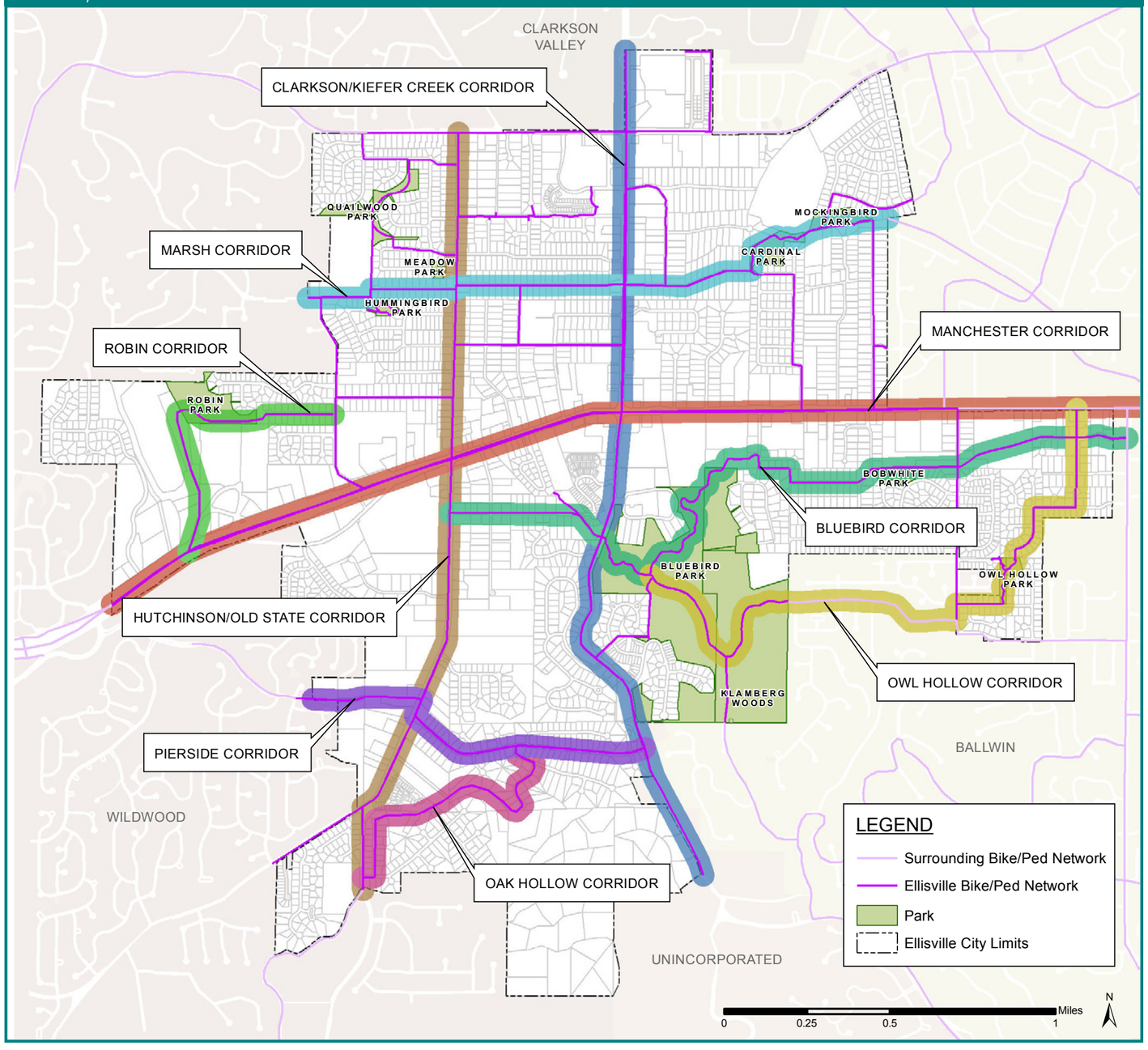


Bicycle Facilities

A safe, accessible, and interconnected network of bicycle facilities provides the foundation for a bikeable community. Signed bike routes, bicycle lanes, multi-purpose trails, and other bicycle facilities provide secure connections to parks, schools, transit stops, regional trail systems, commercial destinations, and other activity centers. Having a mix of facility types throughout the City ensures that bicycle riders of all ages and abilities, from advanced commuter and recreational cyclists to less experienced child riders, have the opportunity to access local amenities and connect to regional bicycle networks using routes that are safe, comfortable and convenient. The following pages contain recommended facilities, guidelines, and maps depicting a number of distinctive components that together make up the bicycle network. Varying roadway types, geography, and other existing conditions call for different types of bicycle facilities. In addition, a variety of bicycle facilities allow for a diversity of users.

ELLISVILLE, MO

OVERALL BIKE/PED NETWORK



Multi-Purpose Trails - Class I Facilities. The orange dotted lines on the recommendation map represent recommended multi-purpose trails, which provide off-street opportunities for recreational and transportation oriented cyclists. They also connect neighborhoods where cul-de-sacs and dead end streets have restricted bicycle and pedestrian mobility.

Bike Lanes - Class II Facilities. The blue dotted lines on the recommendation map represent recommended bicycle lanes, which are segregated travel lanes on the roadway reserved for use by cyclists.

Bike Routes - Class III Facilities. The red dotted lines on the recommendation map represent recommended signed shared roadways, more commonly referred to as bicycle routes. Bike routes designate preferred corridors for cyclists, provide linkages between trails, bicycle lanes, and other facilities, and help create an interconnected network for cyclists to efficiently travel through town. In some instances, bike routes, designated by green "Bike Route" signs, are supplemented by additional design treatments, including shared lane markings, share the road signage, and other innovative solutions, to enhance the safety and efficiency of the route network.

Recommended facilities, combined with existing facilities which are shown as solid lines on the recommendation map, form a complete and contiguous bicycle network.

Multi-Use Trail - Class I Bicycle Facility

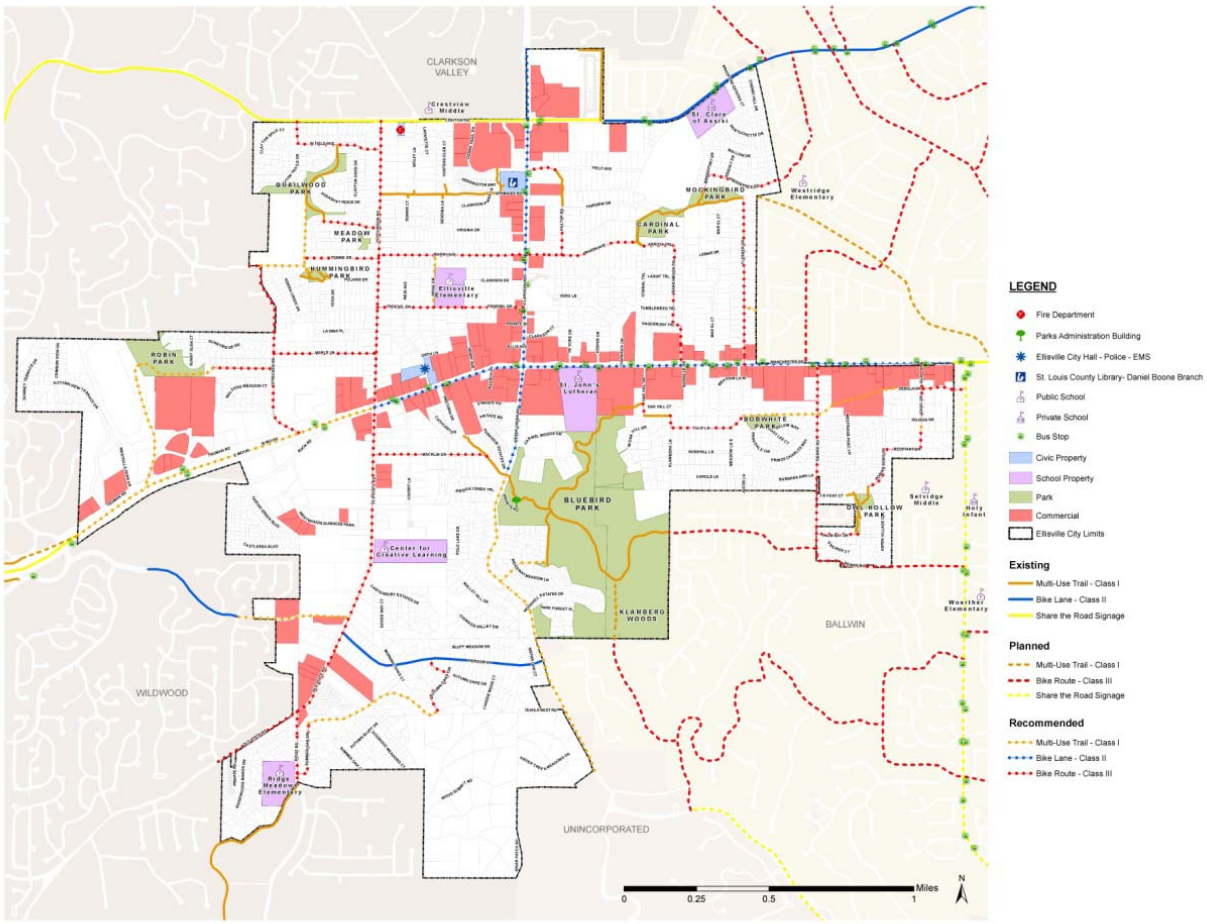
A Multi-Use Trail, also referred to as a Shared-Use Path, is a bikeway physically separated from motorized vehicular traffic by an open space or barrier located within the highway right-of-way or within an independent right-of-way. Multi-Use Trails may also be utilized by pedestrians, skaters, wheelchair users, joggers and other non-motorized users. Generally, Multi-Use Trails should be used to serve corridors not served by streets and highways or where wide easements or rights-of-way exist, permitting such facilities to be constructed away from the influence of parallel streets. Multi-Use Trails should offer opportunities not provided by the road system. They can provide a recreational opportunity or, in some instances, can serve as direct commute routes if cross flow by motor vehicles and pedestrians is minimized. There may be situations where such facilities can be provided as part of planned developments. Another common application of a Multi-Use Trail is to close gaps in bicycle travel caused by construction of cul-de-sacs, dead end streets, railroads and major roadways or to circumvent natural barriers. Multi-Use Trails should be designed with safety for

all types of users in mind, including pedestrians, joggers, dog walkers, people pushing strollers, and others likely to use the path.

The map below depicts the recommended Class I Facilities.

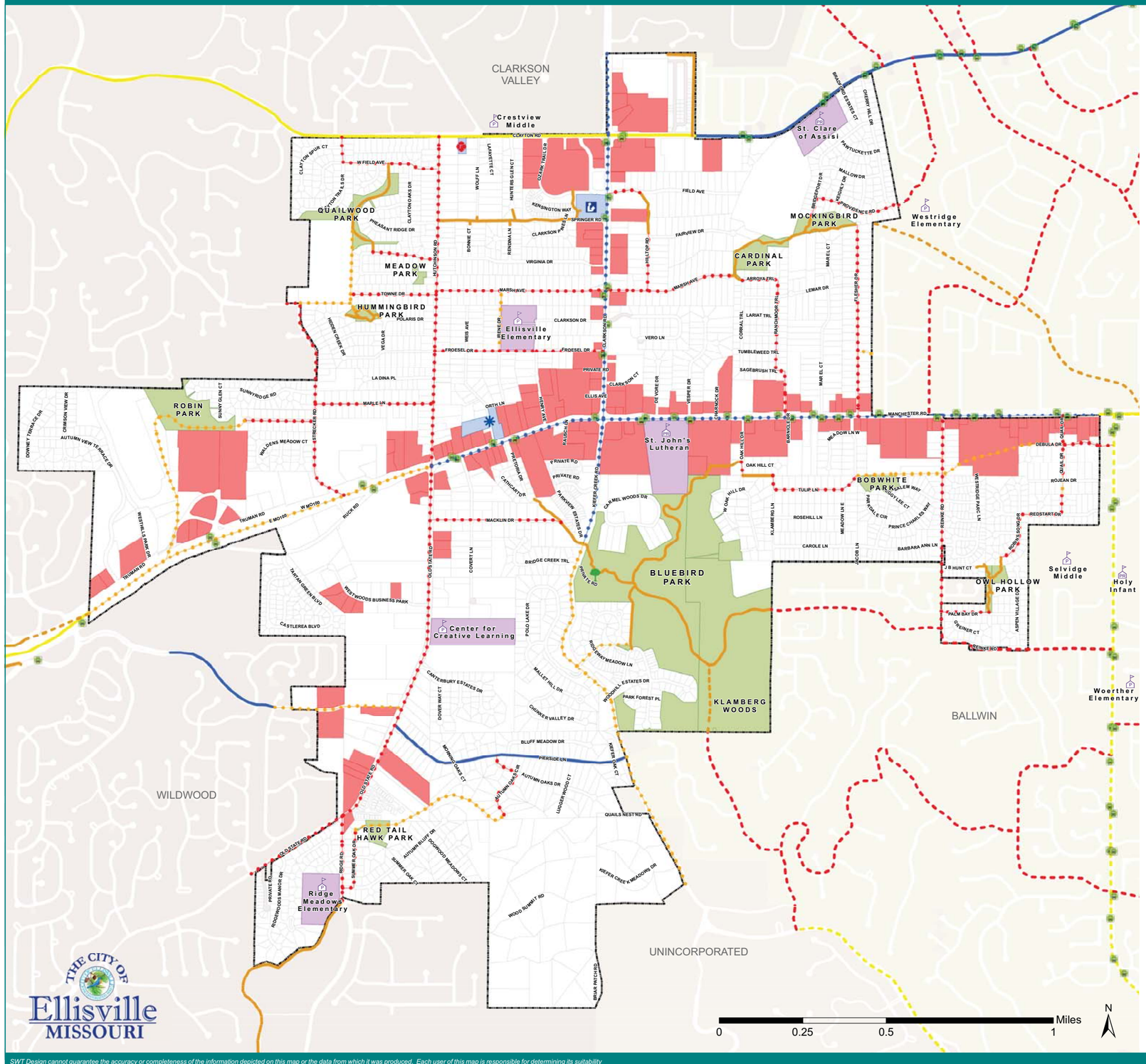
Bicycle Facility

Figure10: Class I Facilities- Bicycle Map



Ellisville Bikeable Walkable Community Plan

Bicycle Facilities



LEGEND

- Fire Department
- Parks Administration Building
- Ellisville City Hall - Police - EMS
- St. Louis County Library- Daniel Boone Branch
- Public School
- Private School
- Bus Stop
- Civic Property
- School Property
- Park
- Commercial
- Ellisville City Limits

