

# COMMUNITY DATA ELEMENT

The basis for the Chesterfield Comprehensive Plan is community-related data. This includes a history of the area, development trends and information on natural resources.

## HISTORY

### 1830-1960's

The City of Chesterfield is located in western St. Louis County, approximately 20 miles west of downtown St. Louis. Agriculture, as well as small, rural communities were the main types of settlement in the Chesterfield area for over 100 years, from the time the area was settled in the early 1800's to the middle 1900's. The following is an excerpt from *A Guide to Chesterfield's Architectural Treasures* written by Dan Allen Rothwell and published in 1998. The excerpt describes the rural communities that existed in the area before the rapid suburban growth of the 1960's and 1970's.

*Most cities grow from a single "named community;" not so with **Chesterfield**. Within Chesterfield's present city limits, there were once six towns/communities - each with their own post office. In addition, there were two other communities (**Orrville** and **Centaur Station**), on the western edge of present day Chesterfield, that were also influential in Chesterfield's early development. But one by one, post offices closed/transferred, until only the Chesterfield Post Office remained. In order to appreciate Chesterfield's diverse and colorful background, one must look at the larger picture.*

***Bellefontaine** (French for, "beautiful spring") or as the locals called it, "Hilltown", dates to about 1837 with the arrival of August Hill. The first post office was established as Bellemonte ("beautiful mountain") in 1851. Eighteen years later, in 1869, the town and post office name was changed to Bellefontaine. Rinkel's Market was a familiar landmark for years at the intersection of present day Olive Boulevard and Chesterfield Parkway (where Pizzeria Uno is now.)*

*The town of **Lake** started out as "Hog Hollow" in about 1850. The post office was established as Hog Hollow in 1871, but a year later the town's name was changed to what some thought was the more suitable name of Lake. Zierenberg's General Merchandise and Saloon (built around 1880), was a well-known landmark at the 18 mile marker on Olive Street Road. The original structure was destroyed by fire in 1918. It was replaced by the still existing structure on the same site (Olive Boulevard and Hog Hollow Road).*

**Gumbo** is located in the valley at the present intersection of Chesterfield Airport Road and Long Road. A notable landmark (until it was razed in 1998) was the old Twenty Five Mile House - so named because of its distance from downtown St. Louis. Gumbo's name derived from its soil which was very rich and silted and, when wet, became gumbo mud. A substance very similar to gravel was made from Gumbo mud and used for streets and sidewalks in Forest Park during the 1904 World's Fair. Gumbo's post office operated from 1882 to 1907.

**Monarch** (earlier called **Atherton**, then **Eatherton**), was one of the settlements that sprang up along the Chicago, Rock Island and Pacific rail line when it came through the valley in the late 1870's. William Sutton's General Store stood on the northwest corner of Eatherton and Centaur Roads. Their post office operated from 1895 to 1907 when the mail was transferred to Chesterfield. A well-known residence in Monarch was named "The Shadows." It still survives with a commanding view from its bluff site.

**Bonhomme** had a colorful life. The name is French for "good man." This small community, at the extreme western end of Olive Street Road, was close to the Howell's Ferry Landing. It had a blacksmith shop, grist mill, store, post office and Fenn's Saw Mill but it was all washed away in the late 1800's by the Missouri River. Bonhomme was a popular name in St. Louis County with Bonhomme streets, roads, creeks, churches and townships still so-named. However, this Bonhomme is the only one that ever had its own post office.

Justus Post's **Chesterfield**, as a named community, dates to 1817. Colonel Justus Post arrived in this area from Middlebury, Vermont in 1815. It is said he came possessing an estate of \$100,000.00, mostly cash. The Long's, Lawrence and William, had come in 1797, settling on Spanish land grants. In 1816, William and Polly Long sold Post 400 acres, including their house. Justus Post would eventually acquire 21,204 acres, some for as little as \$1.25 per acre. According to Judge Darby, Post bought land by the mile. Post laid out the original named community of Chesterfield straddling Wild Horse Creek Road between Baxter and Wilson. Wild Horse Creek Road was Main Street, with North and South Streets on either side. The cross streets were named Mulberry, Locust, Walnut, Prune, Vine, Chestnut and Oak. However, the town plat was not recorded until 1838. Post built his brick mansion in 1822. It is said his house was one of the first in the entire area to have carpet. Post lived in Chesterfield for 30 years before moving to Illinois.

The Burkhardt era: In 1877, after the railroad came through the valley, Christian Burkhardt acquired 21 acres where Olive Street Road crossed the railroad. There he laid out Burkhardt's Subdivision around Drew Depot.

*The original community of Chesterfield (founded by Post) gradually relocated to be along the railroad at Drew Station. Christian died in 1898, but his son, Edward, and Edward's wife, Lena, continued this era of Chesterfield's evolvement. Edward laid out Burkhardt Place on the south side of Olive Street Road. He built the row of some twelve quaint brick/tile bungalows in the 1918 to 1925 period. Edward also opened a mercantile store in his name and was president of the Farmer's State Bank of Chesterfield from 1914 until 1923.*

*This circa 1914 bank building, with its unique Mesker pressed-metal facade, is the oldest commercial structure in Chesterfield and the only surviving rural bank building in St. Louis County. It was acquired by architects Lauren Strutman and Dick Busch in 1999 and restored to its original glory. Later in mid 2000, it became Chesterfield's fourth property to be listed on the National Register of Historic Places. The Chesterfield Historical Commission has recognized this old Chesterfield location as a historic district with appropriate markers. The old Farmer's State Bank building (which also housed the post office and telephone switch board), at the intersection of Chesterfield Airport Road and Baxter Road, along with the row of bungalows and the nearby 1920's Slaughter House (Wiegand Studios), constitute what we can best see, touch and identify with, as our City's heritage.*

*As already mentioned, **Orrville** had its influence on Chesterfield. Just south of Wild Horse Creek Road, along Eatherton Road (in what is now Wildwood), can be seen a half-dozen of Orrville's original structures. John and James Orr came from Scotland. John's son, Robert, would become one of Orrville's leading citizens. He owned most of the land in town, was Justice of the Peace for six years and, along with his wife Laura, donated the land on which the present Antioch Baptist Church was built in 1860 (at 18319 Wild Horse Creek Road). The old Hoppenberg-Fick General Store and Post Office, circa 1867, still stands. Robert Orr was the first postmaster (1858-1871). William Parks Bacon reportedly had the finest house in Orrville and it is still there.*

*Chesterfield's African-American community, **Westland Acres** on Church Road, had its beginnings with the first Antioch Baptist Church founded in 1841 on Wild Horse Creek Road. At that time, white and black worshiped together. When the new Antioch Baptist Church was built in 1860, the African-American community took over the original structure and re-named it Mount Pleasant Baptist Church. According to Judy Maschan, African-Americans worshiped at Mount Pleasant until the 1920's, then gradually migrated to their present location and built the Union Baptist Church in 1922.*