Existing

- Multi-Use Trail - Class I
- Bike Lane - Class II
- Share the Road Signage

Planned

- Multi-Use Trail - Class I
- Bike Route - Class III
- Share the Road Signage

Recommended

- Multi-Use Trail - Class I
- Bike Lane - Class II
- Bike Route - Class III

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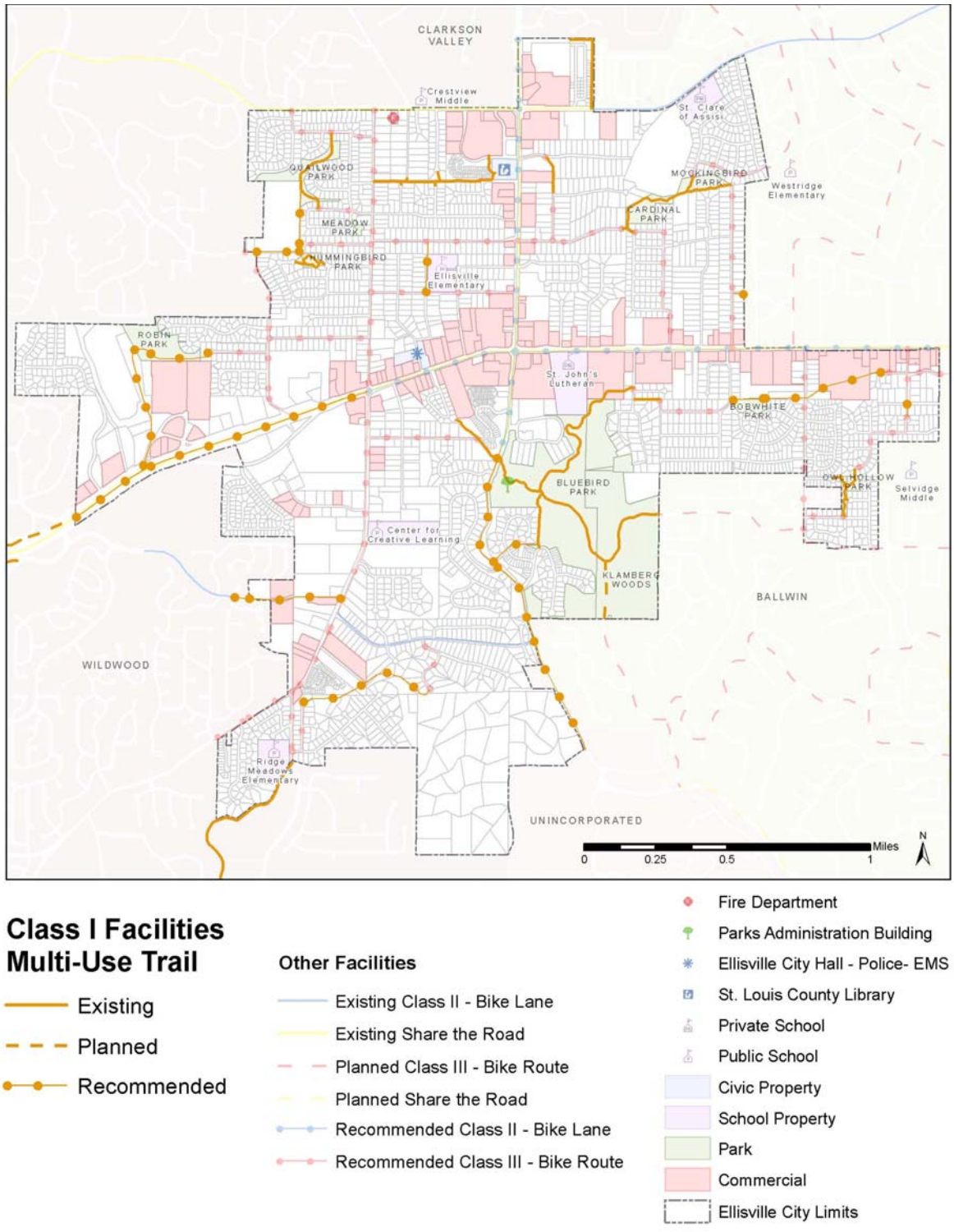
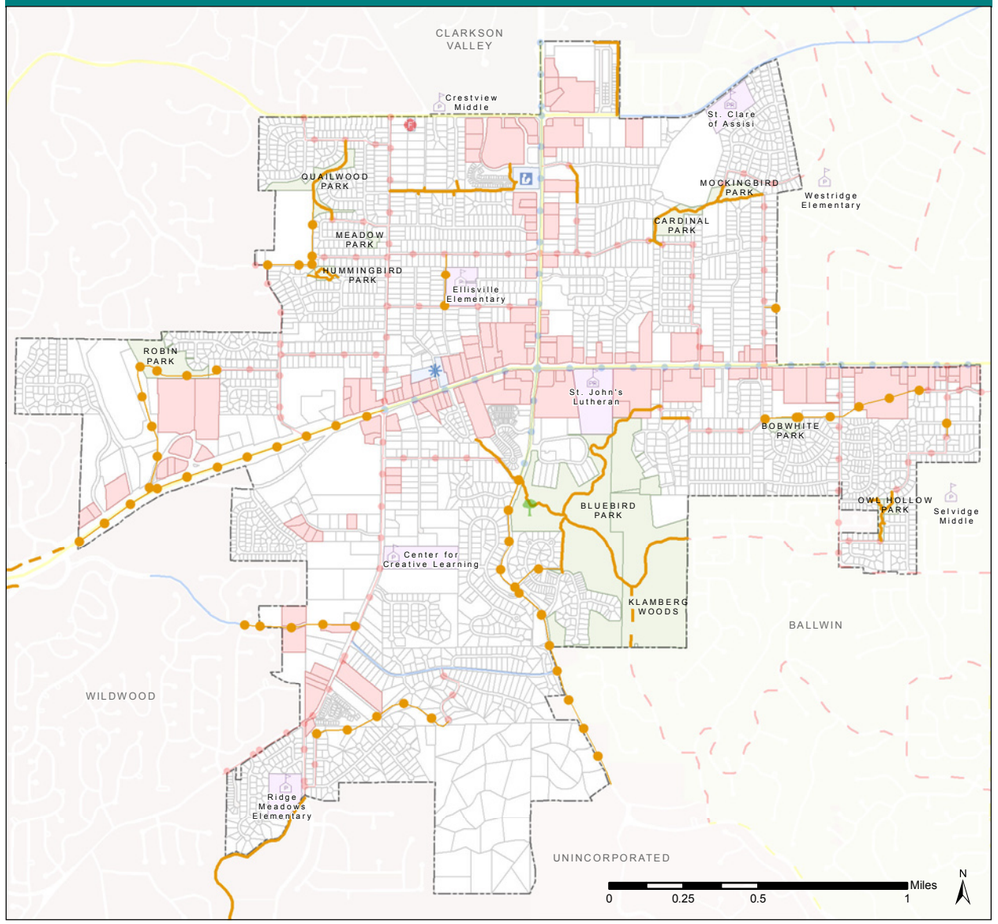
S-W-T DESIGN

Figure11: Class I Facilities- Multi-Use Trail



A Bike Lane is a portion of a roadway designated for the preferential or exclusive use of bicyclists by striping, signing and pavement markings. Bike Lanes are intended to delineate the right of way assigned to bicyclists and motorists and to provide for more predictable

Bicycle Facilities — Class I - Multi-Use Trail



Class I Facilities
Multi-Use Trail

- Existing
- Planned
- Recommended

Other Facilities

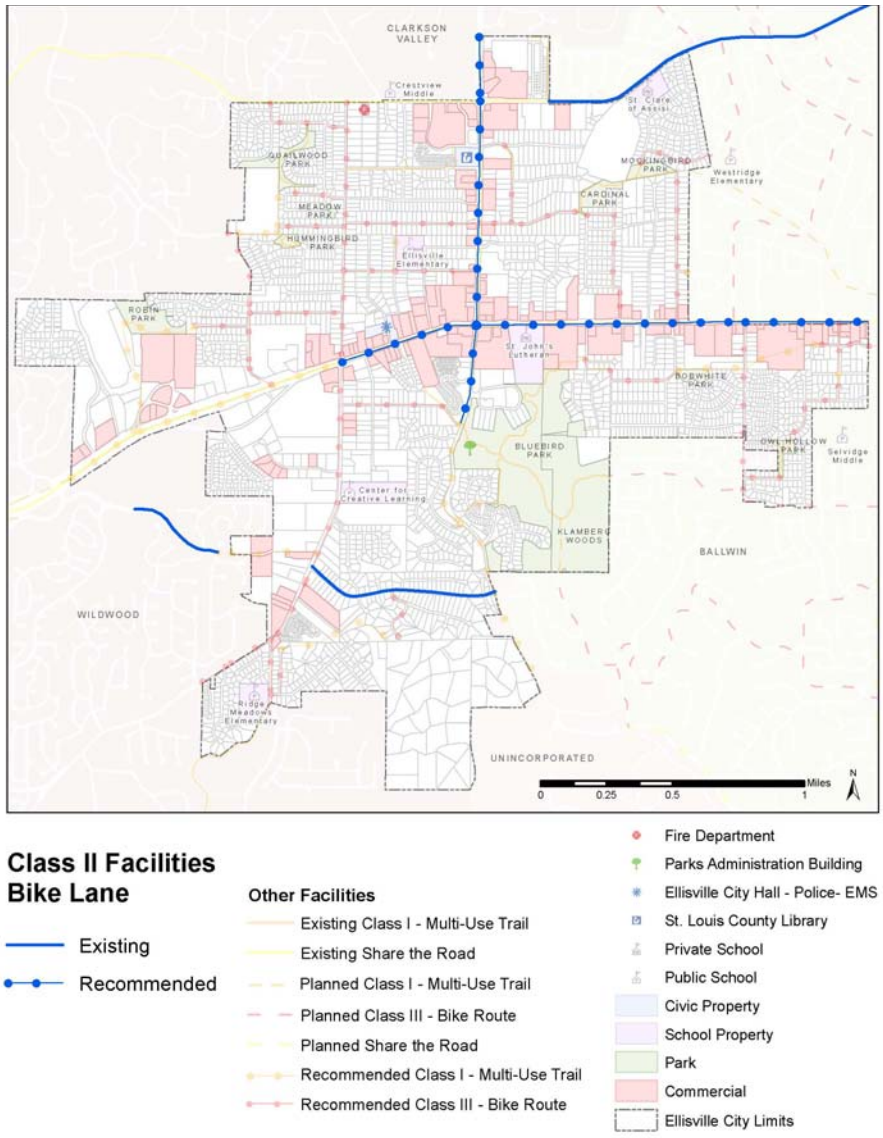
- Existing Class II - Bike Lane
- Existing Share the Road
- Planned Class III - Bike Route
- Planned Share the Road
- Recommended Class II - Bike Lane
- Recommended Class III - Bike Route

- Fire Department
- Parks Administration Building
- Ellisville City Hall - Police- EMS
- St. Louis County Library
- Private School
- Public School
- Civic Property
- School Property
- Park
- Commercial
- Ellisville City Limits

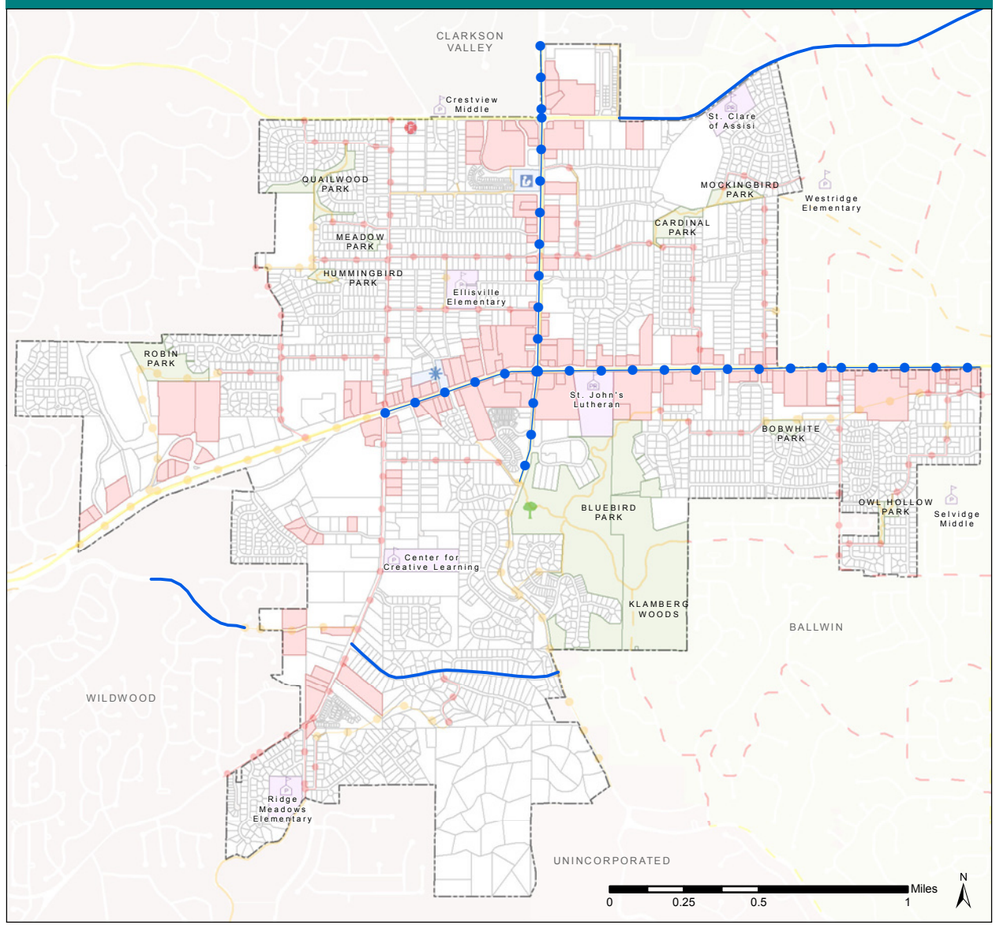
movements by each. Bike Lanes also help increase the total capacities of roadways carrying mixed bicycle and motor vehicle traffic. Another important reason for constructing Bike Lanes is to better accommodate bicyclists where insufficient space exists for comfortable bicycling on existing streets. This may be accomplished by reducing the width of vehicular lanes or prohibiting on-street parking to delineate Bike Lanes. In addition to striping, signing, and markings, other measures should be taken to ensure that Bike Lanes are effective facilities. In particular, bicycle-safe drainage inlet grates should be used, pavement surfaces should be smooth, and traffic signals should be responsive to bicyclists.