*Two things brought Centaur into being: the railroad and Anton Leiweke. In 1891, Leiweke organized the Centaur Lime Company and founded **Centaur Station**. The company employed about 100 people from 1891 to 1928 when it went bankrupt during the Depression. Centaur Station was settled mostly by Germans. They established their own church (St. Anthony's Parish), first meeting on the third floor of Leiweke's lumber barn and later sharing a one-room frame school house. This little congregation would later start the Ascension Parish on Santa Maria Drive in Chesterfield. They built Ascension's first church in 1923-24. This structure is now named Godfrey Chapel. Howell Island lay just across the Missouri River channel from Centaur. In 1900, Anton Leiweke purchased the island, cleared it and began farming. He brought farmers and their supplies to and from the island in a small vessel named the "Honeybell" and a barge. During the last 200 years, Howell Island has grown from 400 to 2,500 acres.*

*One of the four structures in Chesterfield that is currently listed on the National Register of Historic Places is Governor Bates' "**Thornhill**." This building dates to the 1815-1817 period. The Governor Bates site was part of the first 98 acres donated by Leicester and Mary Faust to the St. Louis County Parks system in 1968. This was the beginning of Faust Park. Thornhill is the oldest standing Governor's residence in Missouri. Bates was Missouri's second Governor serving while the State Capitol was still located in St. Charles. Bates died in office of pleurisy at age 48, having served less than nine months as Governor. He is buried at Thornhill.*

*Among Chesterfield's architectural treasures are twenty homes over 100 years old. These "**Century Houses**" were recognized and their current owners presented with appropriate framed certificates at ceremonies held at Faust Park's "Thornhill" in November of 1997. (A complete listing of these homes and other historic structures may be found in the Community Facility Element.)*

The heritage of Chesterfield is further preserved in the form of the Faust Park Historic Village and the acquisition of the remaining 102 acres of the original Leicester Faust Estate.

## **1960's – 1988 (Incorporation)**

Chesterfield continued as mostly a rural community until the 1960's when St. Louis County prepared a general plan entitled, "The Guide for Growth." This Plan proposed the intersection of Highway 40 and Olive Boulevard become the major focus for urbanization in West St. Louis County. Published in 1962, high-density housing, office and retail uses were proposed around the intersection. St. Louis County reaffirmed this recommendation in subsequent plans in 1968 and 1969. In recognition of these plans,

Louis Sachs began to acquire property around the intersection that would eventually become the planned community of Chesterfield Village.

Louis Sachs began to first acquire property in the Chesterfield area in 1967 with the purchase of 37 acres at Highway 40 and Olive Boulevard for the purpose of constructing an apartment building. This land would eventually be incorporated into Chesterfield Mall. In 1970-1971, Louis Sachs, with the help of a local consultant, created the Chesterfield Village Master Plan. The Plan incorporated 1,500 acres of land around and to the west of the intersection of Highway 40 and Olive Boulevard. Of the planned 1,500 acres, the development company founded by Louis Sachs, Sachs Properties, owned or controlled 1,125 acres. In creating a master planned community through the Chesterfield Village Master Plan, Mr. Sachs intended to have more control over the type and quality of development in an entire area rather than just in single projects. The main elements of the Plan included:

- A major circulation system of boulevards linking the quadrants of Chesterfield Village, with the major feature being Chesterfield Parkway;
- A major system of permanent open space and recreational facilities;
- Three (3) village centers and three (3) convenience centers to serve as neighborhood focal points;
- A system of elementary schools;
- A town center designed as a civic focus of the community combining neighborhood shopping and community facilities;
- Chesterfield Mall;
- A system of landscaping and signage.

Louis Sachs presented the Chesterfield Village Master Plan to the St. Louis County Planning Commission in 1971. On separate occasions in 1973, 1977, and 1978, the Planning Commission granted the appropriate zoning for Sachs Properties to achieve the vision established in the Master Plan. Chesterfield Village has since been incorporated as part of the City of Chesterfield. Although located in the City of Chesterfield, the land included in the Village Master Plan must legally follow the requirements of the original zoning districts granted by the St. Louis County Planning Commission. If a developer wishes to deviate from the Village Plan and change existing zoning, it must be done through the City of Chesterfield and a zoning district from the Chesterfield Zoning Ordinance will be applied and enforced. Since the 1970's, the Chesterfield Village Master Plan has been followed with the exception of selling land set aside for housing and to Monsanto for the Pharmacia site.

At the same time Louis Sachs was planning for the development of Chesterfield Village, St. Louis County took the first steps to initiate development of the Missouri River valley. The Spirit of St. Louis Airport was approved by St. Louis County as a privately-owned airport in 1964. A decade later, St. Louis County bought the airport and established it as a reliever to Lambert Airport. During its first ten years of operation, Thunderbird Aviation, Ralston Purina, Pulitzer Publishing Company, Emerson Electric, PAR Development Company, and Monsanto Corporation all established corporate flight

operations based at the airport. Once St. Louis County purchased the airport, it began an aggressive expansion plan including runway and other infrastructure improvements.

The Spirit of St. Louis Airport and the St. Louis County-operated correctional facility were the largest developments in the Missouri River valley through the 1960's, 70's and 80's. Other types of land uses adjacent to the airport included general office, warehousing, and light manufacturing. The rest of the valley remained agriculture.

## **1988 (Incorporation)**

The fast-paced development occurring within Chesterfield Village and the Missouri River valley was one of the issues that led area residents to petition for incorporation. In the late 1980's, a handful of St. Louis County residents undertook a grass-roots effort to incorporate the area which is now Chesterfield. The residents gained support and gathered signatures for a petition based on arguments that residents of the area lacked influence over zoning and planning. There was a general perception of unresponsiveness by the County government, belief that additional police protection was needed, and that road and other infrastructure maintenance was neglected. Through this grass-roots effort, on June 1, 1988, the City of Chesterfield was incorporated as a third-class city by the State of Missouri.

## **1993 - 2001**

Five years after incorporation, the new City faced the ultimate test. In 1993, the Missouri River valley area, now known as the Chesterfield Valley, flooded. At its height, the floodwater was approximately ten feet deep. Highway 40 was closed from the Boone's Crossing Bridge on the west to Chesterfield Parkway on the east. Estimated damages to property were between \$250 and \$500 million.

As a result of the disaster, the community took a new look at the Chesterfield Valley and began a comprehensive planning effort for the area. Valley business owners, in conjunction with the City, developed a plan for the Valley to address items such as land use, infrastructure, funding opportunities, and phasing. To acknowledge their support of the plan, the City incorporated it into the Comprehensive Plan through adopted amendments. The City of Chesterfield embarked upon an ambitious plan to protect areas within the floodplain by improving the Monarch-Chesterfield Levee and installing a comprehensive system of storm sewers, sanitary sewers, and pumps. According to the Chesterfield Community Development Corporation (CCDC), through the use of Tax Increment Financing (TIF), the City of Chesterfield has proposed over \$100 million of infrastructure improvements that will have an estimated \$1 billion economic impact on the region.

## **DEVELOPMENT TRENDS AND POPULATION PROJECTIONS**

Development trends included the identification of historical growth areas and an assessment of the impact of past development on land use, transportation, and utility systems. Assessment was based on available data associated with construction expenditures, business licenses, new housing starts, and household characteristics. This information then was used to project the most reasonable estimate of the future population of Chesterfield.

### **Development History**

The Development History Map, on page 27, illustrates the location of development as it occurred during four main periods in recent American history. The era indicated on the map represents the approximation of when the existing buildings were built, not when the first development occurred. However, the approximate locations of historic settlements are identified even if they no longer exist.

The first category, before 1946, includes limited development that occurred during and before World War II. This category incorporates remaining historic homes and buildings and remnants of farmsteads. The second category, 1946-1964, is the period referred to as the Baby Boom. During this era, the United States experienced unprecedented economic and population growth and cities across the nation witnessed a mass migration of people from urban cores to suburban rings. Being located in far western St. Louis County, the City of Chesterfield did not see as much growth during this period as did municipalities closer to the City of St. Louis. Development occurred along arterial roads such as Olive Boulevard, I-64/US 40, and Woods Mill Road. The City of Chesterfield experienced the majority of its growth during the third period, from 1965-1985. The Spirit of St. Louis Airport, Chesterfield Mall, and many of the commercial buildings along Chesterfield Parkway, were constructed during this period. Most of the area east of Olive Boulevard/Clarkson Road filled in residentially during the middle and late 1970's.

After 1985, development activity shifted to western portions of Chesterfield and the Chesterfield Valley where large tracts of vacant and undeveloped land remained. Residential development occurred mainly in areas of higher elevation out of the Missouri River floodplain. Smaller areas east and south of Olive Boulevard/Clarkson Road were subdivided and developed, basically filling in between subdivisions constructed from 1965 to 1985. The majority of residential construction occurred west of Clarkson Road and south of I-64/US 40. Compared to earlier growth, a great deal of commercial development occurred after 1985. The influx of new residents, expansion of I-64/US 40, and improvement of the Monarch-Chesterfield Levee opened up a new employment pool, markets, and land for local businesses. Some new commercial construction occurred along I-64/US 40 and other arterial roads, but the majority occurred in the Chesterfield Valley.

## Infrastructure Development

The City of Chesterfield, over the past decade, has been one of the fastest growing municipalities in the region. Compared to the St. Louis Metropolitan Statistical Area and St. Louis County, the City of Chesterfield's population has grown at a rate 15 times and 10 times greater than these comparable areas, respectively. All of the residential growth has occurred in the areas located out of Chesterfield Valley. In conjunction with rapid population growth, the City also has been experiencing commercial growth. Commercial growth has been occurring mainly in Chesterfield Valley, along I-64/US 40, and in Chesterfield Village.

Three major infrastructure improvements have made large-scale commercial development possible. The first is improvement/widening of Highway 40, the second is reinforcement of the Monarch-Chesterfield Levee, and the third is the construction of three stormwater pump stations.

In 1935, Highway 40 was designated U.S. Highway 40/61 under the U.S. Highway System. It was not upgraded to a four-lane highway through Chesterfield until 1971. Today, I-64/US 40/61 is a six to eight lane divided limited access highway from I-270 to to the Missouri River. I-64/US 40 has three lanes in each direction through Chesterfield Valley. The increased capacity of I-64/US 40 over the years will make it easier for commuting between this part of St. Louis County and other residential, shopping, entertainment, and employment centers throughout the region. The accessibility afforded by I-64/US 40 and other arterial roads has made it easier for people to live in Chesterfield and commute to work or other activities outside of the City. Conversely, these roads also make it easier for people who live outside of Chesterfield to work or shop in the City of Chesterfield.

The second major infrastructure improvement is the Monarch-Chesterfield Levee. The Chesterfield Valley was originally protected from Missouri River floodwaters by a network of levees constructed by individual farmers and private interests in the early 1940's. In 1943, the Monarch-Chesterfield Levee District was formed in order to consolidate all the individual levees into one continuous levee. This was achieved in 1963, when the Monarch-Chesterfield Levee was certified by the Army Corps of Engineers as a 100-year levee. The flood of 1993 breached the Levee and inundated the entire valley floor. Since that time, the Levee has been reconstructed, raised, and recertified to 100-year protection. The Levee currently is being raised to the 500-year flood level. The levee improvements are scheduled to be completed between 2004-2005. Because of the security a 500-year levee will add, development of the Chesterfield Valley in recent years is at an all-time high.

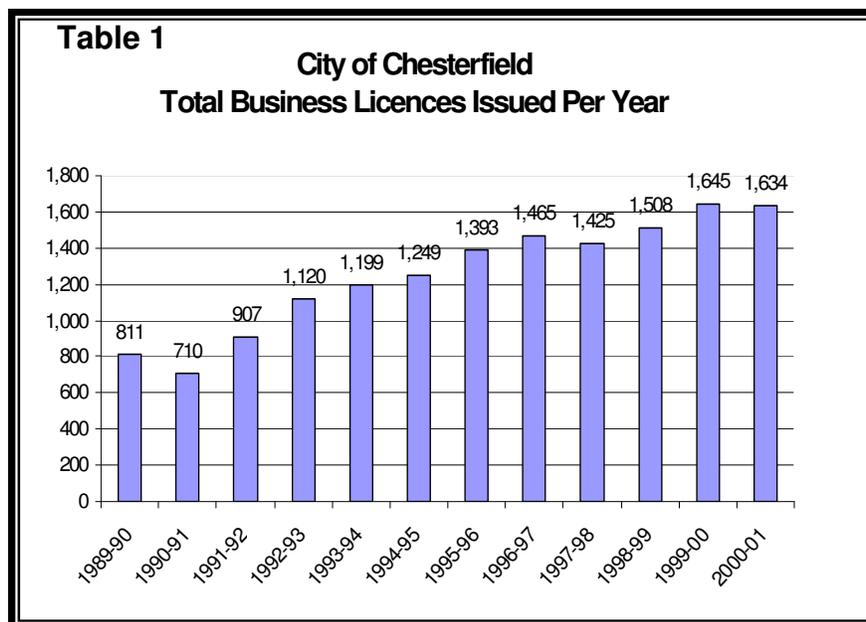
In addition to levee work on the levee, the City has constructed three stormwater pump stations, generated from a disaster recovery grant. Specifically, the construction of an interior stormwater drainage system.