The map below depicts the recommended Class II Facilities.

Figure12: Class II Facilities- Bike Lane Map



Bicycle Facilities — Class II - Bike Lane



Class II Facilities
Bike Lane

- Existing
- Recommended

Other Facilities

- Existing Class I - Multi-Use Trail
- Existing Share the Road
- Planned Class I - Multi-Use Trail
- Planned Class III - Bike Route
- Planned Share the Road
- Recommended Class I - Multi-Use Trail
- Recommended Class III - Bike Route

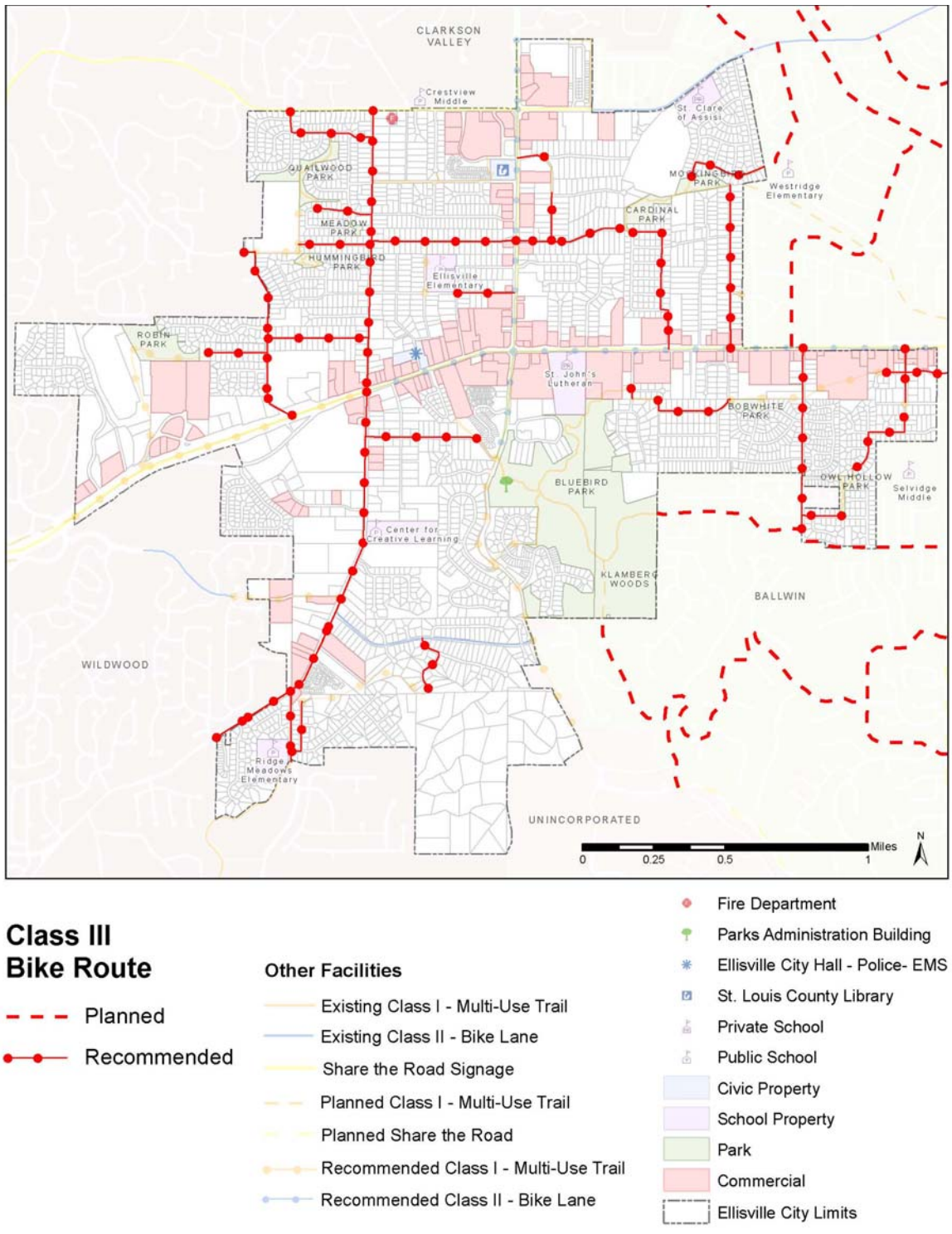
- Fire Department
- Parks Administration Building
- Ellisville City Hall - Police- EMS
- St. Louis County Library
- Private School
- Public School
- Civic Property
- School Property
- Park
- Commercial
- Ellisville City Limits

Bike Route - Class III Bicycle Facility

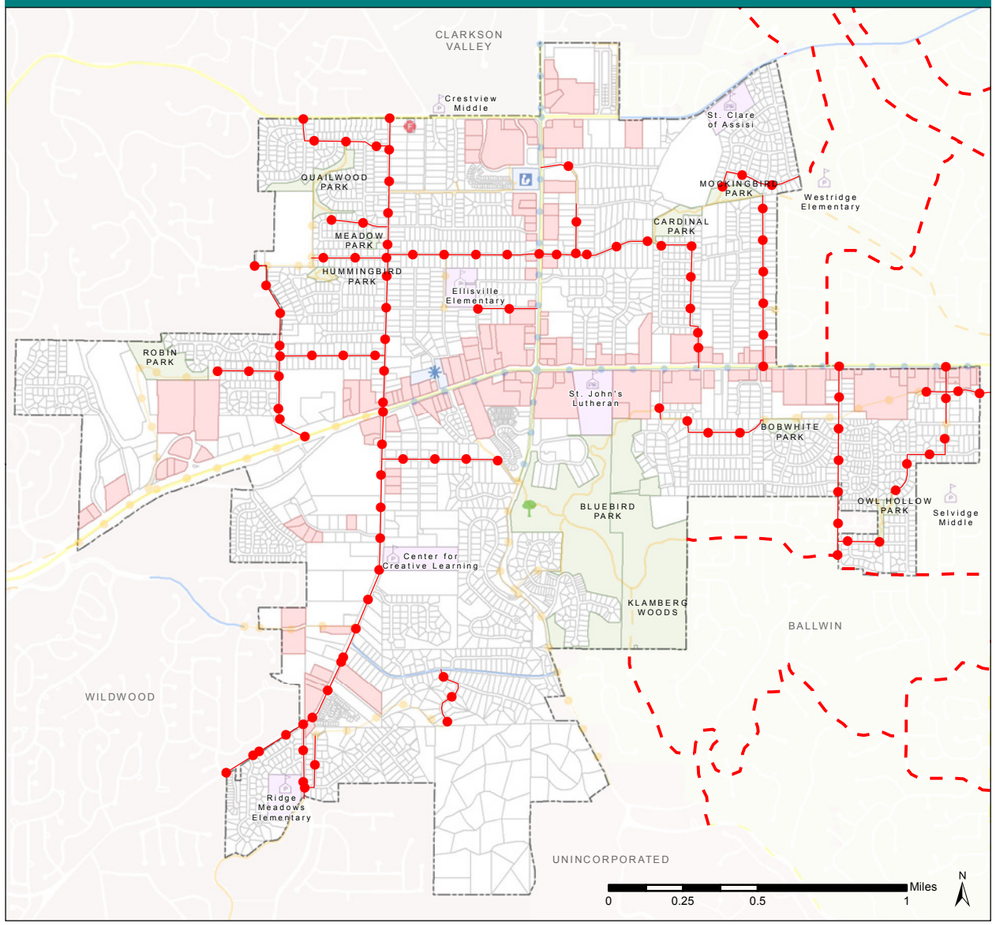
A Bike Route (Signed Shared Roadway) is a roadway designated by the jurisdiction having authority over the route. It has appropriate directional and informational route markers, with or without specific bicycle route numbers, in order to identify preferred bicycle routes and to provide continuity to other bicycle facilities. Bike Routes are most commonly designated by "Bike Route" signage, which can also incorporate directional and wayfinding signage to help users reach local destinations. Bike Routes should establish a continuous routing of the overall bicycle trail system. In some instances, a community's existing street system may be fully adequate for efficient and safe bicycle travel. Road conditions make striping and signage for bicycle use unnecessary even without the presence of widened curb lanes or wide shoulders. These designated routes are suitable for bicycle travel at present, are low-demand corridors and are considered appropriate for bicycle travel. Other roads may need additional modifications or enhancements, such as shared lane markings or "Bicyclists May Use Full Lane" signage, in order to create safe and efficient facilities for cyclists.

The map on the next page depicts the recommended Class III Facilities.

Figure 13: Class III Facilities- Bike Road Map



Bicycle Facilities — Class III - Bike Route



Class III Bike Route

- Planned
- Recommended

Other Facilities

- Existing Class I - Multi-Use Trail
- Existing Class II - Bike Lane
- Share the Road Signage
- Planned Class I - Multi-Use Trail
- Planned Share the Road
- Recommended Class I - Multi-Use Trail
- Recommended Class II - Bike Lane

- Fire Department
- Parks Administration Building
- Ellisville City Hall - Police- EMS
- St. Louis County Library
- Private School
- Public School
- Civic Property
- School Property
- Park
- Commercial
- Ellisville City Limits

Two enhancements to the traditional Bike Route facilities are being recommended for the City of Ellisville. They are "Bike Boulevards" and "Shared Lane Markings". These additional enhancements are further described on the following pages.

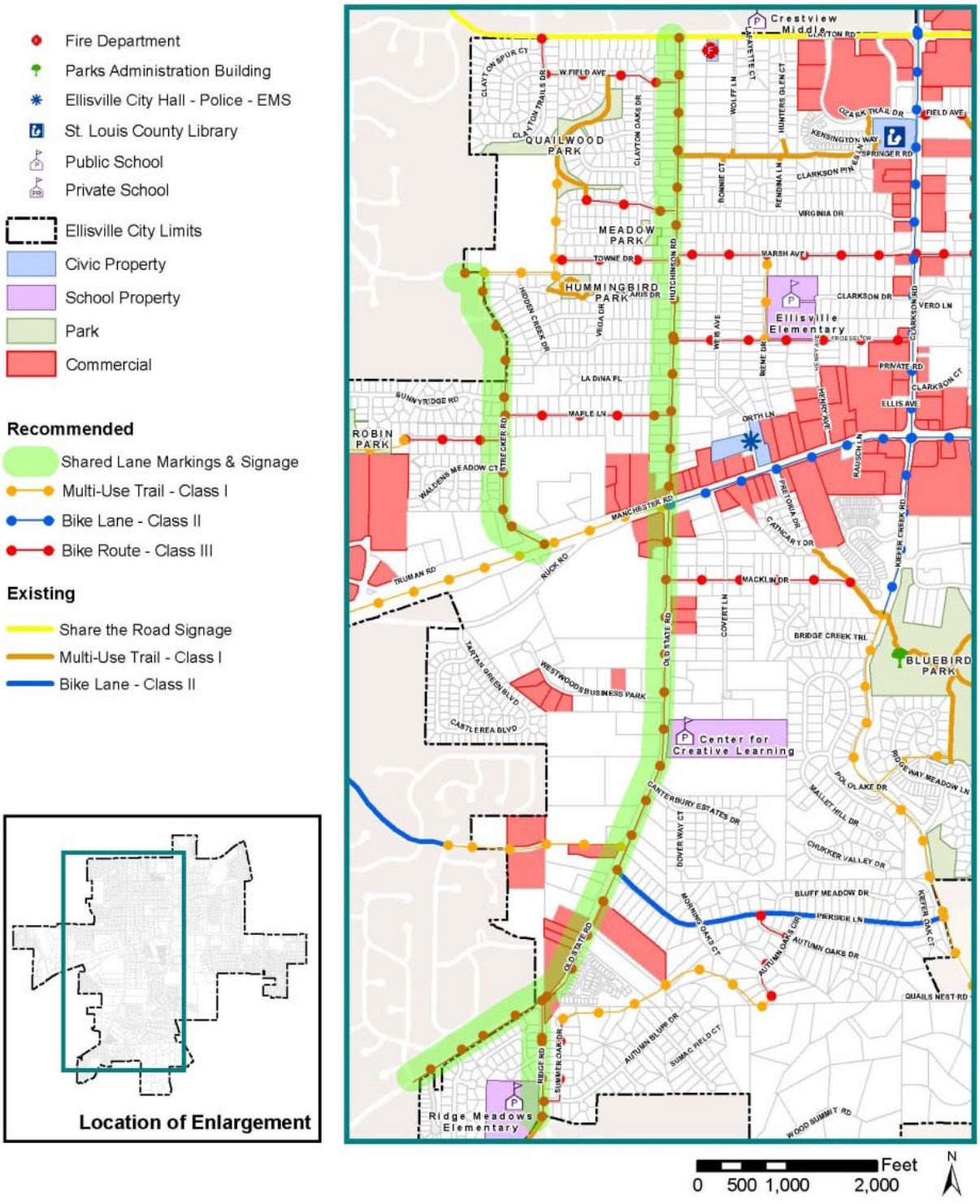
Additional Enhancements to Bike Route - Class III Facilities

Additional recommended enhancements to Class III Facilities include: Shared Lane Markings, Shared Lane Signage, and Bike Boulevards. The following pages describe these enhancements and depict their recommended locations within the proposed facilities.