## Review of Key Economic Indicators

Two key indicators of new business development and economic health are: 1) the number of business licenses issued; and 2) the amount of construction expenditures. Table 1 shows the number of business licenses issued in the City of Chesterfield from 1989 to 2002. These businesses not only provide jobs for residents, they provide a source of tax revenue for the City and offer residents the opportunity to acquire goods and services locally. The top ten employers (by number of employees) in the City of Chesterfield are listed in Table 2. Of these ten firms, four are located in the Valley.

Table 3 shows the dollar amount of commercial construction in actual dollars that has occurred in Chesterfield over the past decade. The chart shows a general trend of increasing construction expenditures on commercial facilities. Spikes of expenditures in 1994, 1999 and 2001 coincide with reconstruction after the flood of 1993 and the approval of the permits for construction of the Chesterfield Commons developments.

Based on already approved or proposed development, it is expected that construction expenditures in Chesterfield will continue to grow, contingent on the health of the national economy. Long term, 20 years and more, developable land in Chesterfield will become more scarce and, therefore, more expensive. As this occurs, the City of Chesterfield can assume that inflation adjusted construction expenditures will be less than what recently has been experienced.



Source: City of Chesterfield

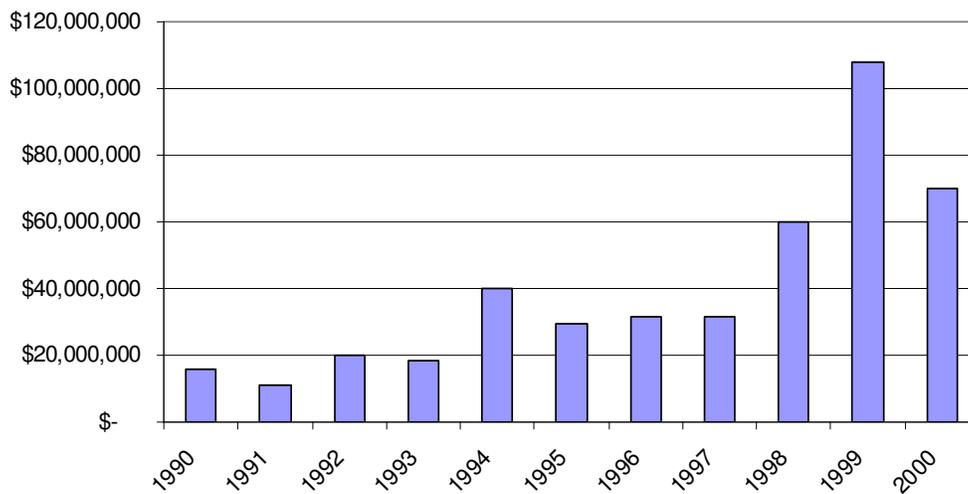
**Table 2  
Top 10 Employers in Chesterfield**

Company	# Employees
Parkway School District	3,000
St. Luke's Hospital	2,073
Monsanto/Pharmacia	1,200
McBride and Sons (Valley)	450
WorldCom Network Services	410
Mark Andy, Inc. (Valley)	350
Mallinckrodt Chemical	350
Reliv Industries (Valley)	280
JetCorp (Valley)	200
MOHELA	200

Source: City of Chesterfield (2000)

**Table 3**

**City of Chesterfield  
Commercial Construction Expenditures**



Source: City of Chesterfield

## Population Projections

The most comprehensive demographic information is collected and distributed by the United States Census Bureau. Every ten years the Census Bureau collects and tabulates a nation-wide census of the population. The last census was conducted in 2000. The basic demographic data published for the City of Chesterfield is presented in Table 4. The year 2000 data is presented next to 1990 data to show apparent changes and trends in the demographic make-up of the City. The reported population of the City of Chesterfield from Census 2000 is 46,802, up 23.2% from 1990. The growth in Chesterfield's population can be attributed mainly to in-migration as a result of new residential construction. The total population is also divided into male and female populations. The female population increased at a slightly higher rate than the male population, but no inferences can be drawn from this information without having age bracket breakdowns by sex.

In the total population data in Table 4, the population is broken down by age divisions or "cohorts." A cohort is defined as "a group of people sharing a common factor, for example, the same age or the same income bracket, especially in a statistical survey." The age divisions are divided into 5-year intervals for school-age residents and 10-year intervals for persons 25 years of age or older. The difference between age divisions and age cohorts is that age divisions are simply the number of people who are aged 0-4 or 5-9, etc. in any given year. An age cohort is a group of people that mature together and will account for the next age division in the subsequent census. For example, the age cohort comprised of children between the ages of zero and four in 1990, make up the division of children ages 10 through 14 in 2000. During the next census in 2010, that same age cohort will make up the division of persons aged 20 through 24.

The number of persons for each age division is presented for 1990 and 2000 in columns two and three, and the percent change of the age divisions is shown in column four. This data shows the largest percentage increases to be among age divisions of persons aged 85 years or older (122%). However, the age groups between 45 and 64 show the largest increase in absolute numbers. The number of persons aged 45-54 increased by 2,462 (41.1%) between 1990 and 2000. The number of persons between the ages of 55 and 64 increased by 2,176 (66.2%). Similarly, persons between the ages of 65 and 74 increased by 1,561 (83.6%).

Columns five and six of Table 4 show the absolute and percentage change of age cohorts. Significant trends that can be identified include the large increases in persons born between 1986 – 1990 (ages 10-14 in 2000) and between 1956 – 1965 (ages 35-44 in 2000). There were large decreases in persons who were teenagers during the 1990 census and were of college age and early adult years during Census 2000 (ages 20-34). When looking at the population increases and decreases of age cohorts, it can be concluded that persons in their late teens and early twenties move away from Chesterfield to go to college and then to a generally less expensive environment to start their careers. As families earn larger incomes and their children start school, they move

to the 'family' environment available in communities like Chesterfield with larger houses and quality public schools. Also of significance is the aging of Chesterfield's population. In 1990, the persons aged 65 and older comprised 9.2% of Chesterfield's total population. In 2000, the percentage increased to 14.7%.

<i>Column 1</i>	<sup>2</sup> <b>1990</b>	<sup>3</sup> <b>2000</b>	<sup>4</sup> <b>Percent Change</b>	<sup>5</sup> <b>Age Cohort Change</b>	<sup>6</sup> <b>% Cohort Change</b>
Total Population	37,991	46,802	23.2%		
Male	18,629	22,371	20.09%		
Female	19,362	24,431	26.18%		
Age:					
0-4	2,191	2,606	18.9%		
5-9	2,832	3,288	16.1%		
10-14	3,368	3,536	5%	1,345	61%
15-19	2,979	2,969	-0.34%	134	4.8%
20-24	2,049	1,886	-8%	-1,482	-44%
25-34	4,324	4,160	-3.8%	-868	-17.3%
35-44	7,477	7,560	1.1%	3,236	74.8%
45-54	5,985	8,447	41.1%	970	13%
55-64	3,286	5,462	66.2%	-523	-8.7%
65-74	1,868	3,429	83.6%	143	4.4%
75-84	1,101	2,280	107.1%	412	22.1%
85 and Over	531	1,179	122%	78	7.1%

Source: U.S. Census Bureau [www.census.gov](http://www.census.gov) – 1990 Census Data LookUp  
– Census 2000 American Fact Finder

Table 5 lists census data concerning households and housing units for 1990 and 2000. A housing unit is defined as any room or group of rooms intended to be occupied as separate living quarters. A household is an occupied housing unit made up of one or more persons sharing a housing unit. A family household is defined as persons living together and related by blood, marriage, or adoption. A single person or any combination of people living together who are not married or related make up non-family households. Total households in the City of Chesterfield increased by 37% while total population increased by only 23.2%. This accounts for the drop in average household size from 2.88 to 2.59. One of the significant trends visible in Chesterfield is the increase in non-family households. Most of this can be attributed to the rise in renter-occupied housing units and the rise in population of persons over the age of 65 (see Table 4), which are both more likely to be comprised of households that are not family units.

Personal income levels and housing values in Chesterfield are significantly high within the St. Louis region. Median household income for Chesterfield was \$66,930 in 1990 and \$83,802 in 2000. Median household income for St. Louis County was \$38,127 in 1990 and \$50,532 in 2000. Per capita income was almost \$10,000 (50%) greater in Chesterfield than the County. Median house value, at \$238,300, was also greater than twice the median for the County and median rent was almost 30% higher.

<b>Table 5 City of Chesterfield Housing Information</b>			
	1990	2000	Percent Change
Total Households	13,187	18,060	<b>37.0%</b>
Family Households	10,503	13,110	<b>25.0%</b>
Non-Family Households	2,684	4,950	<b>84.4%</b>
Average Household Size	2.88	2.59	<b>-10.0%</b>
Average Family Size	NA	3.03	
Total Housing Units	14,019	18,738.	<b>33.6%</b>
Occupied	13,115	18,060	<b>37.7%</b>
Vacant	904	678	<b>-25.0%</b>
Owner Occupied	10,420	14070	<b>35.0%</b>
Renter Occupied	2,695	3990	<b>48.0%</b>
Median Household Income	\$66,930	\$83,802	
Per Capita Income	\$28,019	\$43,288	
Median House Value	\$173,400	\$238,300	
Median Rent	\$682	\$838	

Source: U.S. Census Bureau [www.census.gov](http://www.census.gov) – 1990 Census Data LookUp  
Census 2000 American Fact Finder

The City of Chesterfield experienced rapid population growth over the past decade. The City's population increased by 23.2% while the St. Louis Region only increased by approximately 1.6%. As stated earlier, the rapid increase in Chesterfield's population can be attributed to the development of previously vacant or agricultural land. The space available in Chesterfield for residential growth over the next ten to twenty years is significantly more limited. Only a few areas in western portions of the City remain vacant. Except for a small area between Maryland Heights and Creve Coeur, east of Creve Coeur Mill Road, there is not any unincorporated land for Chesterfield to annex. Chesterfield's future population will be a result of future household characteristics, development of the remaining land that is zoned residential, or redevelopment of existing property.

Small deviations in Average Household Size can have significant impacts on a city's total population. For example, if in the year 2000, the Average Household Size for Chesterfield had remained the same as in 1990, the population would be over 52,000 (instead of 46,800). Similarly, if the Average Household Size continues to decrease by the same proportion as it did between 1990 and 2000, the population of Chesterfield will increase by less than 700 persons over the next twenty years even though 2,000 households would be added when applying the historic rate of growth.

Three population scenarios are presented below in Table 6. The High projection was calculated using a straight line method, the Middle projection was calculated using the land absorption calculations from the City of Chesterfield Transportation Model (T-Model), and the Low projection was calculated using a simplified cohort survival method. Given the level of detail used to generate the T-Model, the Middle projection will likely be the most accurate. Therefore, recommendations in this Plan will be based on a projected population of approximately 52,000 by the year 2020. A brief description of the methods used to calculate the projections follows the table.

<b>Table 6</b>				
<b>City of Chesterfield Population Projection</b>				
	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
High	52,231	58,290	65,051	72,597
Middle	48,606	49,750	50,894	52,038
Low	46,688	46,575	47,977	49,379

## Methodology

The High projection was calculated using a straight line method which assumed the City's growth over the past ten years would be directly proportional to the growth that will occur over the next twenty years. The current year's population was multiplied by 11.6% to determine the projection at five-year intervals. 11.6% is half the growth (23.2%) that occurred between 1990 and 2000. The 2000 population was multiplied by 11.6% to get the population for 2005. The 2005 projection was multiplied by 11.6% to get the population for 2010, and so on so that growth is compounded in five-year increments.

The Middle projection was calculated using the T-Model created for the City of Chesterfield, which determined the number of dwelling units that will be built through the year 2040. Between the years 2000 and 2005, an estimated 660 single-family dwelling units, no new multiple-family dwelling units, and 60 apartment units will be added. Assuming single-family and multiple-family dwelling units will house families, these numbers were multiplied by 2.59, the current Average Household Size in Chesterfield. The number of apartment units was multiplied by 1.59, the current Average Household Size for families living in apartments in Chesterfield. These calculations totaled 1,804 persons, which was added to the 2000 population to determine the 2005 projection.

The next estimate provided in the T-Model was for the year 2020, which estimated an additional 1,212 single-family dwelling units, 113 multiple-family dwelling units, and no new apartment units would be constructed. The number of new family units was multiplied by 2.59 to get additional persons and added to 2005 to get the 2020 population projection. Since no estimates were provided for the years 2010 and 2015 in the T-Model, the difference between the population projections for 2005 and 2020 was distributed evenly among those interim years.

The Low projection was calculated using a simplified cohort survival method. Table 4, containing Chesterfield demographic information, shows how the separate age cohorts changed in population. For example, there were 2,191 children aged 0-4 in 1990. Ten years later in 2000, those children made up the age division of 10-14 and their population increased from 1,345 to 3,536, a 61% increase. The actual age cohort change and percent change were calculated for each age cohort as they moved up one or two age divisions in the ten years between censuses. A spreadsheet was set up to use the Percent Cohort Change to calculate deviations between age cohorts as they moved up the age categories between 2000, 2010, and 2020. In setting up the spreadsheet, it was assumed that age division mobility trends would stay the same and, therefore, the Percent Cohort Change would remain constant through time.