Shared Lane Markings. Shared lane markings, or "sharrows", are pavement markings applied to a traffic lane to indicate the bicyclist's preferred path of travel when sharing lanes with motor vehicle traffic. Shared Lane Markings help reduce the chance of collision between cyclists and open doors of parked cars on roads that allow on-street parking. They encourage safe passing of bicyclists by motorists and reduce the incidence of wrong-way bicycling. They provide an additional indicator to motorists to be aware of bicyclists on the roadway. Shared Lane Markings can supplement bike route signage to provide an additional level of safety and comfort for cyclists on roads with narrow outside travel lanes, on-street parking, and other physical constraints that prevent the installation of bicycle lanes.

Shared Lane Signage. "Share the Road" signage is used to warn motorists of the presence of cyclists on roadways commonly used by cyclists. These signs can be seen in Ellisville on Manchester and Clarkson Roads, which are not designated bicycle facilities, but are commonly used by advanced commuter and recreational cyclists. While not a facility type in and of itself, "Share the Road" signage can be used to alert motorists of potential bicycle traffic and to enhance safety for all road users, whether on a designated bicycle facility or on an undesignated roadway. "Share the Road" signs should be on roadways which are open to both bicycle and motor vehicle travel. They may be on an existing roadway or street with wide curb lanes, or on a road with paved shoulders. Signed "Share the Road" bikeways serve to provide continuity to other bicycle facilities or to designate preferred routes through high-demand corridors. Signing of "Share the Road" bikeways should indicate to bicyclists that particular advantages exist to using these routes compared with alternative routes. This means that responsible agencies have taken actions to assure that these routes are suitable as shared routes and will be maintained in a manner consistent with the needs of bicyclists. Signing also serves to advise vehicle drivers that bicycles are present.

Figure 14: Shared Lane Markings and Signage Map



Bike Boulevard. A Bicycle Boulevard is an innovative bikeway treatment that combines shared roadway markings and signage, directional signage, and traffic calming techniques in

Enhancement Design Details for Bike Route Class III Facilities — Share the Road

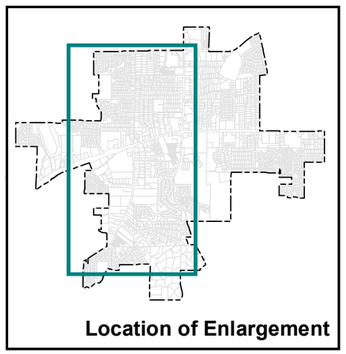
- Fire Department
- Parks Administration Building
- Ellisville City Hall - Police - EMS
- St. Louis County Library
- Public School
- Private School
- Ellisville City Limits
- Civic Property
- School Property
- Park
- Commercial

Recommended

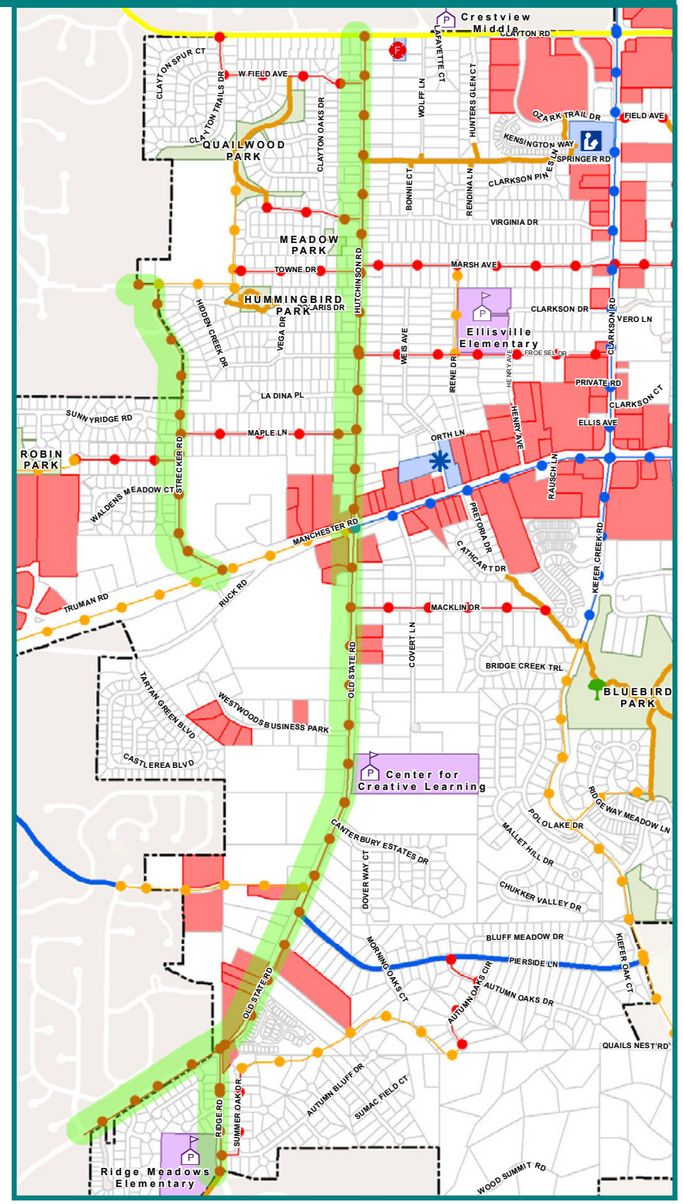
- Shared Lane Markings & Signage
- Multi-Use Trail - Class I
- Bike Lane - Class II
- Bike Route - Class III

Existing

- Share the Road Signage
- Multi-Use Trail - Class I
- Bike Lane - Class II



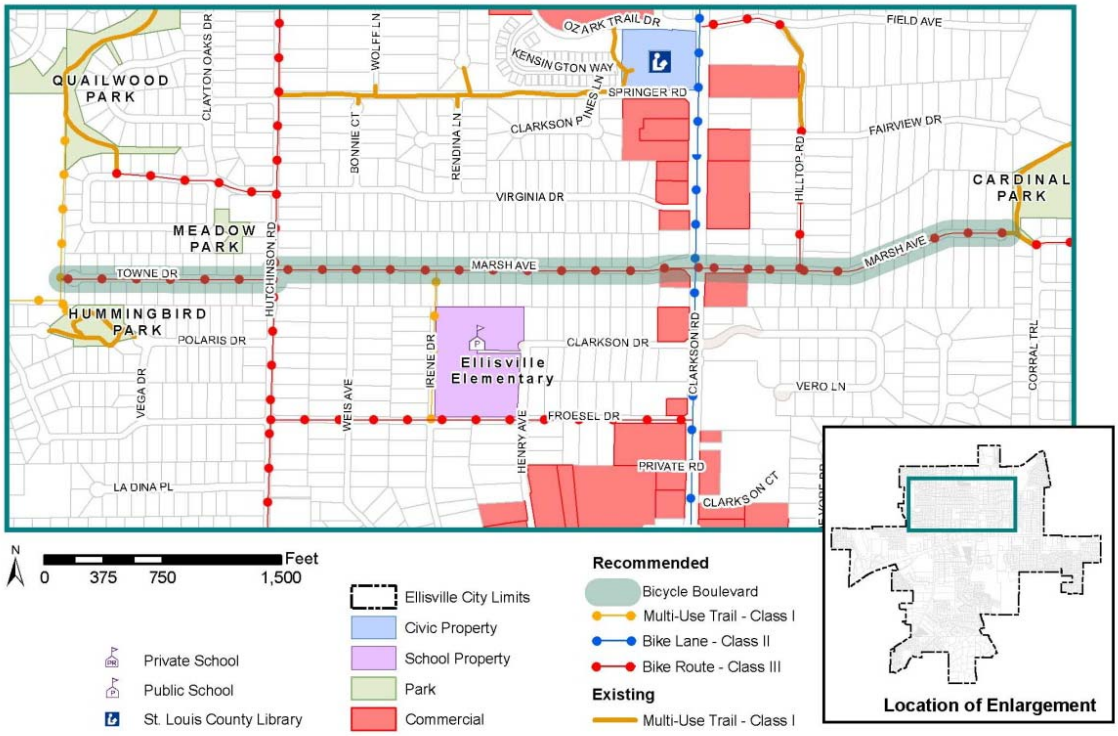
Location of Enlargement



order to provide a comfortable, convenient and attractive corridor for cyclists of all abilities. Bicycle Boulevards are characterized by low motor vehicle volumes, low motor vehicle speeds, safe intersection crossings, and minimal delay for cyclists. Often located parallel to arterial roadways, Bicycle Boulevards provide the connections to local destinations necessary to encourage bicycle trips for a variety of purposes, whether it be commuting to work or school, shopping at local retail destinations, or visiting a local park.

The map below depicts the location of the recommended Bike Boulevard and shared lane marking facilities.

Figure 15: Bike Boulevard and Shared Lane Markings Map

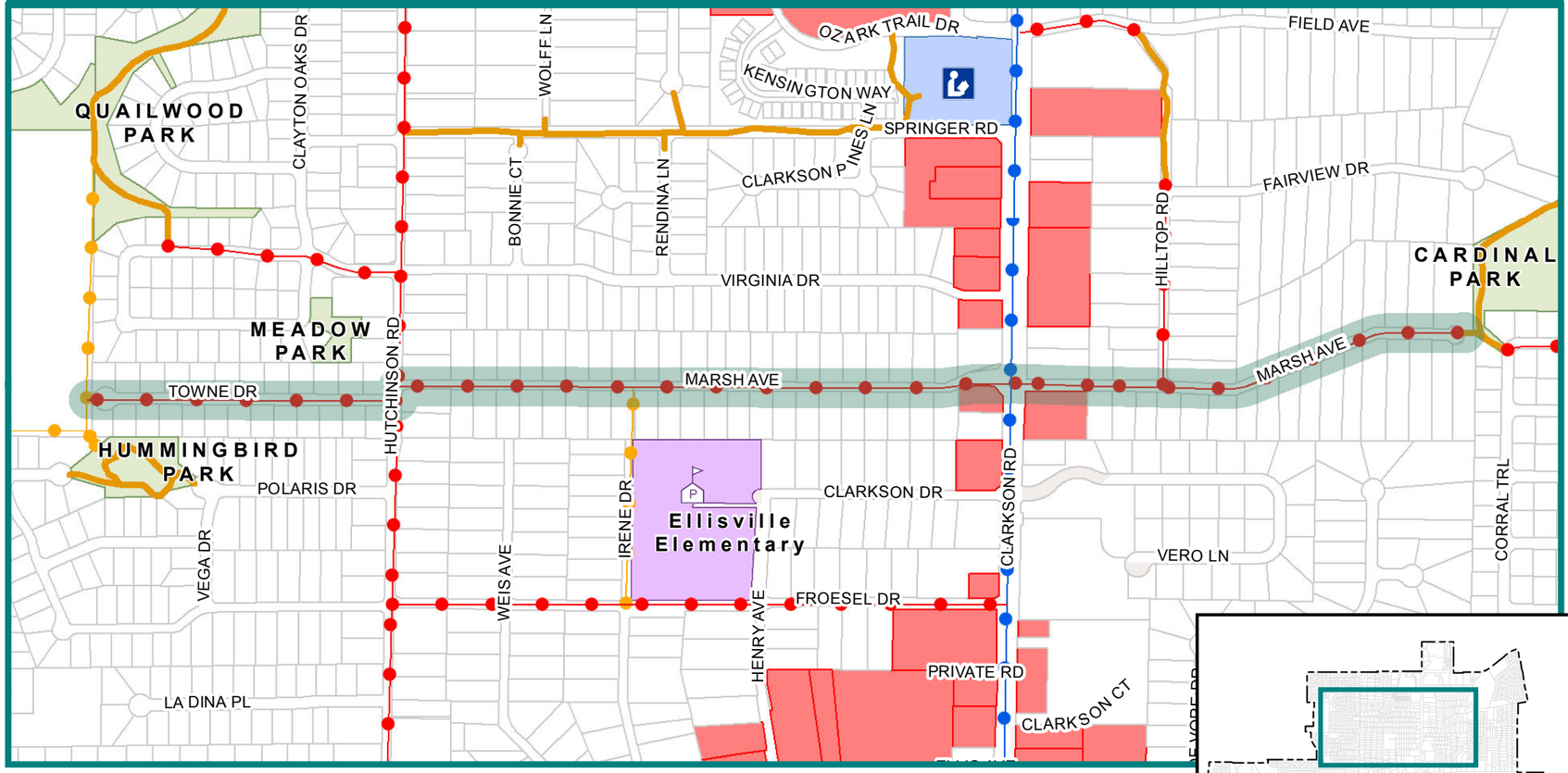


Pedestrian Facilities

Safe, connected, comfortable and accessible sidewalks, crosswalks and trails play an integral role in supporting walking as a functional transportation mode in the City of Ellisville. While many local destinations are within walking distance, the lack of sidewalks, safe crossings, and other pedestrian facilities makes walking for short trips an undesirable option. The recommended pedestrian facilities in this plan create an interconnected network that enhances

Enhancement Design Details for Bike Route Class III Facilities

Bicycle Boulevard



N

0 375 750 1,500 Feet

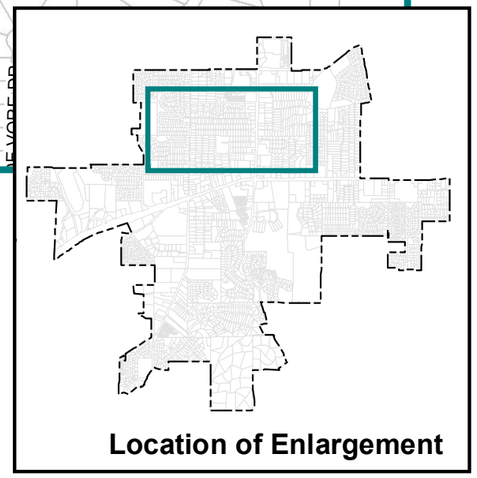
- Private School
- Public School
- St. Louis County Library
- Ellisville City Limits
- Civic Property
- School Property
- Park
- Commercial

Recommended

- Bicycle Boulevard
- Multi-Use Trail - Class I
- Bike Lane - Class II
- Bike Route - Class III

Existing

- Multi-Use Trail - Class I



Location of Enlargement

pedestrian safety and provides direct, convenient and contiguous routes linking residential neighborhoods with parks, schools, transit stops, retail developments, local and regional trails, and other destinations in and around the City of Ellisville. The pedestrian facilities include "Sidewalks" and "Enhanced Pedestrian Nodes".