Late teenagers and young adults would still be likely to move out for college and early career opportunities and parents in their thirties would still move with their children into Chesterfield. The 0-5 age category was calculated using the Missouri birth rate as reported by the U.S. Census Bureau, 1.39% of Missouri's entire population. The difference between the 2000 and 2010 projections and the 2010 and 2020 projections was divided by two and added to the base year to estimate the population during the interim years, 2005 and 2015.

## **NATURAL RESOURCES**

### **Soils**

The U.S. Department of Agriculture Soil Conservation Service (SCS) published a comprehensive *Soil Survey of St. Louis County and St. Louis City, Missouri (1982)*. In that report, four (4) general soil categories were identified within the City of Chesterfield. These are the Blake-Eudora-Waldron Association, the Freeburg-Ashton-Weller Association, the Menfro-Winfield-Urban Land Association, and the Urban Land-Harvester-Fishpot Association. These soil associations consist of three (3) soil types, loam, loess, and alluvial sediment. Loam is a soil with a high percentage of sand mixed with clay and organic matter. Loess is fine-grained material of small particles deposited by wind. Alluvial sediment is material, such as clay, sand, or silt, deposited on land by streams and rivers.

The Blake-Eudora-Waldron Association refers to the poorly drained, deep soils formed as a result of alluvial sediment deposited along the Missouri River floodplain. Building sites and sanitary sewer facilities are commonly raised by building the structures on a

mound of dirt. Areas cleared for cultivation and development are protected from flooding by levees. The Monarch-Chesterfield Levee is being raised to the 500-year level to protect the commercial and industrial development occurring where this soil type exists. Areas outside the Monarch-Chesterfield Levee are mainly used for agriculture.

The Freeburg-Ashton-Weller Association occurs on the stream beds of Bonhomme Creek and Caulks Creek. The characteristics of this soil association are nearly level and gently sloping, somewhat poorly drained to well-drained, deep soils formed in loess and alluvial sediment on terraces. Wetness of the soils and risk of flooding make these soils difficult to build on. Currently, land uses located on these soils include vacant/agriculture, common ground, or large lot single-family residential.

Menfro-Winfield-Urban Land Association consists of narrow drainage ways and dissected, loess-capped ridges and side slopes on uplands. Limestone sinks are in some areas. Slopes range from 2 to 45 percent. This association is suitable for building sites. Urban Land-Harvester-Fishpot consists of uplands, terraces, and bottom lands. Some low-lying, nearly level areas are subject to poor surface drainage and rare, short-duration flooding. These two soil associations account for the majority of Chesterfield's development. However, steep slopes and low-lying areas subject to flooding tend to be used for parks or common ground.

The above soil descriptions are general in nature and are meant for general planning purposes. The *Soil Survey of St. Louis County and St. Louis City, Missouri* should be consulted for specific soil characteristics related to individual site developments.

## Topography

The topography of the land in Chesterfield varies greatly. Chesterfield is located on the Ozark Plateau and elevations within the City range from 450 to 665 feet. Steep slopes (defined here as 20% grade or greater) are located throughout the City. A bluff line defines the edge of the Missouri River valley and low-lying floodplains located along Bonhomme Creek, Caulks Creek and Creve Coeur Creek. Steep slope areas were identified using existing SCS attribute data. The SCS publishes polygons and associated attribute tables for all soil types by quadrangle and provides the data on their Internet website to download. The areas shaded gray on the Environmental Features Map show the location of all soils which have a characteristic of slopes of 20% grade or greater. Areas not shaded on the map are generally flatter, but may still contain slopes up to 19% grade. The floodplain areas tend to be flat lowlands.

## Surface Water/Floodplains

Surface water can take many forms, including lakes, ponds, streams, rivers, wetlands, detention basins and any other form of water that exists on the surface of the earth. Of particular importance to the City of Chesterfield is surface water as it relates to the runoff from rainfall, also known as stormwater runoff. During a storm, rain that falls on Chesterfield flows downhill to the Missouri River via the Caulks, Bonhomme, and Creve

Coeur creeks. The location of these creeks and their floodplains can be seen on the Environmental Features Map. Given the large amount of rain that the area can experience, the steep slopes characterizing the topography, and the amount of impervious surfaces in St. Louis County, stormwater travels very quickly to the river. This results in rapid inundation of the area's stormwater runoff system and flash flooding during heavier rainfall events.

## Surface Water

A stormwater run-off system typically consists of two components, the man-made portion and the natural portion. The man-made stormwater runoff system is discussed in the element titled '**Community Infrastructure and Facilities.**' The natural component of stormwater run-off includes rivers, streams, wetlands and floodplains. The Missouri River is the largest and most prominent surface water body in the City of Chesterfield. By the time the river passes through Chesterfield, it has drained over 500,000 square miles of land in the West and Midwest and traveled over 2,500 miles. The tributaries of the Missouri River in Chesterfield are the Caulks, Bonhomme, and Creve Coeur creeks. These creeks are intermittent, meaning they only have a significant flow of water after a rainfall. Caulks Creek is a tributary of Bonhomme Creek and together they have a 25,800 acre watershed. Of these 25,800 acres, 17,200 acres (67% of the total watershed) are outside of Chesterfield. Creve Coeur Creek drains 6,750 acres of Chesterfield before it moves on to Creve Coeur Lake and eventually the Missouri River.

Due to the fact that watersheds and stormwater drainage systems cross jurisdictional lines, they are regional in scope. For this reason, the St. Louis Metropolitan Sewer District (MSD) manages the entire stormwater collection system for the St. Louis metropolitan area.

Wetlands and floodplains are both nature's way of increasing its capacity to hold and discharge water. Wetlands are discussed in the following section. The floodplain, in terms of river morphology, is the flat area adjoining a river channel constructed by the river in the present climate and overflowed at times of high discharge. The floodplain is a natural attribute of rivers and actually becomes a part of the river during storm conditions. The engineering definition of floodplain is the limits a river will reach during a specified storm event. The 100-year floodplain is the limits a river will reach during a storm that has 1% chance of occurring in any given year. The floodplain within Chesterfield also includes an area protected from the one percent (1%) annual chance 100-year flood by levee, dike or other structures subject to possible failure or overtopping during larger floods. These levee-protected areas are still subject to localized ponding due to a 100-year interior storm event and are defined as area AH on the Flood Insurance Rate Map. The 500-year floodplain is the limits a river will reach during a storm that has a .2% chance of occurring in any given year. The floodplains illustrated on the Environmental Features Map were located using the engineering definition. Since Federal flood programs and electronic data refer to the engineering definition of floodplain, this will be the one used in subsequent discussions.