Sidewalks

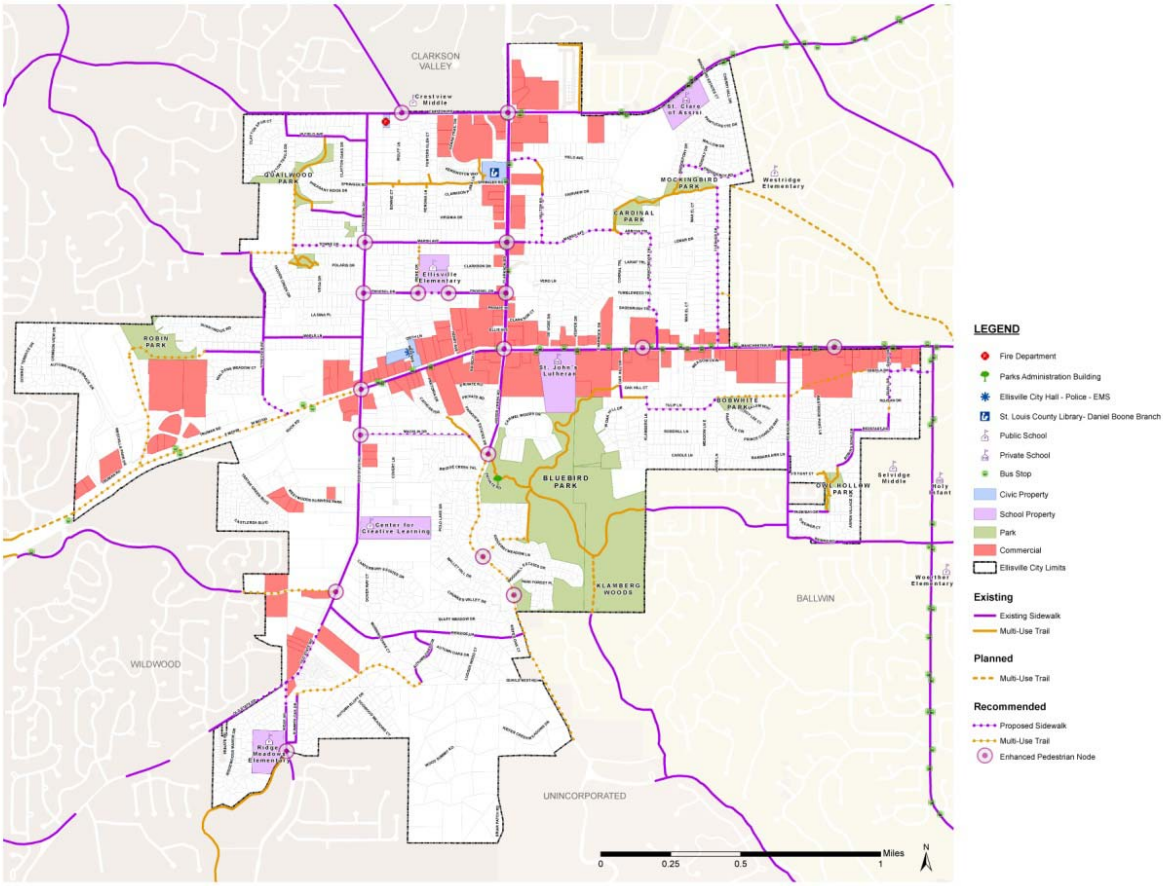
The purple dotted lines on the following map represent recommended sidewalks. These facilities connect to existing sidewalks, shown as solid purple lines, and existing multi-purpose trails, shown as solid orange lines. The recommended sidewalks, combined with the existing facilities, form a completed pedestrian network that mirrors the bicycle network.

Enhanced Pedestrian Nodes

Based on the existing and proposed sidewalks, the purple circles on the following map represent intersections that are recommended for improvement.

There are a variety of pedestrian related treatments that can be incorporated at intersections. Many of these treatments can also be used to mitigate or improve non-motorized conditions along existing roadways. Descriptions of multiple types of pedestrian node enhancements are on the pages following the "Pedestrian Facilities" map. For purposes of this study, the treatments were categorized into two main groups; "Geometric Treatments" and "Traffic Signals". A brief discussion of each category is included after the "Pedestrian Facilities" map.

Figure 16: Pedestrian Facilities Map



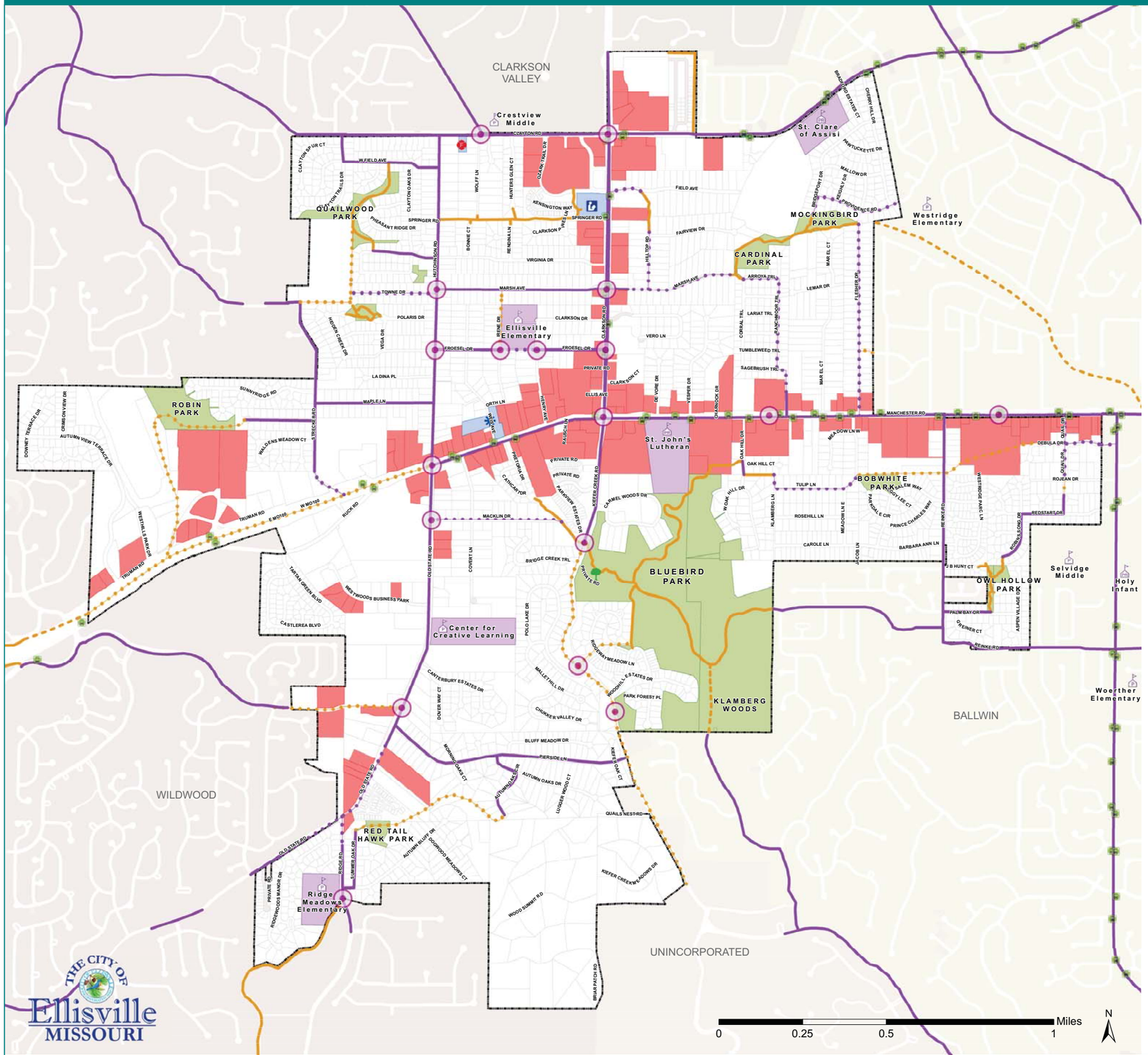
Enhancements to Pedestrian Nodes - Geometric Treatments

Geometric treatments are aimed at improving safety of non-motorized users along a roadway. They range from improved signing to an alternate design treatment within the roadway cross section.

Enhanced Crosswalk. Crosswalks are one of the easiest treatments to install, but should only be used when deemed necessary. FHWA Report, “Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations”, documents the appropriate use of crosswalks and their effectiveness. If a crosswalk is deemed appropriate, enhancements to improve their visibility should be considered. In addition to the type of crosswalk (zebra, i.e.) itself, there are several aesthetic treatments that can be added to improve visibility, such as stamped brick patterns or concrete banding. Developing a set of crosswalk standards for different roadway corridors should be considered as the City begins to implement the various projects included within this study.

Ellisville Bikeable Walkable Community Plan

Pedestrian Facilities



LEGEND

- Fire Department
- Parks Administration Building
- Ellisville City Hall - Police - EMS
- St. Louis County Library- Daniel Boone Branch
- Public School
- Private School
- Bus Stop
- Civic Property
- School Property
- Park
- Commercial
- Ellisville City Limits

Existing

- Existing Sidewalk
- Multi-Use Trail

Planned

- Multi-Use Trail

Recommended

- Proposed Sidewalk
- Multi-Use Trail
- Enhanced Pedestrian Node

The City of Ellisville Missouri

trailnet BIKE WALK LIVE

HDR

S·W·T Design

Curb Extensions. This particular treatment is aimed at reducing the curb-to-curb distance that pedestrians must cross. There are several variations that can be implemented along a particular corridor. Along a residential street, a bulb-out design might be preferred, while along a commercial roadway the use of a more elaborate design maybe preferred to allow on-street parking.

Raised Islands. Constructing a raised island within the middle of a roadway provides pedestrians with a refuge. This "holding" area allows them to cross the roadway using a two step process versus crossing the entire roadway all at once. Several different designs are available depending on the type of roadway being crossed by the pedestrian.

Australian Right-Turn Lane. This treatment improves the drivers' sight distance while negotiating right turns in addition to improving the drivers' awareness of pedestrians. The length of the pedestrian crossing is also reduced by eliminating the rather large islands that separate through and right turning traffic.

Traffic Circle. The use of a traffic circle or mini-roundabout is aimed at improving both traffic and pedestrian related issues. The benefit to drivers is the ability to control traffic via yield signs versus that of a two or four-way stop. Traffic speeds are typically lower, thus improving safety of all roadway users, including pedestrians and bicyclists.

Overhead Signing. The addition of an overhead sign that identifies a pedestrian crossing can provide increased awareness to the driver. Drivers typically see overhead signs at further distances, thus providing them with more time to recognize and adjust their driving habits based on the upcoming crossing. The signs can be made "active" to further alert drivers that pedestrians are actually crossing the roadway.

In Roadway Knock-Down Signs. This alternative has been shown to improve driver awareness at several locations across the Country. The sign is bolted into the road at and/or prior to a crosswalk. The signs are very visible to the motorist and provides them with additional information that pedestrians may be present.

In–Pavement Flashing Warning Lights. This particular treatment has been very popular over the past several years due to its overall improvement in pedestrian safety. The system consists of lights embedded in the pavement that are activated by detection of a pedestrian at the crosswalk. The lights can be seen during the day as well as at night. There are a variety of vendors that advertise this system and their benefits.

Enhancements to Pedestrian Nodes - Traffic Signals

Traffic Signal-related treatments are relatively effective at improving pedestrian safety. They are aimed at providing additional information to both the pedestrian and driver regarding a particular pedestrian along the road. There are several treatments, besides a full traffic signal, that can be implemented to provide a safer crossing. The installation of a full traffic signal must meet signal warrants due to the requirements of the MUTCD. Generally, a high number of pedestrians are required to meet the warrant. A brief discussion of each treatment is included below.

Pedestrian Count-Down Timers. The addition of pedestrian count-down timers are aimed at informing the pedestrian how much time is available to cross the street after the walk indication terminates. Studies have found this treatment to improve pedestrian safety at signalized intersections.

Leading Pedestrian Interval (LPI). The purpose of a LPI is to provide the pedestrian with a "head-start" (typically three to seven seconds) before vehicles receive a green light. Intersections with a high number of turning vehicles would be a good candidate for this treatment. The installation of LPIs has been found to improve vehicles yielding to pedestrians.

Blank-Out Signs. Blank-out signs can be installed at a signalized intersection to give additional information to drivers when certain phase indications are displayed. For example, when a pedestrian activates the Walk indication, a blank-out sign can display "No Turn on Red". This should lead to a significant reduction in vehicle-pedestrian conflicts, thus improving pedestrian safety.

Rectangular Flashing Beacon (RFB). This particular treatment focuses on providing drivers with an "active" warning device that pedestrians may be ahead. As a pedestrian approaches the crosswalk, they activate flashing yellow lights and/or illuminate pedestrian signs, thereby alerting drivers that pedestrians are ahead. The overall system is solar-powered, thus minimizing maintenance costs when compared to a traffic signal.

Crosswalk Enhancer. This system is very similar to the RFB, but includes a strobe light that flashes on/off once it has been activated by a pedestrian. The flashing strobe lights provide an additional signal to the driver that they should be aware of pedestrians in the crosswalk.

Cross Alert. This system is similar to the Enhancer, but with an appearance similar to that of a typical pedestrian signal installation. The main difference, however, is that flashing yellow lights illuminate along both approaches to the crosswalk. Yellow caution signs are also

activated for vehicles approaching the crosswalk. Another key advantage of this system is that it utilizes radar and is automatically triggered by pedestrian detection.

HAWK (High-intensity Activated crossWalK). The high-intensity activated crosswalk is similar to a true pedestrian signal, but has been slightly modified to improve traffic flow. The actual signal displays are modified as depicted in the picture to the left. The red indications are only displayed when activated by a pedestrian desiring to cross the roadway. Drivers are more likely to react to this design compared to that of a typical signal that "rests" in green. Variations to the HAWK are the Pelican and Puffin signals.

Recommended Signage

Just as with any traffic control devices, roadway signs and lane markings indicating bicycle facilities must conform to the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD). The MUTCD includes extensive information on sign design and lane marking options and should be consulted when planning roadway indications for bicycle facilities.

Roadway Indications for All Bicycle Facilities

For Class II Bike Lane facilities, MUTCD Sign R3-17 should be used and may be combined with R3-17a and R3-17b when appropriate. For Class III Bike Route facilities, Sign D11-1 should be used. Finally, for Share the Road bikeways, Signs W11-1/W16-1 are called for.

The "Recommended Signage" map, following this section, indicates the corridors where each type of sign should be located. (Note that existing facilities may already contain the appropriate signs. Also, some areas may require a change in signage, such as existing Share the Road facilities along Clarkson or Manchester Roads which are recommended in this plan as bike lane, bike route, or multi-use facilities.)

More Information: http://mutcd.fhwa.dot.gov

Figure 17: Typical Share the Road Signage

R3-17; R3-17a-b Class II Facilities	D11-1 Class III Facilities	W11-1; W16-1 Share the Road
		

Original Destination Signs

The City should consider additional signage to provide more information to bicycle users. Signs to indicate direction and distance to significant destinations allow bicyclists to more effectively use the bicycle facilities as an integrated transportation system. Destinations marked by signs could be, but are not limited to: Bluebird Park and neighborhood parks, Daniel Boone Branch Library, City Hall, schools, and designated commercial hubs. A suggested design for the signs that integrate the City of Ellisville seal is shown at the left. This sign is based on MUTCD guidance, M1-8 and M1-8a signage.

A set of signs designed specifically for the City of Ellisville also aids in identifying and branding the City-wide bicycle system for all passersby, not just bicycle users. Before implementing such signage, the City should come up with a uniform design as well as a clear plan for where the signs should be located.

Multi-Use Facility Signage

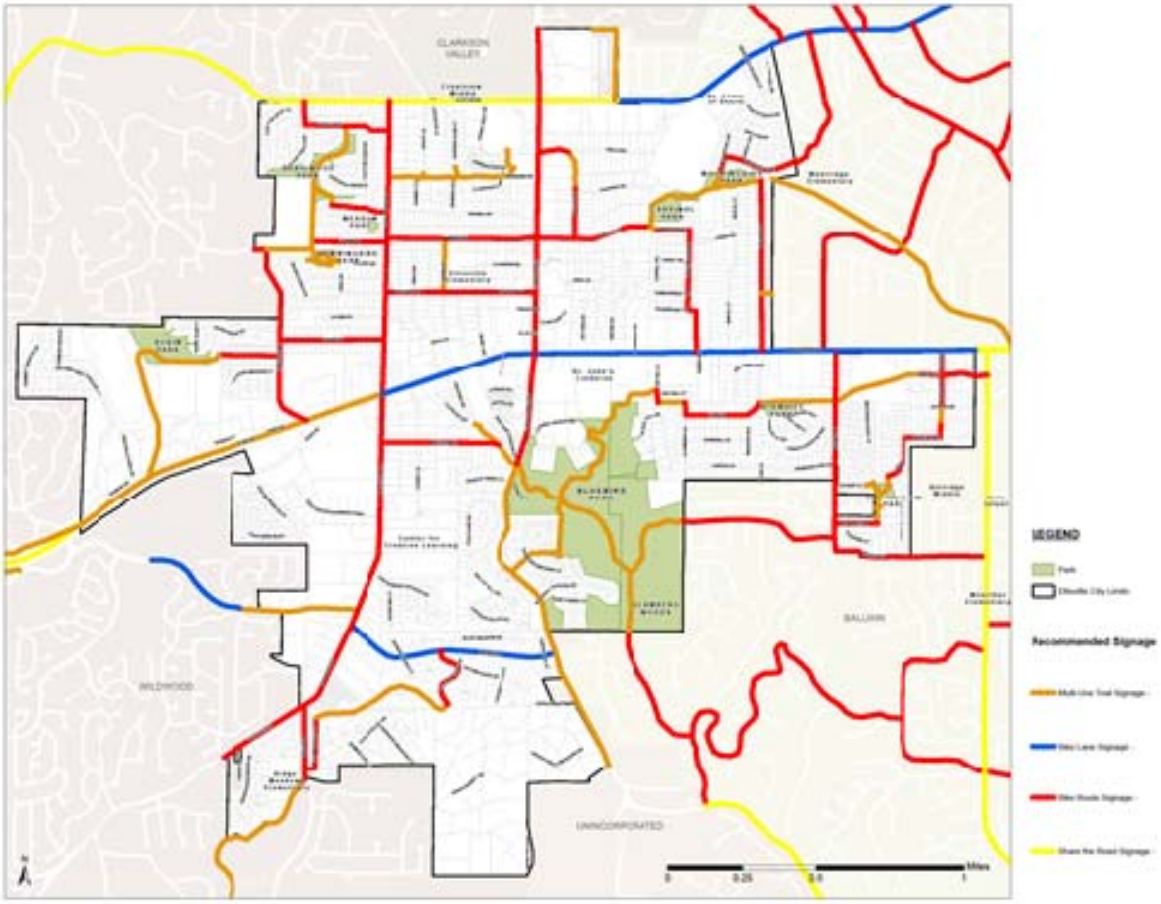
The City currently marks existing Class I Multi-Use facilities with a “Multi-Use Trail Route” sign containing symbols for both pedestrians and bicycle users. The same sign should

continue to be placed in new multi-use facilities in order to provide consistency. Old signage, not matching this standard, should be replaced when possible.

The following map depicts the types of signage and potential locations related to the proposed facilities.

Recommended Programs

Figure 18: Recommended Signage Map

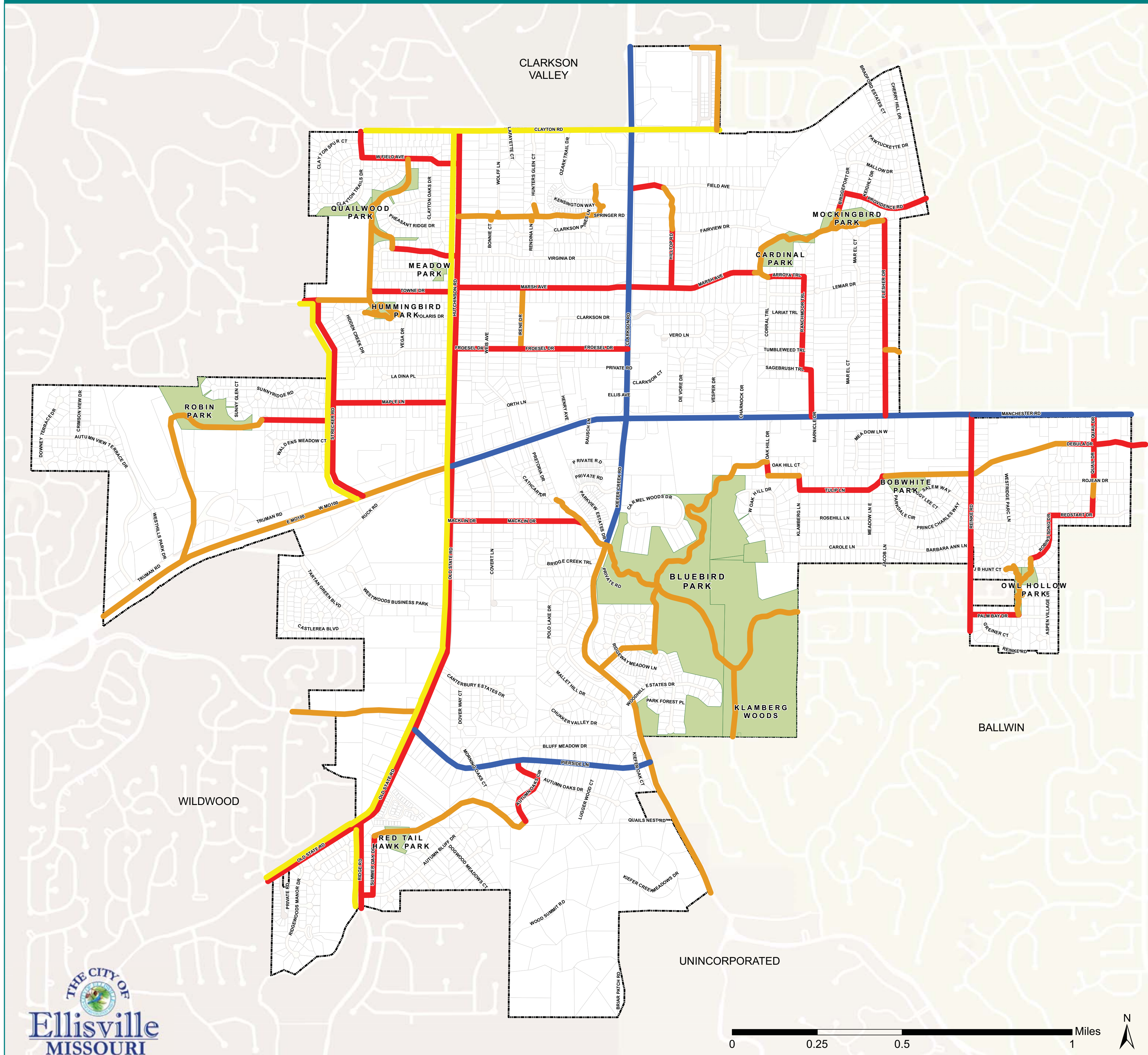


In addition to continuing to provide recreational programs for all residents of the City, the City should implement the following programs:

Creating a positive environment for cycling and walking goes beyond physical infrastructure improvements. A comprehensive approach to increasing bicycle and pedestrian activity must include education, encouragement, enforcement, and evaluation programs. Whether

Ellisville Bikeable Walkable Community Plan

Recommended Signage



LEGEND

Park

Ellisville City Limits

Recommended Signage

Multi-Use Trail Signage -

Bike Lane Signage -

Bike Route Signage -

Share the Road Signage -

developing a City-wide map highlighting bicycle and pedestrian routes and local destinations, or establishing Safe Routes to Schools programs to encourage more children to walk and bike to school, these programs provide valuable resources to residents and weave bicycling and walking into the fabric of the community.

The following programs represent potential solutions to a number of different issues and obstacles that currently limit bicycling and walking in the City of Ellisville.

Community-Wide Bicycle and Pedestrian Route Map

Purpose: Print and distribute maps of the bicycle and pedestrian network to encourage residents to walk and bike to destinations in and around town.

Description: A community-wide bicycle and pedestrian map is one of the most effective ways to encourage bicycling and walking throughout the City. Such a map informs residents that preferred routes and safe and accessible infrastructure link neighborhoods to destinations throughout the community, while also highlighting local parks, schools, shopping areas, and other significant amenities within Ellisville. When published as a pamphlet or made available online through the City's website, a community-wide map can also provide bike safety tips, information about achieving daily recommended physical activity through walking and biking, and other useful resources that encourage residents to choose walking and biking for transportation and recreational purposes.

Online Resources:
Springfield, MO Bike Routes Map:
www.springfieldmo.gov/traffic/pdfs/BIKE_ROUTE.pdf
Exeter, UK Walking Map: www.exeter.gov.uk/CHttpHandler.ashx?id=13302&p=0
Bowling Green, OH Bike Routes Map:
http://www.bgohio.org/boards-commissions/bicycle-safety-commission
Grand Forks, ND & East Forks, MN Bike Map:
www.grandforksgov.com/Planning/BikeMap_Brochure.pdf

Recreational Biking and Walking Maps

Purpose: Utilizing the planned bicycle and pedestrian network, develop recreational loops with distances based on daily recommended physical activity to encourage residents to bike and walk in Ellisville.

Description: Whether incorporated into the Community-Wide Bicycle and Pedestrian Route Map, or published on a separate map or maps, these recreational routes will encourage residents to walk and bike for fitness and exercise. Each route should be linked with local destinations to create opportunities for residents and visitors to visit parks, shop at businesses within the community, and begin to incorporate active transportation into daily routines. In larger cities, neighborhood walking maps have been developed to link residents to fitness and short trip opportunities. In a community the size of Ellisville, a single map with three to four routes can cover the needs of the entire community. Similar to a community-wide bicycle and pedestrian network map, recreational maps should include safety tips, health tips, recreational loop information, and other useful information to encourage residents to increase physical activity.

Online Resources:
City Walks San Diego: http://www.co.san-diego.ca.us/parks/walks.html
City Walks Sacramento: http://www.parks.ca.gov/pages/23997/files/map_print.pdf
Columbus, OH Neighborhood Walking Maps:
http://publichealth.columbus.gov/columbus-walking-maps.aspx
Kirkland, WA Neighborhood Walking Maps:
http://www.ci.kirkland.wa.us/depart/parks/Parks/Neighborhood_Walking_Maps.htm

Sidewalk Education Program

Purpose: Provide information to residents and property owners in Ellisville of the cost and benefits of sidewalks.

Description: Sidewalks provide a significant benefit to Ellisville residents, creating safe, accessible connections for people of all ages and abilities to reach important local destinations. Currently, many residents in Ellisville believe the costs of sidewalks outweigh the benefits. As the City prepares to construct new sidewalks, a concurrent outreach program should be developed to inform residents of the cost of sidewalk development, who bears the cost of sidewalk construction, what liability issues are associated with sidewalks, and the many benefits that sidewalks bring to the community.

Online Resources:
Health By Design - Sidewalks Facts Sheet:
http://www.healthbydesignonline.org/projects.html
Perils for Pedestrians – Retrofitting a Community with Sidewalks:
http://www.pedestrians.org/retrofit.htm

Safe Routes to School

Purpose: Encourage children to walk and bike to school and educate parents, school district staff on the benefits of walking and bicycling to school.