The floodplain within the City of Chesterfield can be seen on the Environmental Features Map. The 100-year floodplain is shaded light green and the 500-year floodplain is shaded light red. The floodplain of most significance is the Missouri River floodplain, also referred to as Chesterfield Valley. Chesterfield Valley is approximately 6,700 acres, or 31% of Chesterfield's entire land area. The Spirit of St. Louis Airport and a significant portion of the City's industrial and commercial activity is located in the Chesterfield Valley. Currently, the development in the Valley is protected by the Monarch-Chesterfield Levee, recently reinforced to hold back flood waters that would result from a 100-year or greater storm event. The Monarch Chesterfield Levee District is currently raising the elevation of the Levee to protect the Valley from a 500-year storm event. This Levee improvement is a reaction to the flood of 1993 when the previous Monarch-Chesterfield Levee was breached. During the summer of 1993, the Missouri River left its banks and flooded the Valley, airport, and I-64/US 40 causing an estimated \$250 - \$500 million in damage. The location of the Levee can also be seen on the map.

In addition to the main Missouri River floodplain, smaller tributaries of the river also have associated floodplains. Bonhomme Creek to the west, Caulks Creek in the center, and Creve Coeur Creek in the east run through Chesterfield and have determined 100-year and 500-year floodplains. These are the natural stormwater run-off systems that drain the neighborhoods and commercial areas of Chesterfield outside of the Valley. Although the tributary floodplains are much smaller than the Missouri River floodplain, they can still hinder development and cause damage to buildings located within their reach. Generally these floodplains are located in parks, large lots where buildings can be built away from the hazard, or on common ground.

## Wetlands

The following is quoted from “Classification of Wetlands and Deep Water Habitats of the United States,” a publication of the National Wetlands Inventory Center of the U.S. Department of the Interior.

*Marshes, swamps, and bogs have been well-known terms for centuries, but only relatively recently have attempts been made to group these landscape units under the single term “wetlands.” This general term has grown out of a need to understand and describe the characteristics and values of all types of land, and to wisely and effectively manage wetland ecosystems.*

*In general terms, wetlands are lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface. The single feature that most wetlands share is soil or substrate that is at least periodically saturated with or covered by water. The water creates severe physiological problems for all plants and animals except those that are adapted for life in water or in saturated soil.*

*WETLANDS are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained-hydric soils; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.*

Wetlands have only recently been recognized for their importance to local, natural systems. First, they provide a habitat for many species of plants and animals that could not survive under other conditions. Second, they act as a natural cleansing instrument for surface and ground water. Wetlands trap and hold natural and man-made contaminants that running water may contain. Third, wetlands are natural detention basins to hold and gradually release stormwater run-off. They effectively increase the capacity of local stormwater run-off systems, thus preventing flooding of downstream areas and of local areas that are not meant to hold water.

In an effort to retain existing wetland areas, the Federal Government has declared a goal of “No net wetland loss.” Although this goal has not been met, the United States’ annual loss of wetland areas has significantly decreased. To help achieve this goal, the Army Corps of Engineers regulates certain wetlands and issues permits for construction in wetland areas only if the wetlands are undisturbed or mitigation must occur to replace wetlands if they are disturbed. When new development takes place, analysis should be conducted to determine if regulated wetlands are in the area and if permits from the

Army Corps of Engineers are required. Developers should consider at least having a certified wetland delineator take a cursory walk through the site to determine existing conditions. If wetlands are identified after the walk through, coordination with the Corps should be started.

The National Wetland Inventory Center published maps identifying areas that may possibly meet one or more of the above criteria. Since it would have been too large of a task to survey the entire United States, the Center used aerial photographs to make the identifications. Therefore, the maps and data published by the Center are not 100% accurate; however, the National Wetland Inventory (NWI) maps show locations where potential wetlands exist. These sites vary in size from less than one acre to larger than ten acres. Generally wetlands, especially those greater than ten acres, are located along floodplains of creeks and streams that were formed from excessive surface water runoff and high water tables. Wetlands that are located on upland areas tend to be smaller in size and are formed from impervious soil and bedrock conditions. Areas identified as possible wetlands can be seen on the Environmental Features Map.

The City of Chesterfield has initiated an area-wide permit and created two wetland areas in the Missouri River floodplain in the Chesterfield Valley. This is similar to a Special Area Management Plan or a S.A.M.P. This provides an opportunity to preserve open space and create educational/interpretive parks.

## **Tree Preservation**

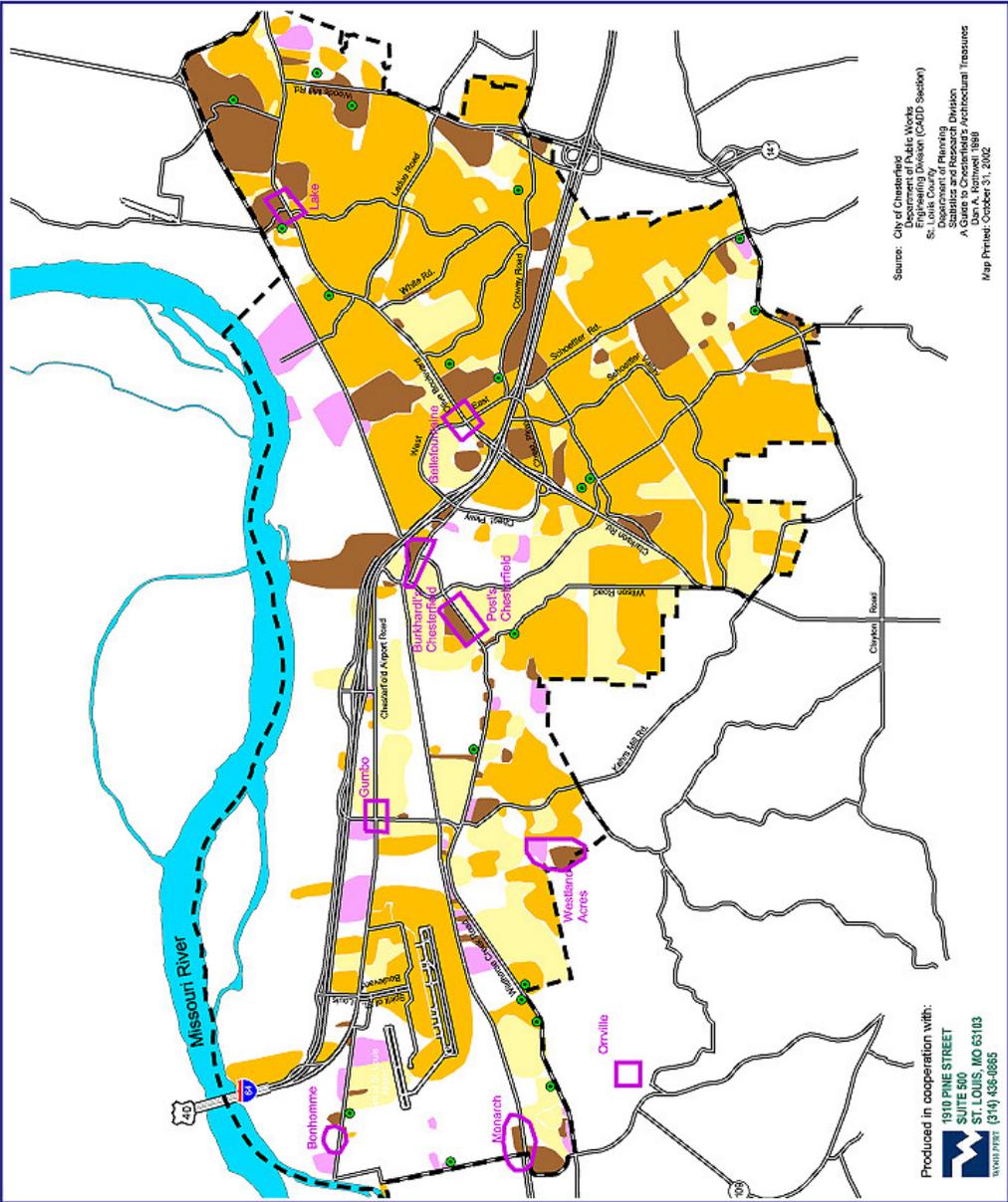
In addition to creation of the wetland banks, a recent action that reflects the community's value for maintaining natural environmental features and green spaces was adoption of the tree preservation policy in 1997, known as the Tree Ordinance. The objective of the policy is to preserve 30% of trees for residential developments greater than three acres and for all commercial developments that require removal of 10,000 square feet or more of tree canopy coverage within a five (5) year period. When the minimum threshold for tree removal is met, the developer is required to apply for a tree removal permit. The application process for a permit requires that developers submit supporting documentation to preserve 30% of trees when trees are removed and a replacement plan that achieves 30% of the original tree coverage is required.