Description: In Ellisville, many children live within walking and bicycling distance to school, yet very few actually walk and bike to school. Safe Routes to School programs aim to build a safe, positive, and welcoming environment for children to incorporate physical activity into their daily routines. Walking School Buses, Bike Trains, Bicycle Rodeos, National Walk to School Day, Safe Routes to School walking maps, and other activities have successfully increased walking and biking to school throughout the country.

Online Resources:
Trailnet's Safe Routes to School Program:
http://www.trailnet.org/saferoutes_program.php
Safe Routes to School National Partnership: http://www.saferoutespartnership.org/
National Center for Safe Routes to School: http://www.saferoutesinfo.org/
FHWA Safe Routes to School: http://safety.fhwa.dot.gov/saferoutes/

National Bike Month Activities

Purpose: Encourage residents of all ages to bike in and around Ellisville for transportation and recreational purposes during National Bike Month.
Description: During the month of May, cities across the country host events to encourage residents to bicycle for both transportation and recreation. Some common events include commuter 101 workshops, family group rides, adult and children cycling classes, bike-to-school events, and other exciting events to get people out on their bikes. The City of Ellisville should host events during the month of May to encourage Ellisville residents to get out and ride. The League of American Bicyclists has a number of valuable online resources to help make local efforts in Ellisville successful, including an event organizing handbook, a calendar linking to local events and activities, and tips for people interested in commuting to work.

Online Resources:
League of American Bicyclists: http://www.bikeleague.org/programs/bikemonth/
Get about Columbia: http://www.getaboutcolumbia.com/
City of Rock Hill, South Carolina:
http://www.ci.rock-hill.sc.us/viewPR.aspx?ID=276

Shop By Bike Program

Purpose: Encourage residents to bike to local businesses by developing an incentive program that rewards trips by bicycle.

Description: In the United States, roughly 40 percent of all trips are 2 miles or less, a distance easily accessible by bicycle.* With a variety of commercial destinations in Ellisville and the neighboring communities of Ballwin and Wildwood, Ellisville residents have convenient access to a variety of businesses within biking distance. Ellisville should seek to develop partnerships with the West County Chamber of Commerce, local businesses, and potentially the neighboring cities of Ballwin and Wildwood, to incentivize bicycle trips to local businesses, which can in turn promote local businesses and increasing customer loyalty. Additional components to a shop by bike program may include providing education to residents on how to equip a bicycle for carrying groceries and other items and encouraging local businesses to provide sufficient bicycle parking.

Online Resources:
Bicycle Benefits: http://www.bicyclebenefits.org
Bicycle Alliance of Washington: http://www.bicyclealliance.org/commute/index.html#parking

Youth Bike Safety Education

Purpose: Teach Ellisville youth basic cycling safety skills and encourage bicycling among children.

Description: Typical school-based bicycle education programs inform children about the rules of the road, the proper use of bicycle equipment, basic cycling skills, street crossing skills, and the benefits of bicycling. Education programs can be a component of a Safe Routes to School program, or incorporated into school district's physical education curriculum. Successful programs are often built upon community partnerships, with support from the city, school district, police department, active cyclists, and local non-profits.

Online Resources:
Bike Smart: http://www.bikesmart.org/
San Francisco Bicycle Coalition: http://www.sfbike.org/?youth
Cascade Bicycle Club Education Foundation:
http://www.cbcef.org/youth-bike-programs.html

Adult Cycling Skills Courses

Purpose: Provide adult cycling skills courses to Ellisville residents.

Description: The vast majority of cyclists in the United States do not receive any formal training on safe cycling practices, basic cycling skills, or the rules of the road. As a result, many adults do not feel comfortable or safe riding on public streets. To address this education gap and encourage adults to bicycle for recreation and transportation, the City of Ellisville should partner with local partners to provide cycling courses for area adults. The most common program is the League of American Bicyclists courses, which include Road I, Road II, and Commuting. These courses, administered by League Certified Instructors, cover bicycle safety checks, fixing a flat, on bike skills, crash avoidance techniques, and traffic negotiation.

Online Resources:
League of American Bicyclists: http://www.bikeleague.org/programs/education/

Targeted Speed Trailer Program

Purpose: Reduce vehicle speeds on key pedestrian and bicycle corridors and alert motorists to the presence of other road users through the targeted use of speed trailers.

Description: High-speed vehicular traffic is a significant discouraging factor for non-motorized transportation throughout the City of Ellisville. The use of speed trailers in targeted locations in the City can help lower traffic speeds and create a safer environment for cyclists and pedestrians. The City can use the speed trailers to improve safety near elementary schools, parks, and other key destinations.

Online Resources:
Albany, OR Neighborhood Speed Watch Program:
http://www.cityofalbany.net/police/programs/speedwatch.php

Annual Bicycle and Pedestrian Counts

Purpose: Conduct annual counts of bicycle and pedestrian travel to track activity on local trails and bikeways and at significant intersections.

Description: Bicycle and pedestrian counts can be useful tools in tracking the change in bicycle and pedestrian activity on local facilities. Tracking the increase in bike and pedestrian activity helps local governments measure the benefits of investments in bicycle and pedestrian infrastructure and programs, and can justify the need for new facilities as well.

Online Resources:

National Bicycle and Pedestrian Documentation Project:
http://bikepeddocumentation.org/

Park Dedication/Fees. Historically, the City required donation of neighborhood parks and trails as development occurred. In recent years, the City has accepted cash payments in lieu of park dedications from residential developers. In the future, dedication of neighborhood parks should be required in areas that are not currently served by such parks and if the City has the staffing and funding resources to maintain it.

Programming New Facilities. Due to changes that occur in neighborhoods, there may be additional facilities needed in one or more of the City's parks in the future. In order to adequately plan for and program these new facilities, the following procedure was developed in case residents want additional facilities. This process would begin by residents submitting a petition, signed by a majority of the households in the affected area, to the City staff requesting specific facilities to be added to their neighborhood park. This request would then be studied by the City staff. City staff would then submit a report to the City Council outlining the request, the estimated cost of the facility, the implications of adding this to the City's capital improvements program (CIP), and a recommendation as to where its priority ranking should be when updating the CIP.

Infrastructure Element

Infrastructure in Ellisville can basically be divided into three categories: utilities, streets and sidewalks, and telecommunications facilities. Utility and telecommunication services are not provided by the City. Most streets and sidewalks are maintained by the City.

Utilities

Utility services in the City are provided by a number of private and public utility companies. Water service is provided by Missouri American Water Company and wastewater service is provided by Metropolitan St. Louis Sewer District. Laclede Gas Company provides natural gas and Ameren UE provides electricity. Telephone service is provided by SBC Communications, Inc.

Water Service

Missouri American Water Company provides water service to Ellisville and most of St. Louis County. The Missouri American Water Company has four treatment plants, 3,997 miles of mains and distribution lines, and 31 storage tanks throughout the County that can pump 474,000 gallons of water per minute. The four water plants include the North County Plant and the Central plant located south of Maryland Heights. The North County Plant has a daily capacity of 96 million gallons while the Central plant has a daily capacity of 247 million gallons. The source of water for both of these plants is the Missouri River. The other two plants in the County use the Meramec River as their source. The South County Plant has a daily capacity of 40 million gallons while the Meramec plant has a daily capacity of 48 million gallons. Approximately 80 percent of the water comes from the Missouri River. Ellisville is primarily served by the Central Plant. The water purification process used by the water company includes chemical coagulation, settling, sand filtration, chlorination, calcium softening and fluoridation.

Wastewater Service

The Metropolitan St. Louis Sewer District (MSD) provides wastewater (sanitary sewer) collection and treatment as well as storm water drainage service to a 524 square mile area including the City of St. Louis, north St. Louis County and most of south and west St. Louis County (the extreme western parts of the county are not included in the district). MSD was created in 1954 by the voters of the City of St. Louis and St. Louis County and began operation in 1956. MSD is a special service district created by the Missouri Constitution.

MSD has 4,295 miles of sanitary sewer pipes that carry wastewater to the district's sewage treatment plants. MSD also has 1,780 miles of combined sewers that carry wastewater and stormwater in one pipe. These combined sewers are not efficient because during heavy rains a great deal of stormwater is carried to the treatment plans. There also is a problem with sanitary sewer overflows when too much water gets into the sanitary sewer pipes. This is caused by cracks in sewers, downspouts connected to sanitary lines, sump pumps or loose pipe joints.

Overflows result in sewage discharging into creeks or wastewater backing up into homes and other buildings.

MSD treatment plants remove pollutants from 320 million gallons of wastewater per day. Because sanitary sewers rely mostly on gravity to move the wastewater, sewer lines and treatment plants are often designed to serve drainage basins. Ellisville is located within the Lafayette area of MSD and primarily in the Caulk's Creek, Kiefer Creek and Fishpot Creek drainage basins. Kiefer Creek and Fishpot Creek drain to the Meramec River, while Caulk's creek drains to the Missouri River. Areas east of the City are located in the Creve Coeur Creek drainage basin (which drains to the Missouri River) and the Grand Glaize Creek drainage basin (which drains to the Meramec River).

Stormwater

Metropolitan St. Louis Sewer District. MSD is also responsible for major stormwater drainage facilities. The district has more than 2,260 miles of stormwater sewers to carry stormwater runoff to nearby creeks or streams. In addition, the district's 1,780 miles of combined sewers also carry stormwater runoff. A problem with combined sewers is that during heavy rains, the combined flows in these sewers is too great to be handled at the treatment plants and wastewater has to be released into the Mississippi River. Control of stormwater runoff has received considerable attention in recent years and MSD has identified approximately $600 million in stormwater improvements. In addition, MSD has estimated that correcting the problem of combined sewers would cost another $700 million.

City of Ellisville. While the responsibility for maintaining stormwater infrastructure technically resides with MSD, Ellisville has devised a 21-year plan (through the year 2017) to improve stormwater flow in the City. Due to MSD's lack of adequate funds to address stormwater problems, the City has prepared a program, funded through the one-half cent Stormwater Improvement Program sales tax, to install stormwater infrastructure throughout the City were facilities do not exist or are inadequate. In the first two years of this program, stormwater trunklines were installed to serve smaller neighborhoods. The rest of the program entails work on the old asphalt streets in the City which only have ditches and culvert pipes to assist in stormwater runoff. These stormwater facilities are inadequate and will be improved by excavating the old streets, installing underground pipes and catch basins, adding concrete curbs and gutters, and providing new asphalt pavement for the street. When completed, each street will have 26 feet of pavement. Over the next five fiscal years, sixteen such stormwater and street replacement projects are programmed. A list of stormwater improvement projects, by fiscal year, is included in Appendix C.

Natural Gas

Natural Gas service is provided by Laclede Gas Company. Most of this natural gas originates from Mid-Continent and Gulf Coast sources. It is purchased by Laclede Gas from 40 different suppliers. Natural gas is brought into the St. Louis area by two Mississippi River Transmission Corporation pipelines and two pipelines of the Missouri Pipelines Company. Laclede has underground natural gas storage in a sandstone formation under north St. Louis

County that has storage capacity for 35 billion cubic feet of natural gas. Laclede also stores propane underground in north county in a cavern that has storage capacity of 800,000 barrels.

Electrical Service

Electric service in all of St. Louis County is provided by Ameren UE. The company provides service to over 22, 600 square miles of Missouri, and additional areas in Illinois and Iowa with a service population in excess of 2.7 million people. Ameren UE operates nine generating plants with a capability of generating 7,536,000 kilowatts. Ameren UE serves more than 402,000 residential customers and more than 50,000 commercial and industrial customers in St. Louis County.

Telecommunications

Telecommunications technology is divided among four categories: broadcasting (radio and television), cable television, computer networks and telephone services. However, this breakdown is becoming more artificial because phone companies can deliver video programming and cable companies can provide phone service. Telecommunications technology has exploded over the past several years and is destined to continue expanding rapidly. This expansion must be considered by cities in planning for the future. The basic types of telecommunications technology and issues to be considered in the near future are outline below.

Broadcasting

Broadcasting provides video and audio programming over the airwaves to radios and televisions within range of a signal of a specific station. The technology is point to multi-point or a signal from a station to a large number of receivers. The physical capacity of the usable electromagnetic spectrum limits the number of frequencies available to broadcasters. To provide for the orderly allocation of these scarce frequencies, the Federal Communications Commission (FFC) has the authority under the Communications Act of 1934 to license broadcasters based on "public interest, convenience, and necessity."

Cable Television

Cable television sends video programming as analog signals over coaxial cable. Analog signals are measurable impulses of voltage and differ from digital signals that are gaining favor among telecommunications providers. Digital signals will be discussed further under the section on personal communications services (PCS). As with broadcasting, cable allows for primarily one-way transmission. Unlike broadcasting where viewers only receive what the broadcaster sends in a single signal, the subscribers select from a basic package of programming that may be supplemented with premium channels. Cable systems currently carry approximately 75 channels of programming although the technology exists to carry over 500 channels. Charter Communications has a franchise to provide cable television service in the City.

Computer Networks

Computer networks and electronic information services have expanded rapidly over the past two decades. Accessing a network requires a computer, modem and phone line. Users dial the “host’ computer of the network or service, and, once connected, can communicate over the network through the modem. The modem translates digital data from the sending computer into analog signals appropriate for phone lines. The best known computer network is the Internet, a noncommercial information highway that connects universities, laboratories, government bodies, and more than ten million individual users in 102 countries. These networks and electronic information services provide a multitude of functions. Some operate as electronic mail boxes and allow users to communicate via electronic mail (E-mail). Networks also provide access to electronic bulletin boards that allow users to post and read messages on specific topics.

Telephone Technology

Telephone technology has traditionally sent voice conversations by analog signals over networks of copper wires that link individual phones. Telephone companies use their switching technology to route millions of phone calls to the individual numbers dialed. Unlike cable or broadcasting, telephones are designed for point-to-point, interactive communication. Telephone networks are divided into local and long-distance carriers. Regional telephone companies operate local telephone networks within cities. These networks consist largely of copper wires, but many companies have upgraded their networks to use fiber-optic cables. Fiber-optic cables carry streams of digital information (bits of ones and zeroes) at the speed of light. The speed is hundreds of thousands of times faster than the speed information can be transmitted over copper wire. Long distance phone companies operate cross-country fiber-optic cables that run between cities.