# DEVELOPMENT HISTORY

**LEGEND**

- City Boundary
- Year Built**
- Before 1946
- 1946-1964
- 1965-1985
- After 1985
- Historic Communities
- Century Houses

**City of Chesterfield**  
Comprehensive Plan



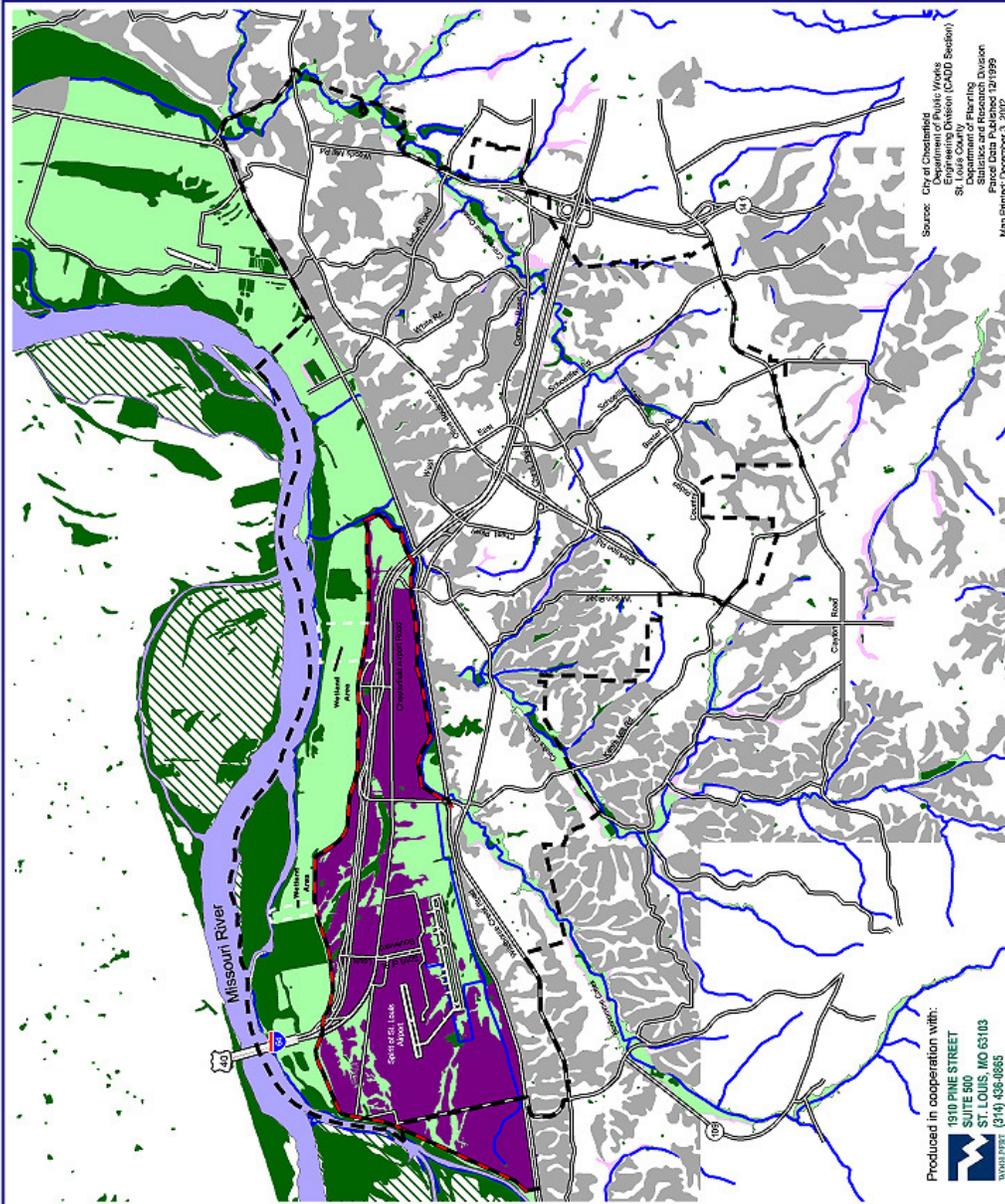
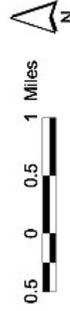
-Page left blank intentionally-

# ENVIRONMENTAL FEATURES

## LEGEND

-  City Boundary
-  Monarch-Chesterfield Levee
-  Environmental Attributes
-  River Channel
-  Island
-  100-Year Floodplain
-  500-Year Floodplain
-  Area Protected by Levee
-  Soils Associated with Terrain Having Slopes 20% or Greater
-  Areas Identified as Possible Wetlands\*
-  Creeks/Tributaries

\* Please be advised that wetlands may exist at areas not delineated as "possible wetlands."



-Page left blank intentionally-