With the expansion of telecommunication services, it is important to define the various types of telephone, cellular phone and digital personal communications systems (PCS) available and the technological implications of cellular and digital phones. This plan must consider the increasing demand for cellular and digital PCS phones and the need to plan for expanded fiber-optic services.

Recent technological developments have allowed telephone companies to expand beyond their traditional sphere to send video programming over their copper or fiber-optic wires. Video programming differs from that provided by cable or broadcasting. A video signal sent over a phone line goes to a single user and not to every television in the area. This is similar to a voice conversation that goes only to the number dialed and not to every telephone. The technology that allows telephone companies to switch millions of calls to the correct telephone also allows them to switch video programming to whomever requests it. Telephone companies can send out as many video signals as it has lines to a switched video network has as many channels as it has users.

Regional Phone Service

Southwestern Bell Telephone Company, a subsidiary of Southwestern Bell Corporation (SBC), provides local telephone service to portions of Missouri, Arkansas, Kansas, Oklahoma and Texas. All of St. Louis County is included in this service area. In 1997, there were more than 900,000 active phone lines in the St. Louis Metropolitan area controlled by Southwestern Bell.

Telecommunications Act of 1996

Congress enacted the federal Telecommunications Act of 1996 P.L. No. 104-104 on February 8, 1996. One purpose of this Act is the deregulation of the telecommunications industry to provide a more competitive environment for wired and wireless telecommunication services in the U.S.

The 1996 Act preserves the authority of cities to regulate the placement, construction, and modification of Towers and Antenna Support Structures and to protect the health, safety and welfare of the public. In addition, the City has been granted the authority to enact legislation to regulate the construction, placement and operation of telecommunications towers and antennae pursuant to its zoning powers delegated to the City by the State of Missouri.

The Federal Communications Commission (FCC) has exclusive jurisdiction over the regulation of the environmental effects of radio frequency emissions from telecommunications facilities, and the regulation of radio signal interference among users of the radio frequency (RF) spectrum

Demand for Wireless Communication Facilities. In May of 1997, there were more than 43 million portable wireless telephones operating within the United States, including 350,000 personal communications service (PCS). To serve this demand there were more than 22,000 cellular transmission sites (cellular transmission sites include various types of communication towers and antennae). The number of portable cellular telephones is expected to increase substantially in the future and the number of PCS units are projected to increase to 47 million units by the year 2001. To keep up with this increase in portable cellular and PCS units, there will be an increasing need for more cellular and PCS transmission sites.

Cellular/PCS History. In 1974, the Federal Communications Commission (FCC) expanded the radio spectrum available to the public. The purpose of this expansion was to provide space for expanding cellular telecommunications technology. In 1978, a mobile radiotelephone system was tested in Chicago. That system, which was a miniature version of a large radio network, was named for the unit cells into which it divides an area. Each call has a radius of about one to two and one-half miles. Over the next five years, the industry developed higher-quality transmission devices and cellular technology was marketed to consumers as car phones.

Cellular technology made it possible for a caller to travel while talking with someone at a conventional telephone or with another mobile user. Over the past few years, personal communication services (PCS) have been developed and expanded to include hand-held portable

phones and paging systems. Cellular technology is an analog based system while PCS is a digital system.

The January 1993 issue of Consumer Reports presented the results of a survey that indicated that during 1992 an average of 7,300 new cellular phone users were added each day. At the end of 1992, it was estimated that there were 10 million cellular phones in the U.S. This numbers increased to 24 million by the end of 1994 and was estimated at more than 40 million in September 1996. Time magazine estimated that in May of 1997 this number had increased to 43 million subscribers. A similar expansion occurred in cellular transmission sites. In the mid 1980s there were 384 sites. This increased to 17,920 in December of 1994 and increased to more than 22,000 sites in September of 1996.

Based on the increasing demand for mobile communication options, the FCC opened another portion of the airwaves for industry use in March 1995. Airwave rights were divided geographically into 99 licenses that went to commercial mobile radio service (CMRS) carriers nationwide. Through an FCC auction, licenses were awarded to the highest bidders among a combination of older and newly formed companies. These newly licensed carriers then began acquiring sites for towers and their accompanying equipment buildings that has spurred the demand for such sites.

Cellular Technology

Cellular technology differs from land-based communications (telephone lines), microwave or satellite communications systems because it is based on a network of short-range cell sites with a fixed capacity. The cells must be linked by cellular towers, microwave dishes, or ground-wired towers or the transmission will fail. In addition, if a cell is crowded by too many users, it must be split into two cells, each having its own radius. A single cellular phone service provider must have a number of dispersed antennae to successfully provide service.

Low-power mobile radio (cellular) communication is accomplished by linking a wireless network or radio wave transmitting devices such as portable phones, pagers or car phones, to conventional ground-wired communications (telephone lines) through a series of contiguous cells. This technology entails a signal being transmitted from a portable phone to the nearest cellular antenna. This signal is then relayed from the cellular antenna to the nearest land-based telephone line or microwave dish, and then to a central switching computer. The computer then sends the calls to its destination. If the destination is a land-based telephone, the call is transmitted over telephone lines. If the destination is another mobile communication device, the call is sent to the closest cellular antenna.

Calls originate or are received from a wireless source because antennae share a fixed number of frequencies across the cellular grid. When a caller cannot successfully place a call or maintain a call (the call is “dropped”), the caller is either out of range or the nearest antenna is at full capacity. Calls originate within the radius of a cell antenna site. While the caller is moving in a vehicle, the call proceeds uninterrupted as the transmission is “patched” from one antenna to the next as the caller moves among the radii of various cell sites. While the caller is moving, the

cellular antennas are automatically looking for an unoccupied frequency on the next antenna to enable continued transmission.

As the demand for cellular telecommunications increase, cells in a given area must be subdivided, or additional carriers must be permitted to operate there. The end result is the need for more antennas.

PCS Technology. PCS Technology is also wireless and is similar to cellular technology although it operates on a network of small cells and uses a higher frequency in the spectrum to transmit data in a digital format. PCS operates in the form of "follow me calling" such that communication is routed to an individual rather than a telephone number via a more sophisticated version of a pager. The receiving end of the system is generally a phone, fax, video screen or a database. PCS systems are networked via cell sites that operate at higher frequencies on the electromagnetic spectrum than cellular phones. PCS frequencies are between 1,850 and 2,200 MHz and have smaller radii than cell technology

Wireless Service in the Ellisville Area. Wireless service in analog (cellular) format has been available in St. Louis County since the early 1980s. Digital (PCS) format service emerged in early 1990s. Currently, there are five wireless service providers in the area, four of which employ digital technology.

Towers and Antenna. The height of wireless communications towers generally range from 50 to 200 feet in order to be taller than trees, buildings, and other objects. Required height is generally proportional to a combination of the distance antennas can cover and the demand within their radius. Generally, higher towers cover a larger geographic area, but have a lower service demand. These towers are known as coverage sites. Shorter towers generally cover smaller radii with high demand and are known as capacity site. Towers may be freestanding cellular monopole towers, guyed towers and lattice towers that have three or four legs. Antennas are placed on these towers or can be placed on other tall objects such as power poles, water towers, or roofs of buildings. In addition, antennas can be placed inside of some tall structures such as church steeples. In order to receive approval from municipalities with concerns about aesthetics, wireless communications providers have developed camouflaged or stealth antennas that may be disguised as trees or flag poles.

Infrastructure Plan

Since most of the City's infrastructure is the responsibility of other independent agencies, the infrastructure plan focuses on those items that the City controls or will have involvement with. These include streets which are covered by the Traffic Circulation element, parks which are covered by the Parks and Recreation Element, and communications infrastructure. The City's involvement in communications basically requires regulation of wireless communication facilities and assisting in providing space for fiber optic cable.

Fiber Optics

During the 1990's, a new buzz word in communications was coined, the information superhighway. This information superhighway will consist of a fiber-optic network that will carry virtually limitless television channels, home shopping and banking, interactive entertainment and video games, computer data bases, and commercial transactions. Technically a broadband communications network, the information superhighway will link households, businesses and schools to virtually all available information resources. Rather than using traditional technology of analog signals and electromagnetic waves, the superhighway will carry all information (from voice to video) in the form of digital bits.

Completion of the information superhighway will require a substantial upgrade of existing networks including expanded use of fiber-optic technology, interconnection of existing networks, linking individual users to the network, and deployment of complex hardware and software to manage and direct the flow of information. It is apparent that the private sector will have the primary responsibility for construction of the network. Cable companies have had a competitive edge over telephone companies in beginning construction. However, telephone companies have steady streams of revenue and huge amounts of capital because of their local phone monopolies. Cooperation between cable and phone companies will be key in constructing the information superhighway. Governments at all levels need to ensure that their regulations do not unreasonably hinder construction of the information superhighway.

In Ellisville, it is imperative that the City cooperate with cable and telephone companies in the installation of fiber-optic lines. Road rights-of-way need to be available for this installation. In addition, the City should consider making provisions for easements or other means of ensuring that fiber-optic cable can be installed in all new subdivisions as they develop.

Table 17:
Proposed Land Uses

Professional Office Area

Along Clarkson Road and Along the East Side of Old State Road

Legal Services

Offices of Lawyers
Offices of Notaries
Title Abstract and Settlement Offices
All Other Legal Services

Accounting

Offices of Certified Public Accountants
Tax Preparation Services
Payroll Services
Other Accounting Services

Investment Advice

Investment Advice/Financial Planning
Investment Management
Financial Management Consulting
Excluding Banks

Architecture, Engineering and Related Services

Architectural Services
Landscape Architectural Services
Engineering Services
Drafting Services
Building Inspection Services
Geophysical Surveying and Mapping Services
Surveying and Mapping (except Geophysical) Services

Specialized Design Services

Interior Design Services
Industrial Design Services
Graphic Design Services
Other Specialized Design Services

Computer Systems Design and Related Services

Custom Computer Programming Services
Computer Systems Design Services
Computer Facilities Management Services
Other Computer Related Services

Management, Scientific, and Technical Consulting Services

Administrative Management and General Management Consulting Services
Human Resources and Executive Search Consulting Services
Marketing Consulting Services
Process, Physical Distribution, and Logistics Consulting Services
Other Management Consulting Services
Environmental Consulting Services
Other Scientific and Technical Consulting Services

Scientific Research and Development Services

Research and Development in the Social Sciences and Humanities

Advertising and Related Services

Advertising Agencies
Public Relations Agencies
Media Buying Agencies
Media Representatives
Display Advertising
Direct Mail Advertising
Advertising Material Distribution Services
Other Services Related to Advertising

Other Professional, Scientific and Technical Services

Marketing Research and Public Opinion Polling
Photography Studios, Portrait
Commercial Photography
Translation and Interpretation Services
All Other Professional, Scientific, and Technical Services

Management of Companies and Enterprises

Offices of Bank Holding Companies
Offices of Other Holding Companies
Corporate, Subsidiary, and Regional Managing Offices

Office Administrative Services

Employment Services

Employment Placement Agencies
Temporary Help services
Employee Leasing Services

Business Support Services

Document Preparation Services
Telephone Answering Services
Telemarketing Bureaus
Other Business Service Centers (including Copy Shops)
Collection Agencies
Credit Bureaus
Court Reporting and Stenotype Services
All Other Business Support Services

Travel Arrangement and Reservation Services

Travel Agencies
Tour Operators
Convention and Visitors Bureaus
All Other Travel Arrangement and Reservation Services

Investigation and Security Services

Investigation Services
Locksmiths
Security System Services (monitoring combined with sales, installation or repair)

Educational Services

Business and Secretarial Schools
Computer Training
Professional and Management Development Training
Cosmetology and Barber Schools
Apprenticeship Training
Fine Arts Schools
Language Schools
Exam Preparation and Tutoring
All Other Miscellaneous Schools and Instruction

Health Care and Social Assistance

Offices of Physicians (except Mental Health Specialists)
Offices of Physicians, Mental Health Specialists
Offices of Dentists
Offices of Chiropractors
Offices of Optometrists
Offices of Mental Health Practitioners (except Physicians)
Offices Physical, Occupational and Speech Therapists, and Audiologists
Offices of Podiatrists
Offices of all Other Miscellaneous Health Practitioners
Family Planning Centers
HMO Medical Centers
Home Health Care Services
Child Day Care Services

Art, Entertainment and Recreation

Agents and Managers for Artists, Athletes, Entertainers and Other Public Figures
Independent Artists, Writers and Performers

Other Services

Religious, Grantmaking, Civic, Professional, and Similar Organizations
Public Administration

Table 18:
City of Ellisville
Stormwater Improvement Projects by Fiscal Year

1998
Fishpot/Mockingbird
Cherry Hills
Maple/Froesel/La Dina

1999
Oak Hill Drive
Mar-El/Ranchmoor
Marsh/Hunters Glen
Henry/Weis
Field Avenue

2000
Lamar Drive
Wagon Wheel
Flesher Drive

2001
Weis Avenue
Orth Lane
Bonnie Court

2002
Virginia Drive
Towne Drive

2003
Cathcart Drive
Pretoria Drive
Maple Lane
Rendina Lane
Rendina Court

2004
Covert Lane
Vesper Drive

2005
Clarkson Drive
Marsh Avenue

2006
West Meadow Lane
East Meadow Lane
Quail Avenue
Palm Bay

2007
Irene Drive
Macklin Lane

2008
Mar-El Court
Peggy Lee Court
Parkdale Circle

2009
Vero Lane
Prince Charles Way

2010
Fairview Drive
Hilltop Drive
Debula Drive

2011
Marsh Avenue (E. of Clarkson Rd.)
Bobwhite Drive

2012
Rojean Drive
Arft Drive
Salem Way

2013
Fishpot Creek/Vero Lane

2014
Froesel Drive
Wolff Lane

2015
Henry Lane

2016
Lawler Ford Drive
Devore Drive